



FINAL PROCESS EVALUATION PLAN FOR CON EDISON'S AND ORANGE & ROCKLAND UTILITIES' SMALL BUSINESS DIRECT INSTALLATION PROGRAM

Prepared for:

Con Edison and Orange & Rockland



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INTRODUCTION

Purpose and Use of this Evaluation Plan

This document is the Process Evaluation Plan for the Small Business Direct Install (SBDI) Program. Consolidated Edison (Con Edison) and Orange and Rockland (O&R) are delivering this program as part of the Energy Efficiency Portfolio Standard (EEPS) Utility Administered programs, as ordered by the New York Public Service Commission.

Con Edison and Orange & Rockland (the Companies) are committed to independent and transparent program evaluations. The Companies selected the Navigant team to complete process evaluations for all of the Companies EEPS programs through a competitive bid process.¹ The Navigant team also includes KEMA, APPRISE and SERA.

KEMA is leading the evaluation of the SBDI program, with Navigant providing overall guidance and APPRISE managing survey data collection. Con Edison's Section Manager for Measurement, Verification & Evaluation will manage the process evaluation for both companies. This Section Manager reports directly to the Director of Energy Efficiency Programs to maintain internal independence.

The New York Department of Public Service (DPS) is the oversight agency for program delivery and evaluation. Con Edison will provide the DPS the opportunity to review and comment on key documents within a reasonable time frame² throughout the process evaluation. However, no DPS approval will be assumed if that time frame is exceeded. Key documents include this Plan, the customer survey sampling plan, the customer survey instruments, and the draft final report. Con Edison will provide a response to DPS comments identifying how each comment was addressed. In addition, Con Edison will invite the DPS to attend and provide input during key evaluation meetings.

This Process Evaluation Plan (PEP or the Plan) is the first product of the SBDI process evaluation. The evaluation team developed the Plan consistent with the NYSPSC's Evaluation Plan Guidance for EEPS Program Administrators issued on August 7, 2008. The evaluation team will use the plan to guide evaluation work going forward for this program. We will use this plan to track evaluation progress against key milestones. We will identify any deviations from the plan during the weekly update calls with the Companies and include them in monthly reports provided to the Companies with the monthly invoices. The evaluation team may identify program issues whose resolution can have an immediate substantive impact on the current program year. In this case the Navigant team will inform the Con Edison Section Manager promptly and recommend modifications to the processes involved.

¹ Consolidated Edison will be issuing a separate request for proposals to solicit an independent evaluation contractor for EEPS impact evaluations.

² We assumed 10 business days for DPS review when developing the evaluation schedule.

Program Summary

Con Edison and O&R designed the Small Business Direct Installation Programs for rapid deployment of energy efficiency measures to existing small commercial and industrial customers. The Companies defined small customers as facilities with average monthly peak demand of less than 100 kilowatts (kW). The SBDI program provides free on-site energy surveys, direct installation of free low-cost efficiency measures and non-free measures at a cost to the customer of 30 percent of the installed cost of the measure.

The program provides free energy surveys as a service to small business customers, as well as to encourage the adoption of free and reduced cost energy efficiency measures. The energy surveys are a valuable opportunity for the SBDI program to engage customers, provide customized recommendations for energy efficiency upgrades and document existing equipment. The contractors who conduct the surveys discuss appropriate behavioral and operational energy efficiency actions, inspect the customer's equipment and building envelope, and provide recommendations on cost-effective energy efficiency upgrades.

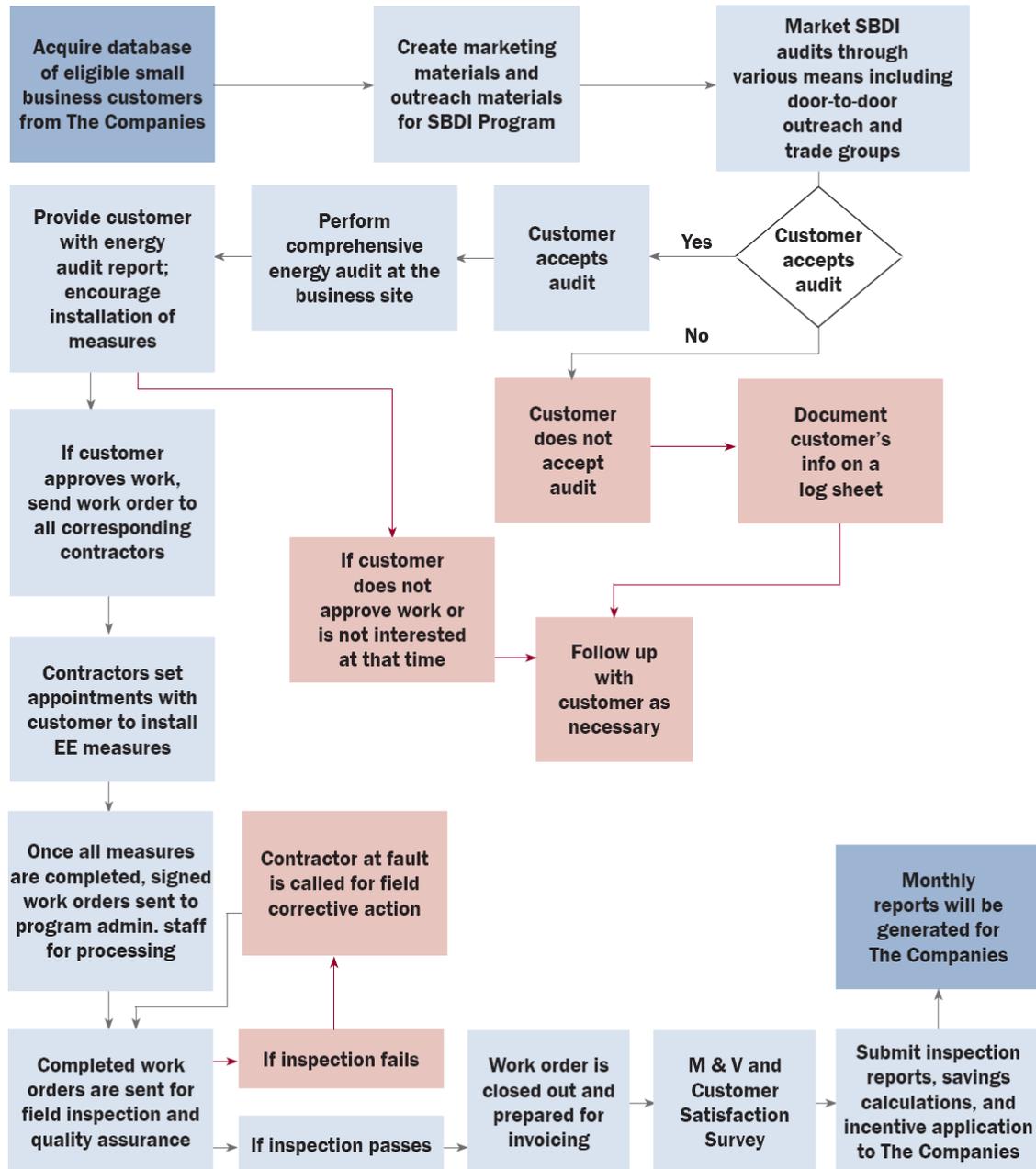
Following the energy survey, the contractor provides a summary of recommended energy efficiency measures and schedules a time for the measures to be installed. The SBDI program offers some energy efficiency measures at no cost to participants. However, participants who choose to install the more extensive recommended measures receive a 70 percent "discount" and therefore pay only 30 percent of the installed cost for most measures. Table 1 summarizes the incentives for the program energy efficiency measures ("free" vs. "non-free").

Table 1: Summary of SBDI Program Incentives

Measure	Eligibility	Incentives
Compact Fluorescent Lamps	ENERGY STAR®	Free
Low-flow Aerators	1.5 Gallons Per Minute (GPM)	Free
High-pressure Rinse Sprayers	1.6 GPM	Free
Water Heater Thermostat Setback	Thermostat setback and replacement (115 degrees)	Free
LED Exit Signs	5 Watts	70% of installed cost
Water Pipe Insulation	R-4 Insulation	70% of installed cost
Occupancy Sensors	Fluorescent	70% of installed cost
Vending Machine Controls	Passive Infrared Sensor Monitoring Vacancy of Area and Cycling Cooling Controls	70% of installed cost
HVAC Retro-Commissioning		70% of cost
Programmable Thermostat	ENERGY STAR®	70% of installed cost
Evaporator Fan Controls		70% of installed cost
Anti-condensation Door Heater Controls	Variable temperature controls	70% of installed cost
Efficient Lighting Package	Meets federal code	70% of installed cost
High-efficiency Lighting Package	Above federal code by 15%	70% of incremental installed cost
Bi-Level Control for Stairwell Lighting	50% Lighting power during unoccupied time	70% of installed cost
LED Refrigeration Case Lights	28 Watts	70% of incremental installed cost

Table 2 summarizes the program process flows for the SBDI program, showing how the program engages customers to complete energy surveys, quality measure installation and verifiable energy savings.

Table 2: Small Business Direct Install Program Process Flows



Program Goals and Objectives

The SBDI program is designed to cost-effectively contribute to New York State's and New York City's energy efficiency goals.

Per the SBDI Program Filing (submitted August 21, 2008 to the Public Service Commission), specific objectives associated with this program include:

- Reducing energy use, peak demand, local air pollution impacts and carbon dioxide emissions in Con Edison and O&R service territories.
- Maximizing available cost-effective energy savings for every small business participant in the program.
- Effectively driving the adoption of low-cost, but high value energy efficiency measures in customer facilities.
- Increasing small business customer awareness of energy efficiency opportunities available in their facility, from both equipment upgrades and behavioral changes.
- Generating customer awareness of energy efficiency programs available through Con Edison, NYSEERDA and other entities to support their energy efficiency objectives.
- Building higher-level customer, trade ally and stakeholder relationships by providing value-added energy efficiency services, training, education, hardware, verification and customer support.
- Supporting the local economy by helping to reduce small-businesses' operational costs, utilizing local labor and promoting the adoption of high-quality equipment.

Table 3 and Table 4 summarize the SBDI program participation and savings goals for Con Edison and O&R, respectively. Due to delays in program start-up, the Program Implementation Plan goals for 2009 and 2010 were combined into a single goal to be achieved by December 31, 2010. The 2011 goals remain unchanged.

Table 3: Con Edison - SBDI Participation and Savings Goals

	2009/2010	2011	Total
Number of Surveys	10,768	6,154	16,922
Savings (MWh)	184,466	105,409	289,875
Coincident Peak Savings (MW)	33	19	51 ³

Table 4: O&R - SBDI Participation and Savings Goals

	2009/2010	2011	Total
Number of Surveys	1,276	729	2,005
Savings (MWh)	21,856	12,489	34,345
Coincident Peak Savings (MW)	4	2	6

³ Due to rounding, peak savings goal totals to 51 MW (per the SBDI Implementation Plan submitted to the Public Service Commission, dated May 15, 2009)

Program Start and Progress to Date

Following an RFP and contractor selection process, Con Edison launched the SBDI program in October 2009, with O&R starting its program in November 2009. Both companies contracted with Willdan to implement the program. Con Edison is also in the process of contracting with Free Lighting Corp to focus on delivering the program to small business customers on Staten Island.

The program implementers encountered many challenges in launching the program, and the SBDI program is currently falling short of goals. Table 5 and Table 6 summarize the program progress to date.

Table 5: Con Edison – Participation and Savings Progress through April 2010*

	2009/2010	Percent of 2009/2010 Goal
Number of Surveys	3,471	32%
Number of Sites Installing Measures	2,773	No stated goal
Savings (MWh)	13,015	7%
Coincident Peak Savings (MW)	3	10%

* Based on April 2010 monthly report from Willdan

Table 6: O&R – Participation and Savings Progress through April 2010*

	2009/2010	Percent of 2009/2010 Goal
Number of Surveys	302	15%
Number of Sites Installing Measures	125	No stated goal
Savings (MWh)	532	2%
Coincident Peak Savings (MW)	0.124	3%

*Based on April 2010 monthly report from Willdan

Program Theory and Logic Model

The SBDI program is designed to address several market barriers to energy efficiency in the small business market segment. Many small businesses operate on thin profit margins and lack access to capital (as a result of their economic status or “credit-worthiness”) making investments in energy efficiency challenging. The small business segment also typically lacks the information, time, and resources to understand energy efficiency opportunities and solutions. Therefore, direct installation programs are designed to facilitate energy efficiency retrofits by providing significant financial incentives, pre-approved qualified contractors and quality, energy-efficient equipment. Table 7 summarizes the market barriers and program design approaches to overcome the barriers.

Table 7: Market Barriers and Program Strategies to Overcome⁴

Market Barriers	Mitigation Strategies
High cost of efficient equipment and declining economic conditions	<ul style="list-style-type: none"> • Free on-site energy surveys and direct installation measures for immediate savings; • Provide information on additional rebates to help offset the cost of efficient equipment; • Help customers implement a phased approach to installing larger upgrades
Lack of customer awareness of programs and energy efficiency actions	<ul style="list-style-type: none"> • Free, third-party analysis and recommendations; • General education and information about simple operational changes and initiatives that provide on-going savings; • Grassroots, social marketing to hard-to-reach business sectors and sub-sectors
Limited time, resources and awareness on how to act on recommendations	<ul style="list-style-type: none"> • Immediate direct installation of certain measures; • Trade ally network and referral program to help identify appropriate contractors; • Follow-up calls and letters to help customers move through installation steps; • Provide simple maintenance tips for ongoing savings; • Communicate with customer management or decision-makers
Trade ally awareness	<ul style="list-style-type: none"> • Ongoing trade ally communications, outreach, education and training.
Customers wary of biased advice	<ul style="list-style-type: none"> • Grassroots, social-based marketing and outreach through local community groups; • Develop informational materials in languages common to specific business sectors
Customers skeptical of energy-savings calculations	<ul style="list-style-type: none"> • Free independent assessment and recommendations; • Develop case studies of actual projects with energy savings where appropriate
Bifurcated market – lack of incentive for building owners and tenants to invest in improvements	<ul style="list-style-type: none"> • Work with property managers, owners and tenants to communicate larger value of efficiency (beyond utility bill savings)

⁴ Con Edison SBDI 60 Day EEPS Filing. August 21, 2008. Page 21.

Figure 1: Small Business Direct Install Logic Model

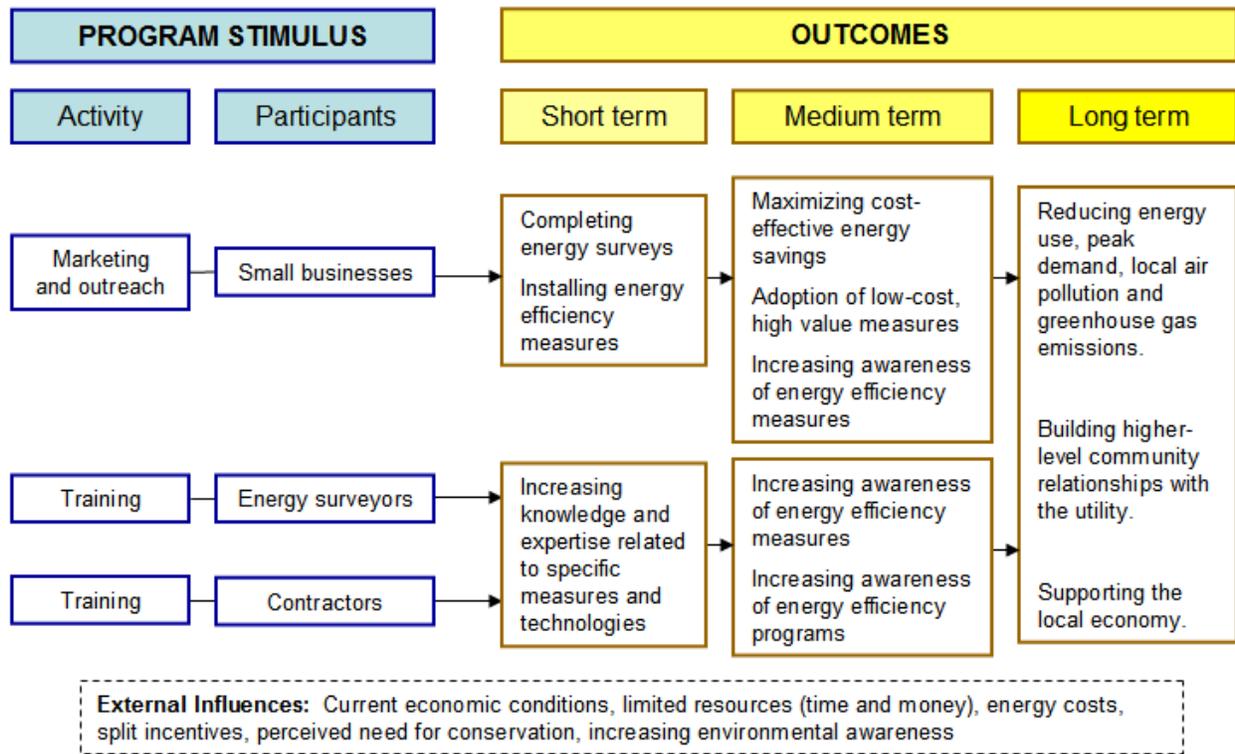


Figure 1 is the initial program logic model to guide the evaluation research design and priorities.

PROCESS EVALUATION OVERVIEW

Evaluation Objectives

The overall objective of the SBDI process evaluation is to assess the effectiveness and efficiency of program design, delivery and implementation processes to achieve the program outcomes. The evaluation will result in clear and actionable recommendations to support the program in improving operations and meeting its savings goal.

The process evaluation will address the following program areas:

- Program planning and design,
- Infrastructure development,
- Marketing and customer acquisition,
- Program delivery through partnering with trade allies,
- Satisfaction with the program, and
- Interactions with all other available programs,

Goals for the SBDI program are substantial and aggressive, especially given delayed start-up for program implementation. Con Edison is committed to meeting these goals and most interested in process evaluation findings that will assist them in accelerating program activity. With this in mind, KEMA will prioritize process evaluation activities that are likely to result in program recommendations that meet that objective.

Research Areas and Evaluation Activities

KEMA plans multiple research activities for this process evaluation. They include interviews with utility and implementation staff, review of program documentation and tracking data, site visits to observe field activities, and phone surveys with program participants and non-participants. Table 8 provides a summary of the research activities to address the evaluation objectives and research issues.

Table 8: SBDI Process Evaluation Activities and Research Areas

Research Areas	Utility and Implementer Staff Interviews	Database, Document & Website Review	Trade Ally/Contractor Partners Interviews	Ride-Along Observations	Program Participant Surveys	Non-participant Surveys
1. Program Planning and Design						
1.1. Possible improvements for cost-effectiveness, energy savings, participation?	✓	✓	✓	✓	✓	✓
1.2. Process/design limitations re: ability to meet goals, implementation strategies?	✓		✓	✓	✓	✓
1.3. Measure changes/additions to improve cost-effectiveness and participation?			✓	✓		
2. Infrastructure Development						
2.1. Info needed for program management and reporting tracked and accessible	✓	✓	✓	✓		
2.2. Accessibility of program tracking system for evaluation and follow-up purposes.	✓	✓	✓			
2.3. Accuracy of tracking data		✓			✓	
2.4. Completeness of data (i.e. all fields are populated)		✓				
2.5. Assess program quality control procedures to assure accuracy in reported savings.		✓	✓	✓		
2.6. Assess how easily data can transferred between SMART system and other program with other data management		✓	✓	✓		
3. Marketing & Customer Acquisition						
3.1. Assess ability to transfer effectiveness of marketing partners/channels, including customer response to street sweep approach	✓	✓	✓	✓	✓	✓
3.2. Assess effectiveness of program approach for chain accounts	✓		✓	✓	✓	
3.3. Examine customer acquisition approaches for potential free-rider issues.	✓		✓		✓	
3.4. Use and satisfaction with customer-service call center.	✓	✓			✓	✓
3.5. Use and satisfaction with website.		✓	✓		✓	
3.6. Drivers and barriers to participation.			✓	✓	✓	✓
3.7. Drivers and barriers to installing non-free measures.			✓	✓	✓	

Table 8: SBDI Process Evaluation Activities and Research Areas

Research Areas	Utility and Implementer Staff Interviews	Database, Document & Website Review	Trade Ally/Contractor Partners Interviews	Ride-Along Observations	Program Participant Surveys	Non-participant Surveys
4. Program Delivery						
4.1. Assess approach to recruit and retain subcontractors for program delivery.			✓	✓		
4.2. Subcontractor perception of benefits of delivering the program.			✓	✓		
4.3. Barriers to sub contractor participation.			✓	✓		
4.4. Assess training and certification of subcontractors	✓		✓			
4.5. Program management of sub-contractor to manage work flow (minimize time lags for contractors and participants).	✓	✓	✓	✓	✓	
5. Satisfaction with the Program						
5.1. Customer satisfaction with program and measures.			✓	✓	✓	✓
5.2. Contractor satisfaction and possible improvements.			✓	✓		
6. Interactions with Other Programs						
6.1. Areas of potential program overlap.		✓				
6.2. Trade ally/customer understanding of other programs.			✓	✓	✓	✓
6.3. Determine if double-counting of savings is an issue.		✓	✓			

Evaluation Team and Budget

The process evaluation budgets for each utility are summarized in Table 9. The process evaluation budgets for Con Edison and O&R is less than 2 percent of the program budgets. Table 10 shows the Process Evaluation budget by task.

Table 9: Summary of Process Evaluation Budgets for SBDI

Utility	SBDI Program Budget	Five Percent of Program Budget	Process Evaluation Budget	Percent of Program Budget
Con Edison	\$76,702,688	\$3,835,134	\$260,718	0.3%
O&R	\$9,087,089	\$454,354	\$115,000	1.3%

Table 10: SBDI Program Evaluation Budget, by Task

Task	Budget			Total
	Labor	Outsourced Surveys & Interviewing	Other Direct Costs*	
Contribution to Overall Work Plan & Project Management	\$11,120	\$0	\$1,500	\$12,620
Program Group Evaluation Plan	\$15,680	\$0	\$2,199	\$17,789
Sample Methodology	\$39,840	\$0	\$0	\$39,840
Data Collection	\$41,140	\$168,299	\$0	\$209,439
Analysis	\$35,600	\$0	\$0	\$35,600
Reporting	\$58,840	\$0	\$1,500	\$60,340
Total	\$202,220	\$168,299	\$5,199	\$375,718

* Includes travel costs

Team

The Navigant (NCI) team is completing all EEPs process evaluations for the Companies. This team includes KEMA, APPRISE and SERA Consulting. Craig McDonald of Navigant is serving as the Project Director, with Steve Hastie of Navigant as the overall day-to-day Project Manager. Bobbi Tannenbaum of KEMA is serving as the Deputy Project Manager for the process evaluations and is responsible for KEMA’s contribution to the EEPs process evaluations.

KEMA is the lead firm for the SBDI process evaluation. Betty Seto of KEMA will serve as Project Manager for the SBDI program under the direction of Bobbi Tannenbaum. Navigant will provide overall guidance to assure consistency across the evaluations. Under the direction of David Carroll APPRISE will manage survey data collection and provide support for survey instrument review. Con Edison’s Section Manager for Measurement, Verification & Evaluation will oversee the process evaluation for both Con Edison and O&R.

SAMPLE METHODOLOGY

Evaluation studies collect data from participants, non-participants, or the market to provide information for evaluation analysis. In this section, we describe the sample sizes for in-depth interviews and computer-aided telephone interviews (CATI or CATI surveys), including our approach to achieving a 90 percent confidence level with a 10 percent relative precision for the participant and non-participant telephone surveys.

In-depth Interviews

Table 11 summarizes the sample sizes planned for in-depth interviews. The in-depth interviews are focused on key utility and implementation staff to understand the program operations. We also include in-depth interviews with program participants and non-participants to better understand program operations and issues from their perspective. These qualitative discussions with customers are valuable for survey design. They ensure that key customer issues are addressed and that the survey wording is consistent with how customers view and speak about them.

Table 11: In-depth Interview Sample Sizes

Target	Con Edison	O&R	Total
Utility program staff	7	2	9
Implementation contractor staff	3	2	5
Sales-auditors (energy surveyors)	3	2	5
Installers (electric contractors)	3	2	5
Participants (small businesses)	3	2	5
Nonparticipants (small businesses)	3	2	5
Total	25	12	37

Utility and Implementation Contractor Program Staff Interviews

KEMA will complete 14 in-depth interviews with Con Edison, O&R and Willdan program staff for this process evaluation. Most of these interviews have been completed, although a few staff interviews remain to be scheduled or completed. The purpose of these interviews is to understand staff roles and responsibilities, discuss how the program is operating, and identify key research issues to focus on for the process evaluation.

Below is a summary of the types of staff that KEMA plans to interview:

- **Con Edison Energy Efficiency, Sales and Communications.** We will conduct in-depth interviews with the SBDI program manager, energy efficiency department section managers, department managers, corporate communications staff and applicable account executives who work closely with the target market segment for SBDI.

- **O&R Energy Efficiency.** We will conduct in-depth interviews with the SBDI program manager and the department manager who oversees energy efficiency programs at O&R.
- **Willdan.** We will complete in-depth interviews with Willdan staff, including the overall New York operations lead, marketing lead, Con Edison program manager, O&R program manager and program analysts.

Sales-Auditor (Energy Surveyor) and Installer Interviews

We will complete a total of ten in-depth interviews with sales-auditors who conduct energy surveys or installation contractors. Since Willdan is currently training a new team of sales-auditors, and actively recruiting new contractors to the program, these interviews will not be conducted immediately.

We will request that Willdan provide the list of sales-auditors, including contact name, email address and phone number, number of audits completed, and assigned geographic area. KEMA will select a random sample for interviews.

Similarly, KEMA will request a list of participating installation contractors, including contact name, company name, email address, phone number, date of participation with the program, and number of installations completed (i.e. number of sites). KEMA will select a range of contractors for interviews based on performance and size. This will include high performing contractors, as well contractors who have low participation relative to their length of participation. We will also interview both the smaller (e.g. independent contractors) and the larger installation companies (e.g. Comverge) for interviews.

Participant In-depth Interviews

We will complete a total of five in-depth interviews with program participants. The sample of 5 will be randomly selected from the participant population. KEMA will complete these interviews prior to the finalization of the computer-aided telephone survey instrument for program participants. The purpose of these interviews is to pre-test research issues and to better understand the terminology and language that participants use related to the SBDI program.

KEMA will request a list of all program participants, and associated data fields including (but not limited to):

- Participant contact name
- Business name
- Phone number
- Email address
- Chain or non-chain retail
- Energy demand (kW)
- Energy consumption (kWh)
- Business type (SIC code, NAICs code or some other descriptor)
- Measures installed (quantity, type and date of installation)

- Date of energy survey
- Records related to interactions (e.g. phone follow ups)
- Copy of Savings Tool and Energy Survey Report
- Installation contractor (name, business)
- Name of sales-auditor (i.e. energy surveyor)

Non-participant In-depth Interviews

We will complete a total of five in-depth interviews with program non-participants. KEMA is defining non-participants as qualifying businesses that either declined an energy survey, or had a survey and declined to install any measures (free and non-free). The non-participant definition is narrowly defined to include customers who are likely to be aware of the program and consciously chose not to participate. Since the SBDI program is still ramping up and is using a targeted marketing approach, awareness of the program among the entire eligible population is likely to be low. The sample of five will be randomly selected from the non-participant population.

We will complete these interviews prior to finalizing the CATI survey for non-participants. The purposes of these interviews is to identify any additional research issues and better understand the terminology and language that non-participants use related to the SBDI program.

KEMA will request a list of all businesses contacted by the program (e.g. by direct mail, street sweep, or other lead) who have declined to participate in the program. Below is an initial list of information that we will request. We may also request additional data fields.

- Business contact person (first and last name)
- Business name
- Address
- Phone number
- Email address
- Chain or non-chain retail
- Energy demand (kW)
- Energy consumption (kWh)
- Business type (SIC code, NAICs code or some other descriptor)
- Records related to interactions (e.g. date of first contact, type of outreach, date and result of follow up visits or phone calls, etc)
- Name of sales-auditor (i.e. energy surveyor)
- Date of energy survey (if completed)
- Copy of Savings Tool and Energy Survey Report (if completed)

Ride-along Field Observations

KEMA plans to complete 3 days of ride-alongs to observe implementation contractor staff approach to program delivery and customer response to field activities. Two days are allocated for Con Edison service territory and 1 day for O&R. KEMA will work with Con Edison and Willdan to arrange the schedule for the field observations. KEMA will seek to accompany the

following implementation contractor staff on field activities in both Con Edison and O&R service territories:

- Sales-auditors, and
- Installation contractor.

The purpose of the ride-alongs with sales-auditors is to assess the effectiveness of the initial marketing and outreach approach, program messaging and observe challenges associated with engaging the target customer segment. KEMA will also accompany installation contractors in order to observe how the results of the energy surveys translate to installed measures. We will examine how installation contractors are assigned work orders, the customer information provided to them, and procedures to complete the jobs.

Customer Telephone Surveys

KEMA will develop near final draft participant and non-participant surveys for internal comment among the evaluation team. APPRISE will manage the implementation of the CATI surveys, including CATI programming, pre-testing, data collection and the development of initial banners.

KEMA will request a tracking database extract of the complete population of SBDI program participants and non-participants⁵ from Willdan, for both the in-depth interviews and CATI surveys. From the population we plan to randomly sample participants and non-participants, with some stratification based on the populations’ characteristics.

Table 12 and Table 13 summarize the estimated sample sizes for the customer telephone surveys, relative to the current population available for the target customers (participant versus non-participant). The participant population data is based on the April 2010 Willdan monthly reports to Con Edison and O&R. KEMA has not yet received the non-participant population data.

Table 12: Con Edison – Sample Sizes for Customer Telephone Survey

Target	Sample size	Population (as of April 2010)
Participants	300	3,471 energy surveys completed 2,773 sites participating
Non-participants	300	To be determined

Table 13: O&R – Sample Sizes Customer Telephone Survey

Target	Sample size	Population (as of April 2010)
Participants	<300	302 energy surveys completed 125 sites participating
Non-participants	<300	To be determined

⁵ Non-participants are customers that were contacted and decided not to participate in the program,

We will request that Willdan provide the dataset of SBDI program participants to KEMA by June 25, 2010. We expect that this dataset will include a higher number of program participants than what is listed in the tables above. Once KEMA receives this data, we will examine the distribution of projects (size and measures), businesses (size and type) and location. We will use this information to develop a sampling plan that may include stratification by one or more of these characteristics.

KEMA will also look at the non-participant data to determine final sample sizes. KEMA is defining non-participants as qualifying businesses that either declined an energy survey, or had a survey and declined to install any measures (free and non-free). The SMART system includes the population of eligible businesses provided by Con Edison and O&R. Willdan uses the SMART system to record program contact attempts with businesses, and the results of the outreach efforts. The SMART system also tracks the date of energy surveys completed and recommended measures. We will identify non-participants as follows:

1. [np1] Eligible customers who were contacted by the program, but who did not complete an energy survey.
2. [np2] Eligible customers who completed an energy survey, but did not have any measures installed.

Non-participating [np1] customers are identified in the program tracking database by cross-referencing the recorded contact attempts with the date of energy surveys completed. We identify non-participating [np2] customers by cross-referencing the population of completed energy surveys with the population of customers who had measures installed or pending installation.

We will assess the characteristics of the non-participants (and compare them to the participants) to determine appropriate stratification. KEMA will submit a draft sampling plan to Con Edison and O&R, with comments due back within 5 business days. Following Con Edison and O&R review, the sampling plan will be submitted to DPS for comment and review. Our plan is to develop the participant and non participants sampling strategy for a 10 percent relative precision at the 90 percent confidence level for each utility.

One issue that KEMA plans to address when we review the population data is the prevalence of “chain accounts.” The SBDI program is targeted toward locations that use less than 100 kW. These are small facilities, but they are not necessarily small businesses. Many of the locations are part of a larger corporation, such as Duane Reade or retail clothing shops owned by Gap Inc. The ownership structure (corporate or franchises) and decision making may vary from that of single location businesses owned by the manager. We will explore this issue in more detail when we look at the participant and non-participant populations. At that point we may identify a need to do in-depth interviews with some multi-location corporations in lieu of CATI surveys, and reduce the CATI sample sizes to cover the interview costs. We will discuss these issues with the Companies and in the sampling memo.

Stratification is the process of grouping members of the population into relatively homogenous subgroups before sampling. This usually improves the representativeness of the sample by reducing sampling error. It also allows us to disproportionately sample (and set quotas) for

hard to reach groups, specific business types, or locations (e.g. Westchester County) that may not have sufficient surveys with which to make characterizations if we selected a simple random sample.

We will identify the participant and non-participant characteristics and recommend a sampling approach based on these characteristics. We will include an explanation of these findings and make a recommendation for the sampling approach in the draft sample memo.

Deliverables:

- Draft sampling plan
- Final sampling plan

DATA COLLECTION

This section summarizes the data collection activities, purpose, and research objectives to be addressed. We discuss the program and marketing materials review, database review, in-depth interviews and customer (participant and non-participant) surveys.

Program and Marketing Materials Review

KEMA will review program materials, including program implementation plans, contracts with implementation contractors, training materials, marketing plan and marketing materials (e.g. brochures, flyers, sign-up cards, etc). At a minimum, documents to be reviewed will include the following:

- Program filings for the SBDI program. This will include relevant PSC orders, the 60-day filings and program implementation plan filings.
- Requests for Proposals (RFPs) used to select program administrator/implementation contractors for the programs, and the proposals of the bidders.
- Contracts between the utilities and the selected program administrators/implementation contractors.
- Marketing plans and other materials developed for the program.
- Internal utility documents related to the program.
- Program web site and web-based tools.

We will review the program documents to determine the initial plan for the programs and the implicit self interest of the program administrator/implementation contractors in the program. KEMA will also assess the extent to which modifications to these documents over time have improved or lessened the likelihood of success for achieving program goals. The document review will focus on the following specific research areas:

- **Program planning design.** In reviewing program materials, KEMA staff will review both the measures included in the program and the program price list.⁶ We will assess the measures list to identify potential measures for exclusion and additional measures for inclusion, based on feedback from participants and contractors. We will assess the price list to determine if prices seem appropriate – sufficient to cover contractor (installer) costs, while not being excessive.
- **Marketing and customer acquisition.** KEMA will assess whether the marketing channels are functioning effectively and whether the appropriate marketing materials are available to enable the implementation contractor to deliver the program.
- **Program delivery.** KEMA will examine the implementation plan and modifications to this plan to assess the effectiveness of the program in managing sales-auditor and installation contractor staff.

⁶ The price list shows how much the SBDI program will pay contractors for installing each measure. For free measures, the program will reimburse contractors for the full amount on the price list. For non-free measures, the program will pay the contractor 70 percent of the amount on the price list.

- **Interactions with other programs.** We will assess the extent to which the SBDI program may overlap with other programs being offered to the same customers by other agencies or organizations.

Furthermore, KEMA will use these materials to develop appropriate questions for the interview and survey efforts.

The NCI team submitted an initial data request on May 9, 2010 for the materials needed for this review. To date, most items have been provided to the NCI team. A follow-up data request with specific items identified through the staff in-depth interviews will be submitted.

Tracking System Review

KEMA will review the SMART system, used by Willdan to track program participation. This activity will primarily investigate research issues associated with “Infrastructure Development” of the SBDI program. We will assess how well the SMART system is functioning in the following areas:

- Appropriate data fields (variables) for effective program management and program impact evaluation, and for required reporting to the New York PSC.
- Completeness of data (i.e. that all fields are populated).
- Quality control of data entered (i.e. that the input ranges are limited and that the data units are clear)

We will also qualitatively assess how easily data can be transferred between the SMART system and other data management tools. These tools may include the Savings Tool and “the Google doc” used for contractor management.

By comparing the SMART data with the completed telephone interviews with participants, KEMA will also provide an initial assessment of the tracking system accuracy. We will review the accuracy of quantities reported in SMART, as well as the operating hours used to calculate savings. We will also review whether processes exist to review and enter data that minimize errors and delays.

In order to complete this activity, KEMA requests access (login and password) to the SMART system to look at the data fields and structure of the SMART system, including the upload capabilities and reporting functions.

In-depth Interviews

As mentioned in the Sampling Strategy section, a large number of in-depth surveys are included in this evaluation project. The purpose of these interviews is to determine the appropriate research issues and focus areas for the process evaluation. The interviews also explore barriers encountered by both utility and contractor implementation staff, and potential opportunities to overcome them.

KEMA will interview sales-auditors to understand how small businesses respond to the door-to-door (“street sweep”) approach, the program sales pitch and the energy survey itself. The interviews with installation contractors are intended to research satisfaction with the SBDI program, and areas for improving the measure installation process. Three days of ride-alongs are included for KEMA staff to observe the sales-auditors and installers in the field interacting with customers.

The in-depth interviews with program participants and non-participants are primarily to explore research issues prior to finalizing the computer-aided telephone survey. These interviews will also provide qualitative findings and potential case studies for the final report.

Although the utility and implementation contractor staff interviews were mostly conducted in-person during the project kick-off meeting, the remainder of the in-depth interviews will be conducted by telephone. KEMA intends to contact persons selected for in-depth interviews first by email (where possible), to schedule a time for the interviewer to call.

Customer Telephone Surveys

Computer-aided telephone surveys enable the project to cost-effectively reach a large sample of the population, and minimize bias by using trained telephone interviewers following a script. Con Edison and O&R survey instruments will be identical, except for different references to the utility. However, respondent samples and survey data will be for each utility, and results will be reported separately for each utility.

The purpose of these surveys is to:

- learn how customers heard about the SBDI program,
- verify measure installation (and compare as recorded in the tracking database,
- determine reasons for participation (and non-participation),
- assess participant satisfaction with the process and measures, and
- identify customer awareness and participation in other energy programs.

KEMA will work closely with APPRISE to develop and carefully review the survey instruments for substantive issues and conduct in-house pretest for length and readability. KEMA will then submit draft telephone survey instruments to Con Edison and O&R, with comments due back within 5 business days. Following Con Edison and O&R review, the survey instruments will be submitted to DPS for comment and review. KEMA will incorporate edits into a final survey instrument to be submitted to APPRISE for computer programming.

Once all issues from the initial round of reviews have been addressed, APPRISE will conduct pretests with actual respondents for clarity, consistency, and skip pattern logic. The pretest will ensure that surveys are operating and proceeding as designed. Where possible, APPRISE will use the pretests to develop pre-codes for open-ended questions. APPRISE will develop a detailed pretest memo containing any issues found during the pretest. After those issues are

addressed, APPRISE conducts a final review of the instrument and prepares it for CATI programming.

When contact information is available, APPRISE will send out advance notifications informing respondents of the upcoming survey. The commercial and industrial non-participants are likely to receive a mailed advance letter due to lack of e-mail addresses. APPRISE will send out advance letters 3 business days before interviewing begins. Commercial and industrial participants will receive an advance e-mail if e-mail addresses are consistently available for all cases in the sample, otherwise, they will receive an advance notification in the mail.

APPRISE’s standard dialing protocol is to attempt contact at least 8 times during different days of the week and times of the day before phone numbers are retired. Interviewers will leave a scripted message when they encounter an answering machine that includes a toll-free number, which respondents can call to complete an interview at their convenience. Messages are left initially and every three days thereafter.

Survey Design

The telephone surveys will address the objectives describe above. Table 14 summarizes the survey objectives and related issues which we will examine in the participant and non-participant surveys.

Table 14. Overview of Participant and Non-participant Surveys

Survey Question Areas	Participant	Non-participant
How customer heard about the SBDI program		
Awareness of program	✓	✓
Sources of program information	✓	✓
Preferred methods to receive information	✓	✓
Verification of measure installation		
Whether measures were installed	✓	
Whether measures remain installed	✓	
Reasons for removal of program measures	✓	
Satisfaction with measures and process	✓	
Reasons for participation (and non-participation)		
Reasons for participation in energy survey	✓	✓
Reasons for installing free measures	✓	
Reasons for not installing free measures		✓
Reasons for not installing non-free measures	✓	✓
Motivators for installing (more) measures.	✓	✓

Survey Question Areas	Participant	Non-participant
Participant satisfaction with the process and measures		
Overall satisfaction with SBDI	✓	✓
Satisfaction with energy survey	✓	✓
Length of time between program activities	✓	✓
Satisfaction with timing	✓	✓
Satisfaction with measures offered	✓	✓
Whether would recommend program to others	✓	
Interactions with other energy efficiency programs		
Awareness of other energy efficiency programs	✓	✓
Participation in other programs, which ones	✓	✓
Business characteristics		
Type of business	✓	✓
Number of FTEs	✓	✓
Business ownership structure	✓	✓
Years in business	✓	✓
Own or rent facility in which they operate	✓	✓

Reducing survey error

The evaluation team is taking multiple approaches to reducing survey error. As discussed in the sampling section, we plan to complete surveys with a relatively large group of program participants and non-participants to achieve 10 percent relative precision at the 90 percent confidence level. We are selecting both the participant and non-participant samples from the program tracking database, so the sample population and the target population are well aligned. APPRISE will send advance notification of the surveys (via mail or email) to businesses sampled, to increase the response rate (which reduces errors associated with non-response).

In order to improve data reliability associated with the data collection, the evaluation team will carefully word questions to be neutral and to minimize confusion. The in-depth interviews with participants and non-participants will help us design surveys in language that is clear to the respondents. We will keep surveys as short as possible, including only questions designed to meet the research objectives. Finally, as discussed above, we will monitor the interviewers to assure that questions are asked as written, that respondents understand the questions, and that responses are recorded accurately.

Deliverables:

- Draft survey instruments
- Final survey instruments

ANALYSIS

We will begin analysis of the interviews and survey data immediately upon the completion of the research. In cases where an important problem or issue is identified, even it is before that time (e.g., during the course of an interview with one or more individuals), KEMA will immediately notify the utility project manager so that mitigation steps can be taken to get the program back on track.

Analysis of the Telephone Surveys

KEMA will complete the analysis of participant and non-participant telephone surveys using Excel and SAS. We plan to have APPRISE provide banner tables and cross-tabulation of results from the telephone survey across different strata, as determined in the sampling strategy.

We will develop weights to expand survey results to the population and analyze results by the key strata. We expect to provide results both overall by utility, as well as by the key strata, with an assessment of differences found between segments of the participant and non-participant populations. In analyzing the results of the telephone survey, we will also test for significance, where appropriate.

KEMA will complete the analysis for each utility separately. Within each utility, we report findings for the entire service territory, as well as by specific groups of interest. We will work with the utilities when we develop the sampling strategy to identify those groups that are of most interest for separate analysis.

At a minimum, the analysis will compare participants to non-participants based on business type, energy usage or demand, number of full-time employees (FTE) and ownership structure. Within the participant population, we will identify overall the proportion of respondents providing responses to specific questions, and compare these responses across key subgroups. (We will develop a more detailed analysis plan as we design the surveys.) In the report tables we will identify differences across populations that are significant at the 90 percent and 95 percent confidence levels.

Analysis by Process Category

The process evaluation analyses (and reporting) will be structured around six major processes:

- Program planning and design
- Infrastructure development
- Marketing and customer acquisition
- Program delivery
- Satisfaction with the program
- Interaction with other programs

The analyses will draw on all of the research conducted to address each of these processes. KEMA will also utilize the data collection activities described in the previous section to assess any discernible trends across program vendors. Below, we highlight the primary data collection and process evaluation activities that will be used.

Program Planning and Design

The staff and implementation contractor in-depth interviews will be the major input into the analysis of the program planning process. We will also review program documentation, such as the various PSC filings, requests for proposals and implementation contracts. The customer telephone survey will also include some questions related to program planning and design.

We will summarize utility, implementation and contractor staff feedback on potential improvements to program planning and design. Specifically, we will analyze whether there are additional program measures that the installation contractors believe would improve the program.

In addition, we will also analyze the customer telephone survey for customer satisfaction with program measures and whether small business customers are likely to use an on-bill payment to finance additional program measures.

Infrastructure Development

The infrastructure assessment will focus on the program management and reporting processes, including the tracking system and quality control procedures. We will base our analysis upon the in-depth interviews and review of the tracking system software, inputs and outputs. A component of the participant telephone survey will also assess the accuracy of the tracking database (i.e. verification of measures included in the tracking system).

We will summarize feedback from utility staff, implementation staff and trade allies on the effectiveness of the SMART system, and other contractor management tools (e.g. Savings Tool, Marketing Spreadsheet, etc).

For the tracking system review, we will examine the dataset extracted from the tracking system and conduct the following quantitative analysis:

- Distribution of business types participating
- Distribution of measure types typically installed
- Distribution of energy savings by business type, measure type
- Average project sizes across different facility sizes, business types, geographies

Other results of the tracking system review will be reported qualitatively. This may include issues such as whether the system contains the necessary data fields, completed data fields, and effectiveness quality control processes.

Based on the participant telephone survey, we will summarize the phone verification of the measures included in the program tracking database, and indicate areas for improving the reliability of reported savings. KEMA will compare the verification rate of different types of program measures.

We will use the results from the in-depth interviews (staff, implementation contractors, and trade-allies) to assess the appropriateness of the staffing levels and skills.

Marketing and Customer Acquisition

KEMA will analyze how marketing and customer acquisition channels can be improved. Staff/implementation contractor interviews and the tracking system review will provide some insights. Additional sources of information for this analysis include the review of marketing materials and input from the trade ally interviews, ride-along field observations and customer surveys.

We will summarize staff/implementation contractor and trade ally comments and experience in reaching customers and staff recommendations for overcoming barriers to customer acquisition. From the customer telephone surveys, we will summarize how customers heard about the program, and preferred methods to receive information. KEMA will examine why some customers chose to participate in the energy survey and some did not. We will look at reasons for installing free and non-free measures and the reasons for customers to decline to install measures.

We will look at the conversion rates and the implied levels of activity in order to meet program goals. It may be that marketing needs to be intensified or changed in order to build a sufficient pipeline. Alternatively, changes in program delivery may result in higher rates of conversion of prospects.

Program Delivery

Program delivery will be assessed from a variety of perspectives, based primarily on in-depth interviews with staff and the sales-auditor and installation contractor ride-alongs (as well as the customer satisfaction surveys, discussed below). We will also review the tracking system and contractor management tools (e.g. assignment of work orders) and customer telephone surveys.

KEMA will assess the roles and responsibilities of various individuals in delivering the program. The in-depth interviews will be used to evaluate communications effectiveness both within and between the different organizations involved in implementing the program. KEMA will analyze the effectiveness of processes to organize sales-auditors and installation contractors to reach the target market in a timely manner.

We will review reports, memoranda and other tools used to communicate key information between the field staff (sales-auditors and installation contractors), implementation contractor and the utility program manager. Staff interviews will identify internal communications issues. The program document review also supports the analysis of which program tools (e.g. templates, websites and reporting protocols) are functioning effectively for program delivery.

We will use the ride-alongs and interviews with installation contractor interviews to analyze the value proposition of the program for them and their perception of the program's benefits to their business. These research activities will also analyze barriers to trade ally (i.e. installation contractor) involvement in the program.

Finally, the tracking system review and participant telephone surveys will allow the evaluation team to examine time frames for various steps in the participation process, such as from the initial sales visit to energy survey to installation of measures. This will support findings regarding ways in which program delivery can be improved.

Satisfaction with the Program

KEMA will examine both trade ally and customer satisfaction with the program. The primary sources for satisfaction findings will be the sales-auditor and installation contractor interviews, ride-alongs and customer telephone surveys. These findings may be supported by a review of program participation records of customer complaints and their resolution.

Based on our research, we will summarize how satisfied sales-auditor and installation contractor are with their program experience to date. We will provide any recommendations on how contractor incentives can be structured to better align with program goals.

KEMA will analyze how satisfied participants and non-participants are overall with their interactions with the SBDI program. We will also examine any differences in satisfaction between program components, including the energy survey and installation processes. We will assess participant satisfaction with the timing between program activities.

Interactions with Other Programs

Trade ally interviews and customer telephone surveys will provide most of the evidence related to how the interaction of multiple programs is aiding or preventing the SBDI program in achieving its goals. We will summarize results from the interviews with installation contractors on how they interact with other efficiency programs in Con Edison and O&R territories. We will analyze whether contractors appear to be double-dipping across multiple programs, causing energy savings to be double-counted. Based on the customer telephone surveys, we will summarize customer awareness of other energy efficiency programs, and whether customers participated in other efficiency programs.

Interviews with utility and implementation contractor staff will help identify the potential issues and synergies resulting from program interactions, and brief interviews with staff of other programs may be used to clarify outstanding questions for the evaluation team.

The evaluation team will derive its findings regarding interactions with other programs, based on the above and also taking into consideration team members' experience with other New York program implementers and with programs in other jurisdictions.

REPORTING

The NCI team will use a program management model that supports frequent and pro-active communication with the client to meet project schedule and quality concerns. This includes:

- Weekly status updates via telephone to discuss progress, upcoming activities, data needs and outstanding issues in need of resolution.
- Monthly status updates in writing.

KEMA will provide the results of the SBDI process evaluation in a final written report. KEMA will first submit a draft report for review by the Companies. The evaluation report will include a complete description of the program operations as found, and identify where this differs from the implementation plans. The report recommendations will focus on increasing program participation (measure installation), which will improve program cost-effectiveness. The process evaluation report will contain the following sections:

- Executive summary
- Introduction
 - Program description
 - Evaluation objectives
 - Overview of Methodology
- Key findings (by research area)
 - Program planning and design
 - Infrastructure development
 - Marketing and customer acquisition
 - Program delivery
 - Satisfaction with the program
 - Interactions with other programs
- Conclusions and recommendations (by research area)
 - Program planning and design
 - Infrastructure development
 - Marketing and customer acquisition
 - Program delivery
 - Satisfaction with the program
 - Interactions with other programs
- Appendices
 - Participant Survey
 - Non-Participant Survey
 - Survey Sampling pan
 - More detailed methodology discussion (if warranted)
 - Additional tables or figures (if warranted)

Key dates:

- June 25, 2010 – Willdan to provide initial extract of SBDI database to KEMA
- July 12, 2010 – KEMA to provide draft telephone survey instrument to Con Edison/O&R
- August 4, 2010 – DPS receives telephone survey instruments and sampling plan (10 business day review period by August 18th)
- August 13, 2010 – Willdan to provide second extract of SBDI database to KEMA
- August 25, 2010 – Telephone survey instruments and sampling plan finalized with updated tracking data
- August 26, 2010 – Begin programming and pre-test of survey
- October 1, 2010 – APPRISE completes telephone surveys
- November 19, 2010 – Draft report completed