

**Small Business Energy Savings Program
Evaluation Report – ComEd and Nicor Gas**

Final

**Energy Efficiency / Demand Response Plan:
Electric Plan Year 5
Gas Plan Year 2
(6/1/2012-5/31/2013)**

**Presented to
Commonwealth Edison Company
Nicor Gas**

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E. Executive Summary

This report presents a summary of the findings and results of the impact and process evaluation of the Small Business Energy Savings (SBES) Program in its second year of operation, which is electric program year 5 (EPY5) and gas program year 2 (GPY2).¹ The SBES Program is jointly implemented with Commonwealth Edison (ComEd), Nicor Gas, and Peoples Gas and North Shore Gas. The implementation contractors were Nexant Inc. (Nexant), which delivered the Program to customers of both ComEd and Nicor Gas in Nicor Gas’s service territory, and Franklin Energy Services (Franklin), which delivered the Program to customers served by ComEd and Peoples Gas or North Shore Gas. The Program is designed to assist ComEd, Nicor Gas, Peoples Gas and North Shore Gas non-residential customers² in lowering their energy usage and energy bills by educating them about electric and natural gas savings opportunities through on-site assessments. Participating customers can achieve immediate savings through the direct installation of specific products during the assessment at no cost to them. Further savings opportunities are offered to customers with incentives of 30 to 70 percent³ for select, low-cost electric and natural gas energy efficiency measures that may be installed by a local contractor at a second on-site visit.

Key changes during this program year included a ComEd-led geographically-focused marketing pilot program (“geo-marketing pilot”), and a steam trap replacement/repair special (“steam trap special”) offered by Nicor Gas to dry cleaners in parts of its service territory.⁴

This report evaluates the impacts of the electric measures installed at ComEd customer sites in the combined service territories of all three gas companies (Nicor Gas, Peoples Gas and North Shore Gas), and the impacts of the gas measures installed in Nicor Gas’s service territory; it also presents process evaluations of the geo-marketing pilot and the steam trap special.⁵ The objectives of the SBES Program evaluation are: (1) to quantify gross and net savings impacts for the Program, (2) to determine key process-related Program strengths and weaknesses, and (3) to identify ways the Program can be improved. No net-to-gross (NTG) research was conducted in EPY5/GPY2. The process evaluation is limited to the geo-marketing pilot program and the steam trap special offer.

E.1. Program Savings

Table E-1 summarizes electric savings from the ComEd EPY5 SBES Program. Navigant verified net savings of 33,573 MWh, as well as 5.7 MW of net coincident peak demand savings.

¹ The EPY5/GPY2 program year began June 1, 2012 and ended May 31, 2013.

² To qualify for the SBES program, customers must be active Commercial and Industrial (C&I) customers of ComEd with peak demand of less than 100 kW, and Nicor or Peoples Gas/North Shore Gas customers who use less than 60,000 therms per year.

³ Incentives of up to 100 percent are offered for certain measures (e.g., single-stage thermostats) in some cases.

⁴ Peoples Gas also had an initiative promoting dry cleaner steam trap replacements in GPY2. However, they did not want it separately evaluated for this program year.

⁵ Peoples Gas and North Shore Gas natural gas impacts are presented in a separate evaluation report.

Table E-1. ComEd EPY5 SBES Program Electric Savings

Savings Category †	Energy Savings (MWh)	Coincident Peak Demand Savings (MW)	Non-Coincident Peak Demand Savings (MW)
Ex-Ante Gross Savings	37,329	6.34	6.58
Ex-Ante NTG	0.85	0.85	0.85
Ex-Ante Net Savings ⁶	31,730	5.39	5.59
Verified Gross Realization Rate	1.00	1.00	1.00
Verified Gross Savings	37,303	6.33	6.57
NTG ⁷	0.90	0.90	0.90
Verified Net Savings	33,573	5.71	5.92

Source: Frontier EPY5 tracking system data, Navigant analysis.

† See the Glossary in the Appendix for definitions

In EPY5, the SBES Program achieved 377 percent of its targeted electric savings of 8,900 MWh.

Year-over-year comparison of the Program’s electric energy savings (Table E-2) indicates that in EPY5 the program achieved 373 percent of the net electric savings it attained in EPY4.

Table E-2. ComEd SBES Program Year-over-Year Electric Results

Program Result	EPY4	EPY5	Year-to-Year Volumetric Difference (EPY5/EPY4)
Ex-Ante Gross, MWh	9,207	37,329	405%
Verified Gross, MWh	9,483	37,303	393%
Verified Gross Realization Rate	1.03	1.00	
Verified Net, MWh	9,009	33,573	373%

Source: EPY4 evaluation report; Frontier EPY5 tracking system data, Navigant analysis.

Table E-3 summarizes the natural gas savings from the Nicor Gas GPY2 SBES Program. Navigant verified net savings of 2.1 million therms.

⁶ ComEd’s ex-ante net is based on a 0.85 net-to-gross ratio (source: ComEd PY5-PY6 Proposal Comparisons with SAG.xls, received from ComEd Oct. 10, 2013).

⁷ SAG-approved NTGR for ComEd for EPY5 was negotiated in March-August 2013 and documented in http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/ComEd PY5-PY6 Proposal Comparisons with SAG.xls.

Table E-3. Nicor Gas GPY2 SBES Program Natural Gas Savings

Savings Category †	Energy Savings (Therms)
Ex-Ante Gross Savings	1,719,681
Ex-Ante NTG ⁸	1.00
Ex-Ante Net Savings	1,719,681
Verified Gross Realization Rate	1.25
Verified Gross Savings	2,143,013
NTG	1.00
Verified Net Savings	2,143,013

Source: GPY2 Frontier tracking system data, Navigant analysis.

† See the Glossary in the Appendix for definitions.

In GPY2, the Nicor Gas SBES Program achieved 347 percent of its targeted net gas savings of 616,753 therms.

Year-over-year comparison of the SBES Program’s gas savings (Table E-4) indicates that in GPY2 the Program achieved more than 20 times the verified net savings it did in GPY1.

Table E-4. Nicor Gas SBES Program Year-to-Year Results

Program Result	GPY1	GPY2	Year to Year Difference (GPY2/GPY1)
Ex-Ante Gross Therms	104,483	1,719,681	1646%
Verified Gross Therms	104,483	2,143,013	2051%
Realization Rate	1.00	1.25	
Verified Net Therms	104,483	2,143,013	2051%

Source: GPY1 evaluation report, Frontier GPY2 tracking system data, Navigant analysis. Values shown have been rounded.

E.2. Impact Estimate Parameters

Navigant used several parameters in its calculations of verified gross and net savings. Some of these parameters were deemed for this program year and others we adjusted based on evaluation research. The key parameters used in the analysis are shown in Table E-5.

⁸ Nicor Gas’s ex-ante net used a 1.00 net-to-gross ratio (source: [http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/Nicor_Gas_NTG_Results_and_Application_GPY1-3.pdf](http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August%205-6,%202013%20Meeting/Nicor_Gas_NTG_Results_and_Application_GPY1-3.pdf)).

Table E-5. Impact Estimate Parameters

Parameter	Data Source	Deemed or Evaluated?
Net-to-Gross Ratio (NTGR)	SAG Spreadsheet †	Deemed
Deemed per unit savings	IL-TRM‡	Deemed
Non-deemed per unit savings	Evaluation Research	Evaluated
Verified Gross Realization Rate	Program tracking data	Evaluated

† SAG is the Illinois Energy Efficiency Stakeholder Advisory Group (www.ilsag.org). ComEd savings: [http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/ComEd PY5-PY6 Proposal Comparisons with SAG.xls](http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August%205-6,%202013%20Meeting/ComEd%20PY5-PY6%20Proposal%20Comparisons%20with%20SAG.xls). Nicor Gas savings: [Nicor_Gas_NTG_Results_and_Application_GPY1-3](http://www.nicor.com/~/media/Files/ComEd/PY5-PY6/ComEd_PY5-PY6_Proposal_Comparisons_with_SAG.xls).
 ‡ Illinois_Statewide_TRM_Effective_060112_Final_091412_Clean, which is available on the IL SAG web site here: <http://ilsag.info/net-to-gross-framework-1.html>.

E.3. Impact Estimate Parameters for Future Use

As we discussed in the EPY4/GPY1 SBES evaluation report⁹, the approved Technical Reference Manual (TRM)¹⁰ unit savings for C&I aerators and showerheads were reviewed by the TRM Technical Advisory Committee and found to have been derived using algorithms containing an error. The errata are corrected by removing the redundant GPM factor from the algorithms for aerators and showerheads.¹¹ Pursuant to the IL-TRM Policy Document¹² adopted by the Commission in ICC Docket No. 13-0077, the evaluation verified unit savings in this report are shown using both the uncorrected algorithms (“ICC Approved TRM Unit Savings”) and the corrected algorithms (“Evaluation Corrected TRM Algorithm Unit Savings”) in Table E-6 and Table E-7. The evaluation verified savings presented elsewhere in this report are based on the TRM v1.0 unit savings values for these measures.

Table E-6. Impact Estimate Electric Measure Parameters for Future Use

Measure Description	Ex-Ante Default Unit Savings (kWh/unit)*	ICC Approved TRM (v1.0) Unit Savings	Evaluation Corrected TRM Algorithm Unit Savings
Kitchen Aerator	298.0	85.1	298.0
Bathroom Aerator	143.0	102.1	357.5
Showerhead	273.0	273.0	436.1

* Ex-ante default values are averages from Frontier tracking system.

⁹ ComEd-Nicor Gas EPY4-GPY1 SBES EMV Report 2013-07-11 Final

¹⁰ State of Illinois Energy Efficiency Technical Reference Manual. Final as of September 14th, 2012. Effective June 1st, 2012.

¹¹ The errata correction (CI-HW_-LFFA-V02-120601) was identified on page 9 in Table 1.4 of the IL-TRM Version 2.0 dated June 7th, 2013 (see <http://www.icc.illinois.gov/downloads/public/edocket/353099.pdf>) that was approved in the Commission’s Final Order in ICC Docket No. 13-0437 on November 6, 2013. (The Order is available for download at <http://www.icc.illinois.gov/downloads/public/edocket/361899.pdf>.)

¹² <http://www.icc.illinois.gov/downloads/public/edocket/339744.pdf>

Table E-7. Impact Estimate Gas Measure Parameters for Future Use

Measure Description	Ex Ante Default Unit Savings (Therms/unit)*	ICC Approved TRM (v1.0) Unit Savings	Evaluation Corrected TRM Algorithm Unit Savings	Proposed TRM (v2.0) Adjusted Unit Savings for GPY3
Kitchen Aerator	4.5	4.28	18	4.6
Bathroom Aerator	4.5	5.1	15	4.6
Showerhead	13.3	13.51	21.64	21.64

* This value is calculated for miscellaneous business category. It may vary per business category.

E.4. Participation Information

The SBES Program had 1,881 unique electric projects in EPY5, of which 302 were implemented through the geo-marketing pilot program (Table E-8).¹³ The Program distributed 1,245 direct-install electric measures, and 189,563 contractor-installed electric measures (including 13,195 measures through the geo-marketing pilot program), for a total 190,808 electric measures. Savings per contractor-installed project were similar in the core Program and the geo-marketing pilot.

Table E-8. ComEd EPY5 SBES Primary Participation Detail

Participation	Core Program Projects		Geo-Marketing Pilot Projects	Overall Program
	Direct Install	Contractor Installed	Contractor Installed	
Ex-Ante Gross Savings (MWh)	513	31,343	5,473	37,329
Total Installed Measures	1,245	176,368	13,195	190,808
Unique Projects	487	1,352	302	1,881*
Savings (MWh) per Project	1	23	18	20
Measures per Project	3	130	44	101

Source: Frontier tracking data and Navigant analysis.

* Unique projects excludes 260 duplicate projects with both CI and DI measures.

The SBES Program had 1,465 unique gas projects in GPY2 through Nicor Gas, including 230 projects implemented through the steam trap special offer (Table E-9). The Program distributed 582 direct-install gas measures, and 6,678 contractor-installed measures (including 3,535 from the steam trap special), for a total 7,260 gas measures. The average savings per project was roughly 1,175 therms overall; however, for the steam trap special the figure was 5,072, or more than four times higher.

¹³ Note that the counts of projects and measures, as well as the savings totals, omit several projects in the second set of communities targeted by the geo-marketing pilot that were marketed in EPY5 but not installed until EPY6.

Table E-9. Nicor Gas GPY2 SBES Primary Participation Detail

Participation	Core Program Projects		Steam Trap Special Projects	Overall Program
	Direct Install	Contractor Installed	Contractor Installed	
Ex-Ante Gross Savings (Therms)	15,965	537,166	1,166,550	1,719,681
Total Installed Measures	582	3,143	3,535	7,260
Projects	246	1,042	230	1,465
Participants	228	999	201	1,258
Savings (Therms) per Project	65	516	5,072	1,174
Projects/ Participant	1.08	1.04	1.14	1.16

Source: Frontier tracking data and Navigant analysis.

* Overall unique projects were 1,465 from 1,258 unique participants.

E.5. Conclusions and Recommendations

This section provides key Program findings and recommendations.

Program Savings Goals Attainment

Finding 1a. The SBES Program achieved 377 percent of its EPY5 net electric energy savings goal. The Program raised its net energy savings by 273 percent, and its coincident peak demand savings by 240 percent in EPY5 relative to EPY4. This impressive achievement was driven partly by the success of the geo-marketing pilot program, which comprised 15 percent of total Program net savings, although the core Program also performed well.

Recommendation 1a. The Program should expand the geo-marketing pilot program to other communities in its service territory.

Finding 1b. The SBES Program achieved 347 percent of its GPY2 net therms savings goal. The Program raised its net therms savings by 1,950 percent relative to GPY1. This outstanding success is largely attributable to Nicor Gas’s innovative focus on dry cleaner steam trap replacements, which accounted for 74 percent of total Program therms savings in GPY2.

Recommendation 1b. The Program should continue the steam trap special and expand it to other parts of Nicor Gas’s service territory and other venues with boilers (e.g., apartment buildings).

Gross Realization Rates

Finding 2a. The Program achieved 100 percent realization on ex-ante kWh savings in EPY5, which is comparable to EPY4. Aside from adjustments made to unit savings for showerheads and aerators to conform with TRM (v1.0), the main exceptions were for electronically commutated (EC) motor measures, where unit savings were adjusted downward to be consistent with the ComEd Standard Program.

Recommendation 2a. The Program should revise the tracking system unit savings values for EC motors to conform with the C&I Standard Program.

Finding 2b. The Program achieved 125 percent realization on ex-ante terms savings in GPY2, which is 25 percentage points higher than in GPY1. This was due to upward adjustments to unit savings for steam trap measures to reflect the TRM assumptions where leakage audits could be verified; a reduced value was used where documentation was inadequate or audits occurred on less than 100 percent of the traps replaced.

Recommendation 2b. The Program should monitor steam trap applications to ensure that trade allies or contractors are inspecting traps before replacement, and document this information in the tracking system. When multiple trap replacements are performed with less than complete audit coverage, the percentage of traps inspected should also be indicated.

Pilot Program Findings.

Finding 3a. The geo-marketing pilot program succeeded in raising uptake rates in the six small communities it targeted in EPY5. The geo-marketing model could be adapted to other settings besides small rural communities.

Recommendation 3a. The Program should extend the pilot to other small and mid-sized communities in ComEd's service territory, and think creatively about adapting the geo-marketing delivery model to other settings where feasible.

Finding 3b. The Program's success in increasing terms savings in GPY2 rests mainly on the success of the steam trap special offer, which Nicor Gas and Nexant implemented in collaboration with the Korean-American Dry Cleaners Association (KADCA).

Recommendation 3b. The Program should seek out other opportunities to improve gas savings by identifying measures or market segments with significant savings potential and partnering with trade or community groups to promote uptake.

Trade Ally and Other Participation.

Finding 4a. Trade allies participating in the geo-marketing pilot indicated that they had been given too little time to prepare to enter and market the pilot in each test community.

Recommendation 4a. The Program should give pilot program trade allies more notice before starting the pilot program in each targeted community.

Finding 4b. Trade allies participating in the steam trap special offer reported encountering numerous cases where customers' steam traps were well beyond the recommended replacement age. They also reported seeing many situations where customer boilers were old and in deteriorated condition.

Recommendation 4b. The Program should work with KADCA to educate dry cleaner customers about steam traps and encourage them to replace them more frequently. (Federal guidelines recommend replacement every five to eight years.) The Program should consider developing a campaign to promote servicing and/or replacement of boilers in the dry cleaner market.

The SBES Program succeeded not only in meeting, but in fact strongly exceeding, both its electric and gas savings goals in EPY5/GPY2, and dramatically increased its energy savings relative to the previous program year. This resulted in part from overall good execution on the part of the utilities, Program implementers, and trade allies. But in a broader sense, it resulted from bold thinking on the part of Program managers, and a willingness to adopt nontraditional approaches where appropriate

in order to overcome existing barriers to adoption of energy efficiency measures. Both the geo-marketing pilot and the dry cleaner steam trap special achieved success by identifying an underserved market segment with significant upside potential and following a similar strategy: recruiting trade allies with the necessary knowledge and skills who were willing to commit to focusing intensively on the effort; making creative use of available local resources; being flexible in the face of barriers as they arose; and supporting the effort with aggressive incentives and marketing. Such creativity and willingness to take on additional risk to improve Program performance is commendable, and we urge all involved to continue thinking “outside the box.”

1. Introduction

1.1 Program Description

The Small Business Energy Savings (SBES) Program is designed to achieve energy savings goals by educating ComEd, Nicor Gas, and Peoples Gas/North Shore Gas small business customers about electric and natural gas savings opportunities through on-site assessments and added incentives. The implementers, Nexant for ComEd/Nicor Gas and Franklin Energy for ComEd/Peoples Gas/North Shore Gas, provide energy advisors who conduct high-level walk-through assessments of customer sites. Customers are able to achieve immediate savings with the direct installation of specific products during the assessment at no cost to them. The no-cost measures promoted by the Program include low-flow faucets and showerheads, pre-rinse spray valves, vending machine controls, and compact fluorescent lights.

Further savings opportunities are offered to customers through incentives of 30 to 70 percent for selected low-cost electric and natural gas energy efficiency measures that may be installed by a local contractor at a second on-site visit. If the premises are rented, the Program implementer coordinates participation in the Program with the landlord or property owner. Trade allies are assigned on a rotating schedule based on geography unless the contractor recommended the Program to the customer.

In EPY5/GPY2 ComEd and Nicor Gas introduced innovative Program marketing efforts aimed at promoting uptake of certain electric and gas efficiency measures within certain segments of the target market. ComEd's geo-marketing pilot project intensively targeted six small communities outside of the Greater Chicago area that had had poor uptake rates with the SBES Program in EPY4, working closely with local contractors, business and community groups to promote installation of energy-efficiency measures over a limited time interval. During the pilot period, ComEd raised the incentives offered on most indoor lighting measures to 100 percent. Once the promotional period was up, these enhanced opportunities reverted to their normal levels.

Rather than a geographic focus, Nicor Gas concentrated on a particular market segment with untapped savings potential: steam traps at dry cleaners, venues which in the greater Chicago area are mostly owned and operated by Korean-Americans. Working closely with the Chicago-based Korean-American Dry Cleaners Association (KADCA), Nexant recruited bilingual trade allies with experience installing steam traps at dry cleaners. After verifying that the participating trade allies understood the Program, could explain it properly, and were recommending and installing measures correctly per the standard SBES process, these trade allies were allowed to perform the assessments on their own. At the same time, Nicor Gas raised the steam trap incentive offered to dry cleaners to 100 percent starting in February 2013 and extending through the end of GPY2.

1.2 Evaluation Objectives

Navigant identified the following key researchable questions for EPY5/GPY2:

1.2.1 Impact Questions

1. What is the level of gross and net annual energy savings induced by the Program?
2. Did the Program meet its energy saving goals?
3. Are the assumptions and calculations in compliance with the TRM? If not, what changes are required?

1.2.2 Process Questions

The process evaluation was limited to the ComEd geo-marketing pilot and the Nicor Gas dry cleaner steam trap special offer. No process evaluation was performed for Peoples Gas and North Shore Gas in GPY2.

1. Effectiveness of pilot program implementation
 - Did the pilot/special meet savings goals?
 - Did the pilot/special implementation change from the initial design? If so, how, why, and was it advantageous?
 - How successful was the pilot/special compared to the core Program? What factor(s) were responsible?
 - What challenges occurred in implementation and how were they addressed?
 - (For geo-marketing pilot): Was the Program equally successful in all geographic locations? If not, how did they differ and why?
 - What were the characteristics of the participating customers and trade allies, and did they differ from what was expected? Who should have been more involved but were not, and how can the Program increase their involvement?
2. Pilot administration and delivery
 - How were the pilot/special trade allies recruited and trained?
 - Did their roles differ from those of trade allies in the core Program?
 - (For geo-marketing pilot): Did the core Program continue in pilot areas after the initial “blitz” period?
 - Were the geographic and segment targeting strategies successful? Are any changes warranted? Could they be extended or adapted in new ways?
3. Effectiveness of pilot/special design and processes
 - Were the pilot/special participation processes and Program requirements clearly explained to customers and trade allies?
 - Were participating trade allies allowed to perform their own assessments? If so, was this successful, did it cause any problems, and should the practice be extended to the core SBES Program?
 - Did the pilot/special processes create any barriers to trade ally or customer participation? If so, what were they and how could they be avoided in the future?
 - What did participating trade allies like about the pilot/special? Were there aspects that they didn’t like?

- What were the Program's expectations for the trade allies/Program partners, and were they met?
 - How does proportion of customers not installing no- or low-cost measures compare between the core Program and pilot/special?
4. How satisfied were customers and trade allies with the pilot/special?
 5. Opportunities for Program improvement
 - What aspects of the pilot/special worked particularly well? What worked less well than anticipated?
 - Which areas could be improved to make the Program more effective?
 6. Potential market effects
 - Did the geo-marketing pilot trade allies market additional (non-interior lighting) measures to customers in the targeted communities? Did they target additional customers outside of the targeted communities?
 - Did the steam trap special trade allies market additional (non-steam trap) measures to participating dry cleaners? Did they target additional dry cleaners outside of Program boundaries?

2. Evaluation Approach

The SBES Program evaluation involved limited impact work for EPY5/GPY2 since most of the Program’s savings are derived from deemed values contained in the Illinois Technical Reference Manual (TRM), and Navigant reviewed the savings calculations for this Program in EPY4/GPY1. Gross savings was evaluated by (1) reviewing the tracking system to ensure that all fields were appropriately populated, (2) reviewing deemed and non-deemed measure algorithms and values in the tracking system to ensure that they were appropriately applied, and (3) cross-checking totals. Net-to-gross research was not conducted in EPY5/GPY2, aside from looking at potential spillover effects in the geo-marketing pilot program and dry cleaner steam trap special. EPY5/GPY2 NTG values were deemed by the SAG through consensus with the other utilities in Illinois.

The process evaluation for EPY5/GPY2 focused mainly on the geo-marketing pilot and the steam trap special offer: how well they worked, how their marketing, administration and delivery could be improved, and possibilities for extending them in new directions. The process evaluation of the core Program was limited to following up on the EPY4/GPY1 recommendations, updating the key performance indicators (KPIs) based on interviews with relevant staff from the utilities and implementers, and updating the conclusions from the Verification, Due Diligence and Program Theory memo.

2.1 Overview of Data Collection Activities

The gross impact verification was based on a review of the Program tracking data. Data collection for the process evaluation included telephone interviews with Program and implementer staff, as well as customers and trade allies who participated in the geo-marketing pilot and steam trap special.

The full set of data collection activities is shown in Table 2-1.

Table 2-1. Core Data Collection Activities

What	Who	Target Completes	Completes Achieved	When	Comments	
<i>Impact Assessment</i>						
1	Measure Savings Review	Program tracking system	all	all	July-August 2013	Source of information for verified gross analysis
<i>Process Assessment</i>						
2	In-depth Interviews	Utility Program staff	2 ^a	2	May – September 2013	Data collection supporting process analysis
3	In-depth Interviews	Implementer staff	1 ^b	1	May – September 2013	Data collection supporting process analysis
4	In-depth Interviews	Participating trade allies (geo-marketing pilot)	4 ^c	4	May – September 2013	Data collection supporting process analysis
5	In-depth Interviews	Participating trade allies (dry cleaner steam trap special)	5 ^c	4	May – September 2013	Data collection supporting process analysis
6	In-depth Interviews	Program participant customers (geo-marketing pilot)	20	17	May – September 2013	Data collection supporting process analysis
7	In-depth Interviews	Program participant customers (dry cleaners pilot)	12	12	May – September 2013	Data collection supporting process analysis

Notes: ^a One each for ComEd and Nicor Gas; ^b Nexant, which implemented the geo-marketing marketing pilot and the steam trap special; ^c Nexant indicated that a total of four Trade Allies were selected to participate in the geo-targeted pilot, and five steam trap TAs were utilized in the combined ComEd/ Nicor Gas territory.

2.2 Verified Savings Parameters

Navigant calculated the verified gross and net savings for the EPY5/GPY2 SBES Program measures using algorithms defined by the Illinois TRM version 1.0. Table 2-2 provides the data sources and assumptions used to obtain each parameter or measure.

Table 2-2. Verified Gross and Net Savings Parameter Data Sources

Input Parameters	Data Source	Deemed or Evaluated?
Verified Gross Realization Rates	Evaluation Research	Evaluated
NTG Ratio	SAG Spreadsheet †	Deemed
All Lighting Measures	TRM v1.0 (sections 4.5.1 to 4.5.7) ‡	Deemed
Program Bulbs	EPY5 Program Tracking System	Evaluated
Delta Watts	TRM v1.0 ‡	Deemed
Hours of Use (HOU)	TRM v1.0 ‡	Deemed
Peak Load Coincidence Factor	TRM v1.0 ‡	Deemed
Energy Interactive Effects	TRM v1.0 ‡	Deemed
Demand Interactive Effects	TRM v1.0 ‡	Deemed
Installation Rate	TRM v1.0 ‡	Deemed
Showerheads and Aerators	TRM v1.0 (section 4.3.2 and 4.3.3) ‡	Deemed
Cooling Miser	TRM v1.0 (section 4.6.2)	Deemed
Pre-Rinse Sprayers	TRM v1.0 (section 4.2.11) ‡	Deemed
EC Motor, Reach-in/Walk-in	TRM v1.0 (section 4.2.11)	Deemed
Vending Miser	TRM v1.0 (section 4.6.2)	Deemed
Showerhead and Aerators	TRM v1.0 (section 4.3.2 and 4.3.3) ‡	Deemed
Hot Water Turn Down	Evaluation research	Evaluated
Pre-Rinse Sprayers	TRM v1.0 (section 4.2.11) ‡	Deemed
Boiler Reset Control	TRM v1.0 (section 4.4.4) ‡	Deemed
Boiler Tune-up	TRM v1.0 (section 4.4.2) ‡	Deemed
Condensing Furnace Upgrade	TRM v1.0 (section 4.4.11) ‡	Deemed
Furnace Tune-up	Evaluation research	Evaluated (previous year value)
Scheduled Programmable Thermostats	Evaluation Research	Evaluated
Installed Programmable Thermostats	Evaluation research	Evaluated (previous year value)
Gas Water Heater +88% TE	TRM v1.0 (section 4.3.1) ‡	Deemed
Steam Traps	TRM v1.0 (section 4.4.15) ‡	Deemed
Infrared Heaters	TRM v1.0 (section 4.4.12) ‡	Deemed
HW Heater Insulation Jacket	Evaluation research	Evaluated

‡Illinois_Statewide_TRM_Effective_060112_Final_091412_Clean. †ComEd:

[http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August_5-6, 2013 Meeting/ComEd PY5-PY6 Proposal Comparisons with SAG.xls](http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August_5-6,_2013_Meeting/ComEd_PY5-PY6_Proposal_Comparisons_with_SAG.xls). Nicor Gas: Nicor_Gas_NTG_Results_and_Application_GPY1-3.pdf.

2.3 Verified Gross Program Savings Analysis Approach

Navigant’s verified gross savings approach involved reviewing the ex-ante measure types in the tracking system to determine which were deemed, and which were non-deemed and thus subject to evaluation adjustments. For measures with deemed TRM values, verified gross savings were determined by multiplying deemed per unit savings by the verified quantity of eligible measures installed. Deemed measures were required to meet all physical, operational, and baseline characteristics as defined in the TRM. For non-deemed C&I measures (e.g., temperature turn-down, installed and scheduled programmable thermostats), the evaluation team relied on secondary research to verify the claimed savings.

2.4 Verified Net Program Savings Analysis Approach

Navigant calculated verified net energy savings by multiplying the verified gross savings estimates by the Program net-to-gross ratio. In EPY5/GPY2 the NTG ratio estimates used to calculate the Net Verified Savings were deemed, based on the previous year’s evaluation research and defined through a negotiation process with SAG.¹⁴ For the SBES Program, the NTG ratio estimate was 0.90 for electric measures and 1.00 for gas measures.

Spillover was explored in two ways in the process evaluation. Interviewed customers were asked about their plans to participate in the Program again and about their knowledge of other programs. Interviewed trade allies were asked about spillover behavior they observed in their customers.

2.5 Process Evaluations

2.5.1 Geo-Marketing Pilot

The process evaluation of the geo-marketing pilot program relied on interviews with utility and implementer staff, participating customers and trade allies. Navigant conducted in-depth, open-ended interviews with seventeen customers about their experience with the pilot program. Questions covered Program administration, communications, Program satisfaction and improvements, and awareness of other ComEd/Nicor Gas programs, along with customer background information. The sampling frame for the interview sample consisted of the set of 302 unique pilot program participants which we identified from the Frontier tracking system. Participants were selected from this list using a random selection process. Interviews were conducted by telephone.

Four trade allies participated in the geo-marketing pilot, and all were interviewed by telephone. Questions covered trade allies’ views on the administration of the pilot, the effectiveness of pilot program implementation, the effectiveness of pilot program design and processes, customer and trade ally satisfaction with the Program, Program barriers, and potential market effects or spillover.

2.5.2 Dry Cleaner Steam Trap Special

The process evaluation of the steam trap special relied on interviews with utility and implementer staff, participating customers and trade allies. Navigant conducted in-depth, open-ended interviews with twelve Korean-American dry cleaner customers about their experiences of having steam traps

¹⁴ ComEd PY5 NTG Comparisons with SAG

replaced in their facilities through the steam trap special offer. Questions covered Program administration, communications, Program satisfaction and improvements, and awareness of other ComEd/Nicor Gas programs, along with customer background information. The sampling frame for the interview sample consisted of the set of unique dry-cleaning establishments with steam trap replacements in GPY2, which we identified from the Frontier tracking system. Participants were selected from this list using a random selection process. Interviews were conducted by native Korean speakers; eleven of the interviews were conducted via telephone, and one was conducted in person at a Korean restaurant since this customer preferred a face-to-face interview. The interviews were conducted during the first two weeks of September, 2013 and were transcribed into English by the interviewers.

Four trade allies (referred to as mechanics by the dry cleaner owners) participated in the steam trap special offer. All belonged to the Korean-American Dry cleaners Association, and all were interviewed by telephone for the GPY2 process evaluation; one interview was conducted in English and the other three were in Korean. As with the customer interviews, the Korean-language trade ally interviews were conducted by native Korean speakers and subsequently transcribed into English by the interviewers.

All customer and trade ally qualitative data collected during these interviews was analyzed by the Navigant SBES process evaluation manager.

3. Gross Impact Evaluation

Navigant reviewed the tracking system and verified the ex-ante gross savings. Where the tracking ex-ante unit savings did not conform to TRM assumptions, we applied the necessary adjustments to obtain the correct value. Verified gross savings was calculated by multiplying the quantity of measures installed by the TRM verified measure unit savings. The Program verified gross realization rate was determined by calculating the ratio of verified savings to ex-ante savings. The overall verified gross realization rate was 1.00 for electric measures and 1.25 for gas measures.

3.1 Tracking System Review

The evaluation team relied on the data extract from ComEd’s Frontier Tracking System (ComEd 8-02-2013 data extract) as the final tracking data to review the ex-ante inputs. Prior to that, we received and reviewed preliminary data from the implementation contractor extracted on 7-03-2013. These data enabled the evaluation team to identify which projects were implemented under the dry cleaner steam trap special. They also enabled the evaluation team adequate time to gather customer contact information for the process evaluation efforts on the geo-marketing pilot and dry cleaner steam trap special.

The Frontier tracking database provides detailed information about the installed measures and projects, installed quantities, and installation dates. Customer and trade ally information included contact details, direct or contractor-installed measures, customer installation cost and expected incentives. Also included were the incentives paid to trade allies, the invoice dates, dates of initial assessment and implementation of capital investment measures, and information on how the customer learned about the SBES Program.

Listed below are the key findings and recommendations from the tracking system review.

3.1.1 Electric Measure Tracking Findings

1. Navigant found discrepancies in the assumptions built into the Frontier tracking system to calculate unit measure savings, particularly for lighting measures, where it appears that the implementers used different assumptions to calculate savings for some measure. This resulted in different per-unit savings values for the same lighting measures in some instances. For example, we found that for lamp/ballast retrofits, delamping, and several other measures, the delta watts and savings from installations in the Nicor Gas territory differed from those in the Peoples Gas/North Shore Gas territories. For occupancy sensors, it appears that savings were tracked on different bases (per-occupancy and per-sensor). Navigant brought this issue to ComEd’s attention and received word that the discrepancies stemmed from assumptions used by Franklin for some measures that were inconsistent with the TRM v1.0 approved for EPY5/GPY2 evaluation, and that Franklin would be adjusting their data tracking system to correct the problem. To our knowledge this was not done in time to be reflected in the impact results presented in this report.
 - o **Recommendation:** Program staff should verify that lighting and occupancy sensor measures in the EPY6 tracking system are correctly tracking TRM values.

2. The claimed electric savings for bathroom and kitchen aerators are inconsistent with the TRM v1.0. As was true with the EPY4/GPY1 SBES Program evaluation, the errata correction (“GPM Factor” redundancy) for showerhead and faucet aerators which had been brought to the attention of the TRM Technical Advisory Committee had not been approved by the ICC at the time of writing. Hence, Navigant used the uncorrected TRM inputs and adjusted the ex-ante savings for bathroom aerators from 143 kWh to 102 kWh, and for kitchen aerators from 298 kWh to 85 kWh.
 - **Recommendation:** Program staff should verify that bathroom and kitchen aerator measures in the EPY6 tracking system are correctly tracking TRM values.

3. The ex-ante unit savings claimed in Frontier for pre-rinse spray valves is either 3,709 kWh or 4,154 kWh depending on the Program implementer. The evaluation team adjusted the savings to the default TRM value of 4,145 kWh for direct-install.¹⁵
 - **Recommendation:** Program staff should ensure that the EPY6 tracking system uses the default TRM value for pre-rinse spray valves.

4. Claimed ex-ante savings for EC Motor Walk-in and Reach-in measures in coolers and freezers are not consistent with research findings, nor with ComEd’s EPY5 Workpaper on such measures or ComEd’s claimed savings for similar measures in the C&I Standard Program. Navigant revised the ex-ante values from, respectively, 467 kWh to 401 kWh for Walk-ins, and 370 kWh to 344 kWh for Reach-ins.¹⁶
 - **Recommendation:** Program staff should verify that EC Motor measures in coolers and freezers in the EPY6 tracking system are consistent with research findings, including the ComEd Workpaper and claimed savings for similar measures in other programs.

5. The SBES Program complied with the EISA regulation and the TRM requirement to retrofit 100W incandescent bulbs to 23W CFLs. The post-EISA (after June 2012) watt base for a 100W incandescent replacement should be 72W, giving a delta watts of 49W. On the other hand, we found the tracking delta watts for 20W CFL was 52W assuming a 72W base. We changed the delta watts to 55W, because 75W bulbs were not affected by the EISA rule during the EPY5 program year.
 - **Recommendation:** Program staff should verify that the baseline wattages used to calculate delta watts for lighting measures in the EPY6 tracking system are consistent with current EISA rules and TRM requirements.

6. The Program claimed 63 kWh savings for scheduled programmable thermostats. This is a custom value, since this measure is not covered in the TRM. We did not adjust this value, but note that the basis for this calculation is not clear.
 - **Recommendation:** ComEd should conduct research to establish the inputs assumptions for the claimed savings from this measure. The same should be done for the installed thermostats measure.

¹⁵ Illinois TRM §4.2.11, pp. 101-105.

¹⁶ *Ibid.*, §4.6.4, pp. 279-282.

7. The Frontier tracking system distinguishes electric measures installed through the geo-marketing pilot from electric measures installed through the core SBES Program via the addition of a “Pilot” suffix to the measure description where appropriate.
 - **Recommendation:** The evaluation team commends the implementer for providing this information, which allowed the evaluation team to identify pilot program participants. However, participants should be identified via a separate participation field rather than by adding a suffix to the measure description field.

8. In the communities targeted by the geo-marketing pilot program, the Frontier tracking system understated to varying extents the numbers of projects and installed measures, and thus also energy savings, that were achieved. This occurred because the participating trade allies initially focused primarily on marketing the pilot, which resulted in a backlog of orders that took time to work through. In the first wave of the pilot, which began in February and targeted Dixon, Oregon and Sterling, roughly half of the savings attributable to the EPY5 pilot effort was not realized until EPY6. In the second wave, which began in April and targeted Harvard, Marengo and Woodstock, nearly 70 percent of the savings from the EPY5 effort was not realized until EPY6.¹⁷
 - **Recommendation:** We recognize that impacts of measures installed during EPY6 are properly credited to that program year. However, we caution that some of the wide variation observed in pilot program impacts (e.g., measures, projects, savings) across communities was an artifact of this timing issue rather than reflecting substantive differences in how the pilot was delivered, and should not be taken as an indication of poor performance on the part of Program staff, the implementer, or participating trade allies. To fully evaluate the success of the pilot program, impacts should be based on tracking data that reflect all of the projects implemented during the period the pilot was active in each community.

3.1.2 Gas Measure Tracking Findings

1. Navigant found inconsistencies in the Frontier tracking system for showerhead and aerator unit savings. Navigant found that unit savings in the tracking system for showerheads are mostly distributed about 13.5 therms, but a few projects had unit savings of 27 therms or 41 therms. The 13.5 therms figure is more consistent with the TRM, unless a custom number of showers per day is used in the calculation. Similarly, unit savings for aerators vary from 4.0 therms to 4.7 therms in the tracking system. The TRM unit savings are 4.3 therms for kitchen aerators and 5.1 therms for bathroom aerators. The extant unit savings values found in Frontier may be reasonable if the Program is using custom input parameters while adopting the TRM assumptions and algorithm. If not, however, the Program should update the tracking system to reflect savings calculated from the TRM. Lacking other evidence, the evaluation team defaulted to the TRM savings (i.e., 13.5 therms for showerheads, 4.3 therms for kitchen aerators, and 5.1 therms for bathroom aerators).
 - **Recommendation:** Program staff should ensure that the unit savings in the tracking system are consistent with the TRM for showerhead and aerator measures.

¹⁷ Personal communication with Nexant program manager.

2. Navigant found that the building-type lookup in the Frontier tracking system did not always lead to the correct ex-ante savings values for several space heating measures. The problem stems from the fact that, in most cases, the building type designation as tracked in Nexant’s database does not match what we found in the Frontier tracking system. In some cases we also found a mismatch between the quantities of installed measures between the two tracking systems. We did not adjust the savings for these measures, but we recommend that the Program address this ambiguity, which we also pointed out in the EPY4/GPY1 evaluation report.
 - **Recommendation:** Program staff should ensure that the building type in the tracking system is consistent with what is reported by Nexant.

3. The Frontier tracking system building-type lookup has not been updated to match the TRM. For example, for space-heating measures including boilers, furnaces and tune-ups, the TRM has separate equivalent full-load hours assumptions for low-, mid- and high-rise offices, instead of the single default value found in Frontier. Similarly, the TRM separates strip mall and department store retail building types, which is not reflected in the tracking file.
 - **Recommendation:** Program staff should update the building-type lookup in the tracking system to match the TRM.

4. The Frontier tracking system does not distinguish between steam trap projects delivered through the dry cleaner steam trap special from steam trap replacements in the core Program. Attempts to distinguish these projects by the evaluation team proved frustrating until Navigant requested and obtained additional documentation from Nexant.
 - **Recommendation:** The tracking system should track measures installed through a pilot program or special offer via a field dedicated to this purpose.

5. The unit savings for commercial steam trap replacements in dry cleaning establishments was set at 330 therms for all such measures in the Frontier tracking system. This is at odds with the TRM deemed savings values for this measure, which are 514 therms if the replaced trap was inspected and found to be leaking, and 138.8 therms (27 percent of the full savings value) if the replacement occurred without a leakage audit. In discussions with Nexant, Navigant discovered that Nexant had used a custom calculation based on the TRM inputs assumptions and algorithm, which assumed a 50 percent average rate of leakage audits. After requesting and receiving more complete field documentation of the leakage audits from Nexant, Navigant adjusted the unit savings for dry cleaner steam trap replacements where leakage audits could be verified to 514 therms. In cases where there had been a mass trap replacement with less than 100 percent auditing, or where the audit documentation was inadequate, we accepted the custom 50 percent adjustment to the TRM unit savings value, which yielded unit savings of 330 therms.
 - **Recommendation:** Program staff should ensure that the tracking system follows the recommended TRM algorithms for calculating steam traps savings to the extent possible. Leakage audits should be verified and tracked; where fewer than all traps were checked the percentage audited should be noted.

6. The measure descriptions of the condensing furnace upgrade measures in the Frontier tracking system do not conform to the TRM v1.0, which deems the AFUE of the baseline furnace but requires the efficiency of the new one to be documented.¹⁸ The assumed full-load hours, which are dependent on building type, are also ambiguous, as noted above. We did not adjust the savings for these measures.
 - **Recommendation:** In cases of furnace upgrades, the tracking system should track the actual or TRM-specified (v2.0 and v3.0) efficiencies (AFUEs) of the existing furnace (if early replacement is claimed), the baseline furnace at time-of-sale, and the new efficient furnace.
7. The Program claimed 83 therms savings for scheduled programmable thermostats. This is a custom value, since this measure is not covered in the TRM. The evaluation team did not adjust this value.
 - **Recommendation:** The gas companies should conduct research to establish the inputs assumptions for the claimed savings from scheduled and installed programmable thermostats.

3.2 Program Volumetric Findings

The EPY5/GPY2 SBES Program had 1,881 unique electric projects (including 302 projects in the geo-marketing pilot) and 1,465 gas projects (including 230 through the steam trap special). The Program distributed 1,245 direct-install electric measures and 189,563 contractor-installed electric measures (including 13,195 measures from the geo-marketing pilot), giving a total 190,808 electric measures. It also distributed 582 direct-install gas measures and 6,678 contractor-installed gas measures (including 3,535 measures from the steam trap special) for a total of 7,260 gas measures. Details of the volumetric findings are presented in the Appendix (section 7).

3.2.1 Electric Volumetric Findings

1. The bulk of EPY5 electric savings came from lighting measures, which accounted for 99 percent of the total verified gross savings and installed measures, up from 96 percent in EPY4.
2. The core Program contributed about 85 percent of SBES projects in EPY5, compared to 15 percent for the geo-marketing pilot project.
3. The SBES Program in EPY5 had 1,881 unique projects (302 projects in the pilot program), up from 690 in EPY4. The Program distributed 1,245 direct-install electric measures, and 189,563 low-cost capital investment and contractor-installed measures (including 13,195 measures through the geo-marketing pilot), for a total of 190,808 measures.
4. The total quantity of contractor-installed projects rose from 401 in EPY4 to 1,653 in EPY5 (an increase of 173 percent). Verified net energy savings in EPY5 increased by 273 percent.

¹⁸ If a custom value is used, the instructions in Section 2.4.2 of the TRM apply.

5. LED lamps and fixtures accounted for about 22 percent of the measure count and total verified savings. High Performance or Reduced Wattage (1,2,3, or 4 lamps HP/RW T8 retrofit and ballast) accounted for 15 percent of verified savings, while delamping 4-foot or 8-foot lamps (1,2,3, or 4 delamping with or without reflectors) accounted for about 38 percent of the total verified savings. HID and High Bay lighting retrofits to HPT8 accounted for about 15 percent of the verified savings.
6. Participants who installed measures spanned various business categories, with the retail sector accounting for the largest of the installed measures, followed by office space.
7. A total of 23 unique electric projects were identified who installed measures from both the main Program and the geo-marketing pilot.

Table 3-1. EPY5 Electric Volumetric Findings Overview

Participation	Core Program Projects		Geo Pilot Projects	Overall Program
	Direct Install	Contractor Installed	Contractor Installed	
Ex-Ante Gross Savings (MWh)	513	31,343	5,473	37,329
Total Installed Measures	1,245	176,368	13,195	190,808
Unique Projects	487	1,352	302	1,881*
Savings (MWh) per Project	1	23	18	20
Measures per Project	3	130	44	101

Source: Frontier EPY5 tracking system data and Navigant analysis.

* Unique projects exclude duplicate projects with both CI and DI measures. There were 260 of such projects.

Table 3-2. SBES Program Electric Volumetric Findings from EPY5 and EPY4

Program Result	EPY4	EPY5	Year-to-Year Volumetric Difference (EPY5/EPY4)
Ex-Ante Gross Savings (MWh)	9,207	37,329	405%
Verified Gross Savings (MWh)	9,483	37,303	393%
Verified Gross Realization Rate	1.03	1.00	
Direct-installed Measures	1,474	1,245	84%
Contractor-installed Measures	26,368	189,563	719%
Total Measures	27,842	190,808	685%
Direct-installed Projects	478	487	102%
Contractor-installed Projects	401	1,652	412%
Overall Unique Projects	690	1,881	273%

Source: Frontier EPY4 and EPY5 tracking data and Navigant analysis.

3.2.2 Gas Volumetric Findings

1. The bulk of the therms savings in GPY2 came from steam trap replacements, with the dry cleaner steam trap special accounting for about 74 percent of total Program savings. The Program also made gains from programmable thermostat installation, the second largest measure in terms of savings at 23 percent.
2. The SBES Program in GPY2 had 1,465 unique projects from 1,258 participants (230 projects from the pilot program). The Program distributed 582 direct-install gas measures, and 6,678 contractor-installed gas measures (including 3,535 measures through the steam trap special), giving a total 7,260 Program gas measures.
3. Compared to the previous year, the SBES Program performed dramatically better in GPY2 in terms of participation, installed projects and measures sold, as well as overall Program savings.
4. Participants who installed measures spanned various business categories. The bulk of the savings and measures installed came from retail sector, followed by manufacturing.

Table 3-3. GPY2 Gas Volumetric Findings Detail

Participation	Core Program Projects		Pilot Projects	Overall Program
	Direct Install	Contractor Installed	Contractor Installed	
Ex-Ante Gross Savings (Therms)	15,965	537,166	1,166,550	1,719,681
Total Installed Measures	582	3,143	3,535	7,260
Projects	246	1,042	230	1,465
Participants	228	999	201	1,258
Therms/Project	65	516	5,072	1,174
Projects/ Participant	1.08	1.04	1.14	1.16

Source: Frontier GPY2 tracking data and Navigant analysis.

Table 3-4. SBES Program Gas Volumetric Findings from GPY2 and GPY1

Program Result	GPY1	GPY2	GPY2/GPY1
Ex-Ante Gross Savings (Therms)	104,483	1,719,681	16.5
Verified Gross Savings (Therms)	104,483	2,143,013	20.5
Verified Gross Realization Rate	1.00	1.25	1.3
Direct Installed Measures	389	582	1.5
Contractor Installed Measures	732	6,678	9.1
Total Measures	1,121	7,260	6.5
Direct Installed Projects	154	246	1.6
Contractor Installed Projects	162	1,272	7.9
Overall Unique Projects	272	1,465	5.4
Business Participants	255	1,258	4.9

Source: Frontier GPY1 and GPY2 tracking data and Navigant analysis.

3.3 Verified Gross Program Impact Results

3.3.1 Electric Results

Verified gross electric impact results are shown in Table 3-5, disaggregated by Program channel and installation type. Total Program verified gross savings is 37,303 MWh and a peak demand savings of 6.34 MW. Statistical estimates of confidence and precision are not reported because no sampling was performed in EPY5 for gross and net impact verifications.

Table 3-5. EPY5 Verified Electric Gross Impact Savings Estimates by Program Delivery Channel

Program Delivery	Gross Energy Savings (MWh)		Gross Peak Demand Savings (MW)	
	Direct Install	Contractor Installed	R	Contractor Installed
Core Projects				
Ex-Ante Gross Savings	513	31,343	0.09	5.32
Verified Gross Realization Rate	0.99	1.00	0.99	1.00
Verified Gross Savings	509	31,321	0.09	5.32
% of Program Verified Savings	1%	84%	1%	84%
Geo-Marketing Pilot Projects				
Ex-Ante Gross Savings	-	5,473	-	0.93
Verified Gross Realization Rate	-	1.00	-	1.00
Verified Gross Savings	-	5,473	-	0.93
% of Program Verified Savings		15%		15%
EPY5 Program Total				
Ex-Ante Gross Savings		37,329		6.34
Verified Gross Realization Rate		1.00		1.00
Verified Gross Savings (MWh)		37,303		6.34

Source: Evaluation Team analysis.

Note: Verified gross realization rates are round to 2 digits, so direct application to the ex-ante does not produce the actual verified gross savings shown.

The geo-marketing pilot had a verified gross realization rate of 1.00 and contributed about 15 percent of the Program overall verified gross savings in EPY5. The core Program contributed 85 percent of the verified savings with 1.00 realization rate. The overall Program verified gross realization rate was 1.00. Detailed breakdowns of the electric gross savings results by Program delivery channel, installation type, and measure are presented in the Appendix (Section 7).

3.3.2 Gas Results

Verified gross gas impact results are shown in Table 3-6, disaggregated by Program delivery channel and installation type. Total Program verified gross savings is 2,143,013 therms. As with the corresponding electric results, the estimates are not based on sampling and thus no statistical confidence or precision estimates are reported.

Table 3-6. GPY2 Verified Gas Gross Impact Savings Estimates by Program Delivery Channel

Program Delivery Results	Direct Install	Contractor Installed
Core Projects		
Ex-Ante GPY2 Gross Savings (Therms)	15,965	537,166
Verified Gross Realization Rate	1.01	1.00
Verified Gross Savings (Therms)	16,143	537,097
% of Program Verified Savings	1%	25%
Dry cleaner Steam Trap Projects		
Ex-Ante GPY2 Gross Savings (Therms)	-	1,166,550
Verified Gross Realization Rate	-	1.36
Verified Gross Savings (Therms)	-	1,589,773
% of Program Verified Savings	-	74%
Program Total		
Ex-Ante GPY2 Gross Savings (Therms)		1,719,681
Verified Gross Realization Rate		1.25
Verified Gross Savings (Therms)		2,143,013

Source: Evaluation Team analysis.

Note: Verified gross realization rates are round to 2 digits, so direct application to the ex-ante does not produce the actual verified gross savings shown.

The dry cleaner steam trap special had a verified gross realization rate of 1.36 and contributed about 74 percent of the Program’s overall verified gross therms savings in GPY2. The rest of the Program contributed 26 percent of the verified savings with 1.00 realization rate. The overall Program verified gross realization rate was 1.25. Detailed breakdowns of the gas gross savings results by Program delivery channel, installation type, and measure are presented in the Appendix (Section 7).

4. Net Impact Evaluation

4.1 Electric Net Impacts

Using the SAG-approved¹⁹ net-to-gross ratio of 0.90 based on EPY4 NTG research, Navigant calculated verified net savings of 33,573 MWh and a peak demand net savings of 5.7 MW as shown in Table 4-1.

Table 4-1. EPY5 Verified Net Electric Savings Estimates by Measure Type

Program Delivery	Net Energy Savings (MWh)		Net Peak Demand Savings (MW)	
	Direct Install	Contractor Installed	Direct Install	Contractor Installed
Core Program Projects				
Ex-Ante Gross Savings	513	31,343	0.09	5.32
Verified Gross Realization Rate	0.99	1.00	0.99	1.00
Verified Gross Savings	509	31,321	0.09	5.32
Net-to-Gross Ratio	0.90	0.90	0.90	0.90
Verified Net Savings	458	28,189	0.08	4.79
Geo Pilot Projects				
Ex-Ante Gross Savings	-	5,473	-	0.93
Verified Gross Realization Rate	-	1.00	-	1.00
Verified Gross Savings	-	5,473	-	0.93
Net-to-Gross Ratio	0.90	0.90	0.90	0.90
Verified Net Savings	-	4,925	-	0.84
EPY5 Program Total				
Ex-Ante Gross Savings		37,329		6.34
Verified Gross Realization Rate		1.00		1.00
Verified Gross Savings		37,303		6.34
Net-to-Gross Ratio		0.90		0.90
Verified Net Savings		33,573		5.71

Source: Navigant analysis. Note: Verified gross realization rates are rounded to 2 digits, so direct application to the ex-ante may not produce the actual verified gross savings shown.

Table 4-2 compares the SBES Program's EPY5 targeted net electric savings to what was actually realized. The Program achieved 377 percent of its targeted EPY5 electric savings.

¹⁹ http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/ComEd PY5-PY6 Proposal Comparisons with SAG.xls.

Table 4-2. EPY5 Targeted Net Savings Achieved

Installed Type	Ex-Ante Net Savings (MWh)	Verified Net Savings (MWh)	Targeted EPY5 Savings (MWh)	% Target Savings Achieved
ComEd SBES Program (EPY5)	31,730	33,573	8,900	377%

Source: http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/ComEd PY5-PY6 Proposal Comparisons with SAG.xls, which may be found at <http://ilsag.info>, and Navigant analysis.

Year-over-year comparison of the SBES Program’s electric energy savings, shown in Table 4-3, confirms that the Program performed extremely well in EPY5, with a nearly four-fold increase in verified net electric savings from EPY4 to EPY5.

Table 4-3. SBES Program Year-over-Year Electric Results

Program Result	EPY4	EPY5	Year-to-Year Volumetric Difference (EPY5/EPY4)
Ex-Ante Gross, MWh	9,207	37,329	405%
Verified Gross, MWh	9,483	37,303	393%
Verified Gross Realization Rate	1.03	1.00	
Verified Net, MWh	9,009	33,573	373%
Net-to-Gross Ratio	0.95	0.90	
Number of Unique Projects	690	1,892	274%
Percent of Ex-Ante Gross MWh Savings from Lighting	96%	99%	

Source: EPY4 evaluation report, Frontier EPY5 tracking data, Navigant analysis. Values shown have been rounded.

4.2 Gas Net Impacts

Using the SAG-approved²⁰ net-to-gross ratio of 1.00 based on GPY1 NTG research, Navigant calculated verified net savings of 2,143,013 therms as shown in Table 4-4.

²⁰ *Nicor_Gas_NTG_Results_and_Application_GPY1-3*

Table 4-4. GPY2 Verified Net Gas Savings Estimates by Measure Type

	Direct Install	Contractor Installed
Core Program Projects		
Ex-Ante GPY2 Gross Savings (Therms)	15,965	537,166
Verified Gross Realization Rate	1.011	1.000
Verified Gross Savings	16,143	537,097
Net-to-Gross Ratio (NTGR)	1.00	1.00
Verified Net Savings (Therms)	16,143	537,097
Dry Cleaner Special Projects		
Ex-Ante GPY2 Gross Savings (Therms)	-	1,166,550.00
Verified Gross Realization Rate	-	1.36
Verified Gross Savings	-	1,589,772.93
Net-to-Gross Ratio (NTGR)	-	1.00
Verified Net Savings (Therms)	-	1,589,773
Program Total		
Ex-Ante GPY2 Gross Savings (Therms)		1,719,681
Verified Gross Realization Rate		1.25
Verified Gross Savings		2,143,013
Net-to-Gross Ratio (NTGR)		1.00
Verified Net Savings (Therms)		2,143,013

Source: Navigant analysis.

Note: Verified gross realization rates are rounded to 2 digits, so direct application to the ex-ante may not produce the actual verified gross savings shown.

Table 4-5 compares Program GPY2 targeted net gas savings to what was actually realized. The SBES Program achieved 347 percent of its targeted GPY2 gas savings.

Table 4-5. GPY2 Targeted Net Savings Achieved

Installed Type	Ex-Ante Net Savings (Therms)	Verified Net Savings (Therms)	Targeted GPY2 Savings (Therms)	% Target Savings Achieved
Nicor Gas SBES Program (GPY2)	1,719,681	2,143,013	616,753	347%

Source: Evaluation Analysis and "Rider 30 Nicor Gas Energy Efficiency Program Summary Plan Year 2 (June 1, 2012 – May 31, 2013)," which may be found at [http://ilsagfiles.org/SAG_files/Quarterly_Reports/Nicor 20Gas/Nicor 20Gas 20EEP 20PY2 20Annual 20Report 208-20-2013.pdf](http://ilsagfiles.org/SAG_files/Quarterly_Reports/Nicor%20Gas/Nicor%20Gas%20EEP%20PY2%20Annual%20Report%208-20-2013.pdf)

Year-over-year comparison of the SBES Program's gas savings, shown in Table 4-6, indicates that the Program performed extremely well in GPY2, achieving a 20-fold increase in verified net savings over GPY1. This is largely attributable to the dry cleaner steam trap pilot program.

Table 4-6. Nicor Gas SBES Program Year-to-Year Results

Program Result	GPY1	GPY2	Year to Year Difference (GPY2/GPY1)
Ex-Ante Gross Therms	104,483	1,719,681	1646%
Verified Gross Therms	104,483	2,143,013	2051%
Realization Rate	1.00	1.25	
Verified Net Therms	104,483	2,143,013	2051%
Net-to-Gross Ratio	1.00	1.00	
Unique Projects	272	1,465	539%
Business Participants	255	1,258	493%

Source: GPY1 evaluation report, Frontier GPY2 tracking data, Navigant analysis. Values shown have been rounded.

5. Process Evaluation

The SBES EPY5/GPY2 process evaluation focused on two innovative marketing initiatives that were introduced during this program year: the ComEd-led geographically-focused marketing pilot program (“geo-marketing pilot”) and the Nicor Gas-led steam trap special offer (“steam trap special”). No process evaluation of core Program elements was pursued in this program year, since the core Program was substantially the same as the previous year.

Each process evaluation sought to address the following research questions through in-depth, open-ended interviews with the utility and implementer Program managers, and participating trade allies and customers:

- Effectiveness of Program implementation
- Program administration and delivery
- Effectiveness of Program design and processes
- Customer and trade ally experience and satisfaction with the Program
- Opportunities for improvement
- Potential market effects

5.1 ComEd Geo-Marketing Pilot Program

ComEd’s geo-marketing pilot targeted six small communities north and west of the Greater Chicago area that had experienced poor uptake rates with the core SBES Program in EPY4. The initial roll-out of the pilot took place in the adjacent towns of Dixon in Lee County, Sterling in Whiteside County, and Oregon in Ogle County. Subsequently three more communities were added: Harvard, Marengo, and Woodstock, all in McHenry County. Four trade allies were recruited to deliver the pilot program to the six communities. Two of them served two communities each, and remaining two each served one community. After receiving additional training, the participating trade allies were allowed to perform their own assessments rather than having to rely on the implementer for this step, as is the practice in the core Program.

The overarching marketing strategy was common across all six target communities: “blitzing” the town to promote intensive installation of energy-efficient measures over a limited time interval.²¹ During these periods Program incentives were boosted to 100 percent of material and labor costs (excluding only sales taxes and recycling fees for removed lamps). Once the promotional period ended, incentives reverted to 75% of material and labor costs, up from 50% before the pilot program. All measures offered through the core SBES Program were available through the pilot, although the enhanced incentive applied only to interior lighting measures.²² However, while the overall approach was the same, each trade ally pursued a somewhat combination of marketing strategies, which we explore below.

²¹ These lasted twelve weeks in Dixon, Oregon and Sterling, eight weeks in Harvard, Marengo and Woodstock.

²² Interview with ComEd program manager.

The first goal of the process evaluation was to assess the geo-marketing pilot’s success in meeting savings goals. ComEd did not establish explicit savings targets for the pilot program. However, the Frontier tracking system identifies Program measures delivered through the pilot.²³ By this measure, the pilot accounted for 15 percent of total SBES net energy (MWh) savings and net peak demand (MW) savings, and 7 percent of contractor-installed measures, in EPY5.²⁴

A second research goal of the process evaluation was assessing whether the pilot program was equally successful in all of the target communities, and if not, how the performance differed and why. The tracking data reveal large variations among the target communities with respect to both savings and installed measures (Table 5-1), disparities that remain even after standardizing on the number of business firms in each community to remove the effect of population differences.

Table 5-1. EPY5 Energy Savings and Participation Detail by Town, Geo-Marketing Pilot

Attribute	Target Community					
	Dixon	Harvard	Marengo	Oregon	Sterling	Woodstock
Ex Ante Gross Savings (MWh)	1,803	821	56	148	724	1,921
Total Installed Measures	5,381	1,609	114	307	1,687	4,097
Unique Projects	96	38	1	4	38	125
Number of Businesses	515	270	298	192	511	851
Projects/Business	0.19	0.14	0.00	0.02	0.07	0.15
Measures/Project	56.05	42.34	114.00	76.75	44.39	32.78
Measures/Business	10.45	5.96	0.38	1.60	3.30	4.81

Source: Frontier EPY5 tracking data, City-Data.com (<http://www.city-data.com>), Navigant analysis.

Note: Values comprise only measures attributed to the geo-marketing pilot in the Frontier tracking system (interior lighting measures installed during the pilot period in each community).

However, it would be a mistake to give too much weight to these disparities, since, as pointed out in Section 3.1.1 (Finding 8), the tracking system overstated the differences among the outcomes in the target communities. In the towns where the first wave of the pilot was carried out (Dixon, Oregon, Sterling), the pilot finished early enough that roughly 50 percent of the savings was realized in EPY5, with the remainder occurring in EPY6. But because the second wave (in Harvard, Marengo and Woodstock) did not start until the first week of April 2013 and did not end until one week before the end of EPY5, approximately 70 percent of the savings was realized in EPY6.²⁵

To address research questions related to the pilot program’s administration and delivery, as well as customer and trade ally satisfaction and suggestions for improvement, Navigant relied on in-depth interviews with the participating trade allies and customers in each of the targeted communities.

²³ In the Frontier tracking system the word “PILOT” was appended to the measure descriptions of measures that had been delivered through the geo-marketing pilot.

²⁴ See Tables 3-1 and 4-1.

²⁵ Navigant confirmed these savings proportions with the Nexant Program Manager.

Interviews were conducted from August 19 to September 19, 2013. In all cases, Navigant interviewed the president or owner of the company.

5.1.1 Pilot Program Trade Allies

The trade allies selected for the pilot program all had extensive experience working with the core SBES Program, and received additional training from the implementer on grassroots marketing and conducting customer assessments. Trade allies were asked to use local media and contact the local Chambers of Commerce for support. They were provided with specially-developed marketing materials that they could print off and use as they saw fit. Trade allies were asked to “be the ambassadors of the Program”, according to the ComEd Program Manager.

A critical factor in the success of the geo-marketing pilot, according to both the ComEd and Nexant Program managers was the ability of the individual trade allies to respond flexibly to local conditions in the target communities. The trade allies were able to “turn the Program on a dime,” tweaking their marketing strategies on the fly if necessary to adapt to unforeseen circumstances, according to ComEd’s Program manager. This resulted in a largely positive response to the Program. ComEd’s external affairs department reported that the pilot received almost entirely positive feedback from business owners in the targeted towns. On the strength of such strong customer satisfaction, ComEd is currently preparing a marketing document featuring testimonials from four customers who participated in the pilot who will share their positive experiences with the Program, according to the ComEd Program manager.

5.1.1.1 Program Barriers

Trade allies reported that they faced a number of challenges to their ability to successfully deliver the pilot:

- Establishing legitimacy: Trade allies were perceived as coming from outside and were selling a product that struck some as being “too good to be true.” One trade ally commented that “Getting people to believe it was legitimate [was the biggest challenge].”
- Program limitations: Not all of the equipment offered through the SBES Program was rebated at 100%, which some customers found confusing.
- Short timeframe: Several trade allies indicated that the length of time that the pilot program was available in each community prevented them from completing some projects during the period the pilot was scheduled to be active in the community.
- Electricity market deregulation: Some customers in the targeted communities initially confused outreach on the part of the trade allies for sales pitches by agents of independent merchant power vendors. “I think one of the biggest obstacles [was] that everybody and their uncle are calling on these customers,” one trade ally said, referring to this source of confusion.
- Unrealistic expectations: All four trade allies involved in the pilot reported that selling the Program took effort and persistence, and all acknowledged that they had initially approached the target communities with unrealistically high expectations.

- Lack of customer resources to invest: Some of the communities selected for the pilot had experienced significant economic dislocations recently, which made some potential customers reluctant to participate even with the generous subsidies.

5.1.1.2 Sales Strategies

Trade allies adopted a variety of strategies for overcoming these barriers, ranging from the traditional to the high-tech. All four trade allies focused initially on outreach and providing information, using a variety of strategies to publicize the pilot and generate word-of-mouth referrals. One proponent of the traditional approach argued, “It’s always [important to put] feet on the street and creating a good feeling with the customer, because the only way the geo pilot works is with a lot of word of mouth. And it [worked] because customers had good experiences.” Other strategies employed by the trade allies included enlisting the assistance of the local Chamber of Commerce and hiring local electrical subcontractors to generate publicity and goodwill, posting a self-produced video on YouTube.com to promote the pilot, and creating a conspicuous presence in the community by renting work space or even temporarily living there. One trade ally reported strategically targeting a prominent local business leader – the Chrysler dealership – in one of his target communities early on in the process. This helped him market the pilot in several respects: providing a prominent venue where local people could drop by to see the noticeable improvements in lighting; demonstrating the pilot’s legitimacy by winning over a local notable; and by generating positive word-of-mouth publicity.

Another successful strategy adopted by one trade ally was temporarily relocating to the area for the duration of the pilot, which allowed him to meet people in the community at local restaurants and shops. He said, “You had to reach the people that knew the people. We made connections with the bankers, the attorneys, the accountants, the property owners... It was being in the community and I truly believe it was one of the key factors for us.”

5.1.1.3 Marketing and Promotion

All of the participating trade allies reported that they spent much of the first month in each target community doing market research, trying to hit on the right combination of techniques that would sell the Program in each location. Several told Navigant that they would have appreciated more help from ComEd on this. When pressed to provide specific details, however, none were able to clearly articulate specific ways in which ComEd could have helped them, except for providing a process for confirming that the Program was “real” to local skeptics.

One trade ally said they became well known and accepted in their targeted area despite using a marketing tool (cold-calling) that was outside his comfort zone. “We did everything face-to-face, door-to-door.... In general, that is not how we work. We typically mail out information and immediately follow up with a phone call. Then we come in and introduce ourselves.... [With the pilot] we visited literally every business down there as a prospect.... Everyone there knows who we are.... We really made some friendships and built some relationships there.”

Trade allies indicated that the marketing flyer that the Program distributed in the targeted communities not very useful because customers were initially unaware or mistrustful of the pilot program and, therefore, tended to throw it away unread. The worksheets and marketing materials were not available when the pilot was launched – one trade ally complained that it was two months before they were available to him, and that the worksheets lacked critical features usually contained in the materials provided to the trade allies involved in the core Program.

5.1.1.4 Effectiveness of Pilot Program Implementation

Overall, the trade allies felt that the pilot was well executed, aside from occasional delays in paying their invoices. The pilot was especially successful in promoting HP T8 retrofits. One trade ally said: “From a perspective of generating business, it was an outrageously successful program. I don’t know if ComEd ... feels it was successful.”

5.1.1.5 Effectiveness of Pilot Program Design and Processes

Trade allies complained that they had received short notice that they had been selected to participate in the pilot, which left them little time to get prepared to deliver the Program. They also felt they had received little training from the Program. Since this market research and preparation time turned out to be critically important, they all said that they would have preferred to have had more.

Several trade allies brought up the problem of customer confusion over the terms of the Program. One said that some of his customers had been confused by this and assumed they would have no out-of-pocket costs whatsoever. He specifically mentioned a customer who needed to rent a lift to reach their lights and assumed the trade ally would pay for it since he had heard the Program was free. Another related that he had not properly trained his sales staff about this, and they had described the Program to potential customers as “free.” As a result, he said, he ended up paying the taxes and recycling fees himself, which reduced his profit margin. A third said that one customer had asked him to “sweeten the deal” by giving him a free carton of bulbs since “ComEd was paying for it.” (The trade ally declined.)

Even so, the pilot program met or exceeded the expectations of all of the trade allies. All expressed confidence that some of their customers from the pilot would provide them with follow-on business. As one trade ally said: “We have a lot of satisfied customers ... It was a win-win for everybody.”

5.1.1.6 Customer and Contractor Satisfaction

Trade allies reported that their customers from the pilot were very satisfied with the Program. They reported receiving positive feedback from participating customers. Among their comments:

- “I just think it was a smashing success for the community and the customers who took advantage of it. We really improved the lighting quality from an esthetic point of view.”
- “That is the joy of lighting: that you can impact people in a positive way. That is what I strive to do.”
- “We had a lot of fun. Very interesting. We learned a lot and met new people. It all worked out. I had a good time doing it and am looking forward to doing it again.”

- “We often have people say ‘I had no idea it would be this nice.’ There are no words in the language to describe it. You have to see it. And that is what happened: The mouth drops open. [And they say,] ‘Holy smokes – I cannot believe how nice it is.’”

One trade ally complained that the pilot program constrained him from properly costing out a project in cases where he encountered dirty or cluttered premises. When cases like this arise in the core SBES Program, he said, he is able to build the added cost such situations entail into the price he quotes the customer. He was unable to do this in the pilot program, which he claimed had hurt him financially.²⁶

5.1.1.7 Program Improvements

The pilot program trade allies seemed to have contradictory views about how the Program could be improved. Several expressed ambiguous feelings about the generosity of the subsidy. On the one hand, all of them agreed that the pilot’s enhanced incentives had increased customer interest and participation in the Program. But some expressed philosophical doubts about setting the incentive as high as 100 percent of equipment and labor costs, suggesting that people are less likely to value something when it is free. As one put it, “Generally when you are giving something away, some people disregard it. They don’t associate a value or an investment to it. If I had my druthers I wouldn’t make it free, I would definitely associate a value to it.” While acknowledging that the enhanced incentives helped improve customer uptake, and thus produced more business for him, it nonetheless seemed to offend him.

One trade ally suggested that an on-bill financing Program could serve the same purpose as the enhanced incentives, namely removing the cash-flow constraint faced by financially straitened business owners.²⁷

Another trade ally suggested that the incentive be limited to the amount that would bring the payback period down to less than one calendar year. He felt that this would “save [the Program] a lot of money” while still motivating small business owners to invest in energy-efficient measures.

Finally, trade allies said that they would have preferred it if all of the pilot program rules and promotional materials had been defined before it was fielded. One said: “That would have been ideal. [It seemed like] there were changes that were constantly happening, and a lot of lack of communication. It’s hard to put a lot of work into something and then it changes, and then you have to put work into something else. I would say hav[ing] a ready-to-go product to roll out would be best.”

5.1.1.8 Potential Market Effects/Spillover

According to the trade allies, some customers in the targeted communities told them that they planned to participate in the SBES core Program after the pilot ended. Reasons for this included

²⁶ Trade allies participating in the geo-marketed pilot program were permitted to charge customers extra for work outside the scope of the measures in the pilot, as with the core SBES Program.

²⁷ The ComEd SBES Program Manager has indicated that on-bill financing is being considered for the SBES Program.

having responded too late to the pilot to be able to take full advantage of what was offered in the time allowed; identifying savings opportunities in another facility outside of the targeted community; and identifying savings opportunities that were not eligible under the Program. Some customers in the last category were referred to the Standard or DCEO programs, as appropriate. However, one trade ally was skeptical, saying that since his firm had contacted most of the businesses in the area, he doubted there were many opportunities left.

Trade allies participating in the geo-marketing pilot installed several programmable thermostats, and one reported referring those customers to local HVAC contractors about possible furnace and boiler jobs. One reported trying to interest customers in gas measures more generally, but indicated that he faced significant barriers preventing him from doing so, most directly the lack of qualified participating trade allies they could partner with. One trade ally reported there were no local trade allies participating on the Nicor Gas side of the SBES Program, and expressed doubt that one who was affiliated would be willing to travel to the town. One trade ally mentioned that he had “been talking about getting on board with somebody locally here so we can become a full service provider” through the joint SBES Program.

Trade allies reported that a few local small businesses had installed energy efficient lighting before the pilot arrived in the town. They reported that very few customers they spoke with were aware of the regulatory restrictions that would cause T12 lamps to become unavailable. In this respect, the pilot served as a primary conduit for this information.

5.1.2 Changes in Operations

Pilot trade allies told Navigant that they did not change their product and services offerings, but that they had had to “scale things up on the operations side, and do a lot more coordinating and planning” to be able to deliver the pilot program. Their biggest challenges, once the initial barriers of mistrust and lack of information were overcome, were lack of skilled local subcontractors and staff, and lack of time: the short time frame of the pilot program meant they had to work as quickly as they could without compromising safety and quality so they could move on to the next project. Several mentioned that their participation had required that they work harder than they had ever worked. Several mentioned that they had been hard-pressed to find the skilled electricians and sales staff they needed to implement the Program. Two mentioned that they intended to retain the incremental staff permanently. All indicated that they planned to continue participating with the SBES Program in 2013-2014.

5.1.3 Pilot Program Customer Interviews

Navigant interviewed 17 geo-marketing pilot program customer participants. Details on the interviewed customers are provided in Appendix 7.2.

5.1.3.1 Pilot Administration

Eleven of the interviewed participants recalled receiving a visit or phone call from a contractor or sub-contractor about the pilot program. Two mentioned receiving post cards or a flyer in the mail.

About half of the survey respondents indicated that they had been motivated to learn more about the pilot program to save money on their energy bills. Four of the seventeen said they were interested when they understood that the equipment and installation would be “free.” Only three of the

seventeen were aware of the regulatory restrictions that would mean they would soon have to replace their T12 lighting equipment.

5.1.3.2 Participation Process

All seventeen of the survey respondents found the process easy to understand. One respondent said: “Yes, [it was] very easy. For a while there we thought it was too good to be true.”

Eight of the seventeen surveyed participants reported that they had not consulted anyone in their family or community before making the decision to participate in the Program. These respondents indicated that they viewed the Program as low-risk, either because ComEd was the sponsor or because the Program required that they put up little of their own resources. The other survey respondents indicated that they had contacted other local businesses who were already participating in the Program, local electricians, or family members to verify that the SBES pilot program was “for real” and not a “scam.”

None of the survey respondents reported experiencing difficulties getting involved with the pilot. Common comments included that the process was “seamless,” “straightforward,” and “a very simple deal.”

All but one of the surveyed pilot program participants could not think ComEd could simplify the process. One survey participant observed: “I don’t know how [they could simplify it. The trade ally] came in, ask[ed] me to participate, told me the time frame, and did it.”

5.1.3.3 Communications

Eleven of the seventeen surveyed pilot participants reported receiving some form of written communication about it. Marketing materials recalled by customers ranged from a flyer or post card from ComEd to a packet of materials from the trade ally. Survey respondents reported no difficulties with communications between the contractor and themselves, describing it variously as “good,” “very good,” “excellent” or “fine.”

5.1.3.4 Program Satisfaction and Improvements

All but one of the surveyed pilot participants described themselves as being “very” satisfied, “100 percent satisfied,” or “extremely satisfied” with it. The one customer who indicated less than 100 percent satisfaction with the Program said that he had been unaware that he had been paying for energy efficiency programs all along, and did not like the idea of having a surcharge for this purpose on his bill.

5.1.3.5 Suggestions for Improving the Program

About half of the surveyed pilot program participants could not suggest any ways in which the Program could be improved. Three of them said that they would like higher incentives on equipment outside of the Program, specifically mentioning furnaces, LED lighting, and recessed lighting. Two others said that they would like the Program to be totally free (referring to the sales taxes and recycling fees), while two more suggested that ComEd find a more effective method for marketing the SBES Program.

5.1.3.6 Current Economic Conditions

Eleven of the seventeen surveyed pilot program respondents said that current economic conditions were an important influence on their decision to participate in the Program. Many described their businesses as teetering on the brink of disaster. While none suggested that the new lighting measures would save their businesses, all of these participants indicated that they would not have been able to participate without the subsidies the Program provided.

5.1.3.7 Awareness of Other ComEd/Nicor Gas Programs

Most of the survey respondents were not aware of any other energy efficiency programs. Of those who responded, one reported he had received tax credits for using biofuel in his truck, for installing a geothermal heat pump, and for installing a solar water heater for his home swimming pool. Another said she was aware of tax subsidies for residential customers, but not for business owners.

5.2 Dry Cleaner Steam Trap Special Offer

The process evaluation of the GPY2 SBES Program focused on the steam trap special that Nicor Gas offered to Chicago-area dry cleaner owners and operators in collaboration with the Chicago-based Korean American Dry Cleaners Association (KADCA). The special offered enhanced incentives for steam trap testing and replacement in dry-cleaning establishments. Nicor Gas raised the incentive for this measure to 100 percent for this group of customers starting in February 2013 and lasting through the end of GPY2 (May 31, 2013). Nexant coordinated with KADCA to recruit Korean-speaking trade allies (TAs) with experience installing steam traps at dry cleaners, and provide them with additional training. After verifying that the steam trap trade allies fully understood the Program, could properly explain it, and were recommending and installing measures correctly per the standard SBES process, four qualified trade allies were allowed to perform the assessments on their own.

The process evaluation of the GPY2 steam trap special relied on in-depth, open-ended interviews with Nicor Gas and Nexant Program managers, as well as with participating trade allies and customers.

5.2.1 Trade Ally Interviews

Navigant interviewed all four of the trade allies who participated in the dry cleaner steam trap special. Three of the four were interviewed in Korean by native speakers within Navigant. One of the three Korean-language interviews was conducted in person; the other two were conducted by telephone. All Korean-language interviews were recorded and transcribed into English by the interviewers for analysis by the process evaluation manager. All interviews took place during the first two weeks of September, 2013.

5.2.1.1 Effectiveness of the Nicor Gas SBES Steam trap special

As indicated by the results of the impact evaluation, the dry cleaner steam trap special was highly effective. Credit for Nicor Gas's success in meeting and exceeding the SBES Program's therms savings goal in GPY2 goes mainly to this pilot effort: overall the Program exceeded its net therms savings goal by 247 percent, and three-fourths of this savings came from the special.

A key factor in this success was Nicor Gas’s and Nexant’s decision to work closely with KADCA²⁸ in planning and delivering the steam trap option measure to the target customer segment. Most of the dry-cleaning establishments in the Greater Chicago area are owned and/or operated by Korean-Americans, and given the existing language and cultural barriers involved, it is unlikely that the SBES Program would have achieved the same degree of savings without the active cooperation of KADCA, which provided the Program with legitimacy, access to cooperating trade allies who were familiar with the pool of target customers and who spoke their language. The Association also offered free publicity about the special through their newsletter.

5.2.1.2 Administration and Delivery

Each of the trade allies involved with the steam trap special had a well-established network of customers interested in saving money on their operations they could target for the Program. The trade allies indicated that they were recruited for the Program through their association with KADCA. They all acknowledged receiving training when they began participating in the SBES Program, and indicated that they had been allowed to perform the assessments on their own once Nexant was satisfied that they were able to fully and accurately explain the Program and understood its requirements.

5.2.1.3 Program Design and Processes

The trade allies reported no serious complaints about the special, saying that it was easy to understand and easy to explain to customers. One said he liked it because it “was an effective cost-saving strategy.” Another felt that the special was “aimed at meeting a very tangible need.” A third was happy with it because “it was a way for me to help my existing and prospective customers.”

The trade allies indicated that most of the customers they approached agreed to have the stream traps replaced if needed, but most rejected the lighting option, citing a lack of investment resources. The trade allies said that they expected this reluctance to change once the increased incentives in the new program year became effective.

5.2.1.4 Marketing Materials and Program Promotions

Three of the trade allies involved with the steam trap special recalled receiving brochures from the SBES Program describing the full range of Program options. However, they said they did not find it very useful. One trade ally mentioned that he used the existing energy efficiency surcharge to market the Program. He said he would ask a dry cleaner owner to produce a past gas bill and show him the surcharge on the bill. He used this technique, he said, in order to counter a rumor that was circulating in the Korean-American community that participants would have to pay for the steam traps at a later date. He said that he overcame this barrier by showing them that they were already paying for it. This same trade ally said that he thought that the new incentive level of 75% would be helpful in selling the core SBES Program in GPY3, and that he plans to focus more on lighting measures. The other trade allies involved in the steam trap special indicated that they planned to “stick to selling steam traps.”

²⁸ The Association’s main web site is: <http://www.ilkada.org/>. An English-language version is available at: http://www.ilkada.org/board/tboard.php?board=tycoon_NoticeBoard&mode=view&no=20

5.2.1.5 *Customer and Trade Ally Satisfaction with the Program*

All four trade allies agreed that customers were “very,” “extremely,” or “totally” satisfied with the special. Trade allies were also uniformly satisfied with it.

5.2.1.6 *Program Barriers and Opportunities for Program Improvement*

The only barrier that the participating trade allies could identify that interfered with their ability to sell the Program was lack of knowledge among the target customer group. They reported that some of the customers they approached did not know what a steam trap was, or that replacing a leaking trap would save energy and lower their gas bills. Overcoming that hurdle sometimes required spending considerable time with the customer, explaining the Program and answering questions. Once this barrier was addressed, they found that most of the targeted customers enthusiastically embraced the opportunity.

Trade allies reported that the best feature of the steam trap special was the fact that the steam traps were tested and installed at no cost to the customer. All of them told interviewers that the Program has worked well for their customers. However, a few changes were suggested to better meet trade ally and customer needs:

- Nicor Gas could encourage customers to replace their steam traps more often. Federal guidelines currently recommend replacement every five to eight years.²⁹
- One trade ally identified a general lack of awareness in the target market segment about the SBES Program and energy efficiency programs in general “It would be helpful if Nicor could provide more detailed information on the [SBES] Program to customers; many customers seem to lack comprehensive, holistic understanding of the Program.”
- Trade allies mentioned that leaking steam traps were not the only opportunity to pursue energy efficiency in the target segment. One told Navigant, “I noticed that a lot of my customers are still running very old boilers that need some major cleaning. If Nicor Gas can somehow come up with another low-cost program to address this issue, the dry cleaner owners would be very happy.”

5.2.1.7 *Potential market effects/Spillover*

On the question of whether their customers were likely to pursue other energy efficiency projects as a result of their experience with the steam trap special, trade ally answers were mixed. One reported that “a lot” of his customers were also installing efficient lighting. He said that this was a result of his having explained the lighting opportunities of the Program to them and referred them to an electrical contractor affiliated with the SBES Program. On the other hand, another trade ally reported that he saw little interest in lighting measures among the customers participating in the steam trap special. One other indicated that he had occasionally referred a customer to other ComEd or Nicor Gas business programs, but the others indicated that they have not done so.

²⁹ Federal Energy Management Program, “Steam Trap Performance Assessment,” DOE/EE-0193 (http://www1.eere.energy.gov/femp/pdfs/FTA_SteamTrap.pdf).

5.2.1.8 *Economic Factors and Customer Expectations*

All four of the trade allies told interviewers that their dry cleaner customers were feeling the effects of the current economic conditions. One described it as an incentive for his customers to participate: “It [the economy] is creating a big impact. Customers are looking for ways to cut down on costs. Steam trap option is free of cost, so nearly every customer has been very interested and enthused about it.”

One of the participating trade allies expressed concern that the pilot program may have raised expectations in ways that might prove to be a barrier to participation in the core Program in the future:

“...More customers are looking for ways to cut down on energy costs. So the steam trap option has been very well received. On the contrary, any other SBES Programs that are not completely free may not be received as well due to the economic conditions.”

The SBES steam trap special offered a competitive advantage to the contractors who helped deliver it: all of them reported having seen increased revenues as a result of their participation. One reported a 10% increase in revenue, and another reported a 30% increase – both explicitly attributed the increase to the steam trap special. Three of the four participating trade allies said that they had hired additional employees as a result of their participation to handle the increased work load.

5.2.2 **Participant Interviews**

Navigant interviewed twelve customer participants in the steam trap special. All interviews took place during the first two weeks of September, 2013. All interviews were conducted in Korean by Navigant employees who were raised in Korea. They translated the results into English for analysis.

All of the respondents were the owners of the business or the wife of the owner. All performed a variety of tasks within the organization. The dry cleaner owners in this study had two to five full-time employees.

5.2.2.1 *Program Administration and Delivery*

The most common methods of hearing about the special reported by interviewed participants included hearing about it from another dry cleaner owner, reading about it in a local Korean newspaper, being approached by one of the participating trade allies, or hearing about it at a KADCA meeting.

All interviewed participants indicated that once they had heard about the special and communicated about it with a trade ally, the next step was that the trade ally scheduled an appointment to conduct the assessment, and, if necessary, a second appointment to install the replacement steam traps. The trade ally completed all the paperwork and gave it to Nexant for processing. Some of the interviewed participants indicated that they had been visited by Nexant to inspect their steam trap installations for quality control purposes.

Program participants in our sample reported that the process was clear and straightforward because the transaction was conducted entirely in the Korean language, and because the “mechanic” (trade

ally) was responsible for handling all of the details.

None of the interviewed participants reported having had reservations about participating, and none reported indicated that they had consulted anyone else before deciding to participate. They indicated that the information was believable because it came from trusted Korean sources such as their mechanic, a business friend, or KADCA.

5.2.2.2 Effectiveness of Pilot Program Design and Processes

Eleven of the twelve steam trap special participants interviewed did not remember receiving any marketing materials about the Program. The remaining participant reported that it was clearly explained by a promotional postcard he received in the mail and by the information he received verbally from his mechanic/trade ally.

None of the respondents raised any difficulties or problems they had with the implementation of the Program.

5.2.2.3 Customer Experience and Satisfaction, and Suggested Improvements

Five of the participants reiterated that they were “very” or “100 percent” satisfied with the special. Others said:

- Gas bills have been reduced by the new steam traps
- “These programs are good for business owners”
- The fact that there had been no cost was “a plus”
- Gas prices are a burden

None could identify any specific ways the Program could be improved.

5.2.2.4 Potential Market Effects/Spillover

Two of the twelve interviewees indicated that they had chosen to install lighting measures at the same time through the SBES Program in EPY5/GPY2. Another one of the twelve indicated that he was replacing his T12 light bulbs with T8s but was not doing so through the SBES Program. He explained this by saying that he had heard that the Program was slow to respond to requests and he didn’t want to be bothered.

All interviewed participants indicated that this was their first experience with an energy-efficiency program, and were skeptical that they would consider participating in another program if it required them to make significant cash outlays. They were not aware of any other energy efficiency programs in addition to SBES. None of the interviewees could recall hearing recommendations of other energy efficiency programs from the trade ally installing the steam traps.

6. Conclusions and Recommendations

This section summarizes the key impact and process findings and recommendations.

The SBES Program succeeded not only in meeting its savings goals for electric and gas savings in EPY5/GPY2, but in fact strongly exceeded them, which dramatically increased the Program's energy savings compared to the previous program year. This resulted in part from overall good execution on the part of the utilities and the Program implementers, as well as increased familiarity with the Program goals and processes on the part of participating trade allies. However, two other important factors should not be overlooked, namely the creative thinking and risk-taking on the part of Program managers at both utilities. Their willingness to experiment with nontraditional approaches and take on the risks inherent in such efforts in order to overcome existing barriers to adoption of energy efficiency measures, were key elements in the Program's success this year.

Program Savings Goals Attainment

Finding 1a. The SBES Program exceeded its EPY5 net electric energy savings goal by 277 percent. Compared to EPY4, the Program achieved a nearly four-fold increase in verified net energy savings and a greater than 3-fold increase in peak demand savings. This impressive achievement was driven partly by the success of the geo-marketing pilot Program, which comprised 15 percent of total Program net savings, although the core Program also performed well.

Recommendation 1a. The Program should expand the geo-marketing pilot program to other communities in its service territory.

Finding 1b. Virtually all (99 percent) of the Program's electric savings came from lighting measures in EPY5, up from 96 percent in EPY4. This reflects the impacts of EISA and other federal rules that are tightening lighting efficiency standards, as well as the relatively low cost and modularity of lighting measures, which make them popular with customers. However, it also suggests that the lighting pathway to electric energy savings may be less productive for utilities in the future, as inefficient lamps and fixtures are progressively phased out and replaced, and today's efficient solutions are incorporated into tomorrow's baselines.

Recommendation 1b. The Program should aggressively seek out innovative lighting and non-lighting measures to help balance its electric energy savings portfolio and reduce its risk exposure.

Finding 1c. The SBES Program exceeded its GPY2 net therms savings goal by 247 percent. The Program achieved 20 times the verified net savings it did in GPY1. This outstanding success is largely attributable to Nicor Gas's innovative focus on dry cleaner steam trap replacements, which accounted for 74 percent of total Program therms savings.

Recommendation 1c. The Program should continue the steam trap special and expand it to other parts of Nicor Gas's service territory.

Program Tracking System Review

Finding 3. Navigant found several examples where the tracking system needed updating or correction, including building-type lookups, unit savings values for some measure types, notably lighting, and inconsistencies between the data provided by the implementation contractors and what was reported in the Frontier tracking system. We detailed these findings in Section 3.1.

Recommendation 3. Update and correct the tracking systems, and improve coordination of data transfer from the implementers' data systems to Frontier.

Pilot Program Findings.

Finding 4a. The geo-marketing pilot program succeeded in raising uptake rates in the six small communities it targeted in EPY5. ComEd's decision to commit extra resources to these communities, allow cooperating trade allies flexibility in tailoring their marketing approaches to local conditions, work closely with local businesses and community organizations, and set an aggressive, time-limited incentive, were all key factors driving the pilot's success. The main features of this marketing model could be extended to other venues besides small communities.

Recommendation 4a. The Program should extend the pilot program to other small and mid-sized communities in ComEd's service territory, and think creatively about adapting the geo-marketing delivery model to other settings where feasible (e.g., to "vertical communities" in apartment buildings and high-rise office buildings, as well as to urban neighborhoods that have had sub-par uptakes with the Program).

Finding 4b. The experiences of the individual trade allies who delivered the geo-marketing pilot program in EPY5 suggest that there is no single marketing strategy that guarantees success in all circumstances. Approaches that worked in some communities failed to pay off in others, and not all trade allies were equally adept at making mid-course corrections to improve performance.

Recommendation 4b. The Program should allow maximum flexibility to the trade allies participating in future geo-marketing pilots, to allow them to experiment with alternative approaches and make adjustments as they gain experience working in each location. The Program should bring participating trade allies together (e.g., sponsor a conference or awards dinner) to share their experiences of what worked and generate ideas for overcoming barriers in the future.

Finding 4c. The Program's success in increasing therms savings in GPY2 rests mainly on the success of the steam trap special offer, which Nicor Gas and Nexant implemented in collaboration with the Korean-American Dry Cleaner Association. This group provided the Program with access to trusted, experienced, bilingual trade allies, along with valuable publicity and credibility with this hard-to-reach customer segment. Nicor Gas's decision to engage creatively with an ethnic/language-based group, and set an aggressive, time-limited incentive, were also key factors in assuring the Program's success in GPY2.

Recommendation 4c. The Program should seek out other opportunities to work with non-traditional trade and community groups to promote steam trap replacements in non-dry cleaning venues, such as high-rise buildings, apartments and condo complexes. The

Program should also consider expanding the focus to include other gas-saving measures, such as boiler tune-ups/replacements.

Trade Ally and Other Participation.

Finding 5a. Some trade allies participating in the EPY5 geo-marketing pilot indicated that the time they had been given to prepare to enter and market the pilot in each test community had been too short.

Recommendation 5a. The Program should give pilot program trade allies more notice before starting the pilot program in each targeted community, to allow them sufficient time to develop marketing strategies, and contact local subcontractors and community leaders.

Finding 5b. Trade allies participating in the GPY2 steam trap special reported encountering steam traps in service well beyond the recommended replacement age. Some dry cleaner proprietors appeared to be unaware of the large impact that leaking traps could have on their energy bills – indeed, some were reportedly unaware that they *had* steam traps or what their function is.

Recommendation 5b. This lack of awareness represents a Program barrier, but also represents an opportunity for Nicor Gas to strengthen and extend its cooperative relationship with KADCA. Nicor Gas should produce and distribute educational materials aimed at educating dry cleaner owners and others about steam traps, including proper maintenance and replacement schedules (federal guidelines recommend replacement every five to eight years). These could be translated into Korean and distributed cooperatively with the Association.

Finding 5c. Some trade allies involved in the GPY2 steam trap special found that some customer boilers at participating dry cleaner were old and in deteriorated condition; they recommended extending the special offer to include boiler replacements.

Recommendation 5c. Nicor Gas should consider developing an initiative to promote replacement of older, inefficient boilers. However, current Illinois rules provide a perverse incentive that serves to discourage replacement of older, inefficient boilers by crediting utilities with relatively low savings in such cases (so-called “replace-on-burnout”) that do not reflect the full social value of these measures. For this reason, Nicor Gas should propose alterations to these rules to the ICC that would alleviate this problem.

7. Appendix

7.1 Glossary

High Level Concepts

Program Year

- EPY1, EPY2, etc. Electric Program Year where EPY1 is June 1, 2008 through May 31, 2009, EPY2 is June 1, 2009 through May 31, 2010, etc.
- GPY1, GPY2, etc. Gas Program Year where GPY1 is June 1, 2011 through May 31, 2012, GPY2 is June 1, 2012 through May 31, 2013.

There are two main tracks for reporting impact evaluation results, called Verified Savings and Impact Evaluation Research Findings.

Verified Savings composed of

- Verified Gross Energy Savings
- Verified Gross Demand Savings
- Verified Net Energy Savings
- Verified Net Demand Savings

These are savings using deemed savings parameters when available and after evaluation adjustments to those parameters that are subject to retrospective adjustment for the purposes of measuring savings that will be compared to the utility's goals. Parameters that are subject to retrospective adjustment will vary by program but typically will include the quantity of measures installed. In EPY5/GPY2 the Illinois TRM was in effect and was the source of most deemed parameters. Some of ComEd's deemed parameters were defined in its filing with the ICC but the TRM takes precedence when parameters were in both documents.

Application: When a program has deemed parameters then the Verified Savings are to be placed in the body of the report. When it does not (e.g., Business Custom, Retrocommissioning), the evaluated impact results will be the Impact Evaluation Research Findings.

Impact Evaluation Research Findings composed of

- Research Findings Gross Energy Savings
- Research Findings Gross Demand Savings
- Research Findings Net Energy Savings
- Research Findings Net Demand Savings

These are savings reflecting evaluation adjustments to any of the savings parameters (when supported by research) regardless of whether the parameter is deemed for the verified savings analysis. Parameters that are adjusted will vary by program and depend on the specifics of the research that was performed during the evaluation effort.

Application: When a program has deemed parameters then the Impact Evaluation Research Findings are to be placed in an appendix. That Appendix (or group of appendices) should be labeled Impact Evaluation Research Findings and designated as "ER" for short. When a program does not have deemed parameters (e.g., Business Custom, Retrocommissioning), the Research Findings are to be in the body of the report as the only impact findings. (However, impact findings may be summarized in the body of the report and more detailed findings put in an appendix to make the body of the report more concise.)

Program-Level Savings Estimates Terms

N	Term Category	Term to Be Used in Reports‡	Application†	Definition	Otherwise Known As (terms formerly used for this concept)§
1	Gross Savings	Ex-ante gross savings	Verification and Research	Savings as recorded by the program tracking system, unadjusted by realization rates, free ridership, or spillover.	Tracking system gross
2	Gross Savings	Verified gross savings	Verification	Gross program savings after applying adjustments based on evaluation findings for only those items subject to verification review for the Verification Savings analysis	Ex post gross, Evaluation adjusted gross
3	Gross Savings	Verified gross realization rate	Verification	Verified gross / tracking system gross	Realization rate
4	Gross Savings	Research Findings gross savings	Research	Gross program savings after applying adjustments based on all evaluation findings	Evaluation-adjusted ex post gross savings
5	Gross Savings	Research Findings gross realization rate	Research	Research findings gross / ex-ante gross	Realization rate
6	Gross Savings	Evaluation-Adjusted gross savings	Non-Deemed	Gross program savings after applying adjustments based on all evaluation findings	Evaluation-adjusted ex post gross savings
7	Gross Savings	Gross realization rate	Non-Deemed	Evaluation-Adjusted gross / ex-ante gross	Realization rate
1	Net Savings	Net-to-Gross Ratio (NTGR)	Verification and Research	1 – Free Ridership + Spillover	NTG, Attribution
2	Net Savings	Verified net savings	Verification	Verified gross savings times NTGR	Ex post net
3	Net Savings	Research Findings net savings	Research	Research findings gross savings times research NTGR	Ex post net
4	Net Savings	Evaluation Net Savings	Non-Deemed	Evaluation-Adjusted gross savings times NTGR	Ex post net
5	Net Savings	Ex-ante net savings	Verification and Research	Savings as recorded by the program tracking system, after adjusting for realization rates, free ridership, or spillover and any other factors the program may choose to use.	Program-reported net savings

‡ “Energy” and “Demand” may be inserted in the phrase to differentiate between energy (kWh, Therms) and demand (kW) savings.

† **Verification** = Verified Savings; **Research** = Impact Evaluation Research Findings; **Non-Deemed** = impact findings for programs without deemed parameters. We anticipate that any one report will either have the first two terms or the third term, but never all three.

§ Terms in this column are not mutually exclusive and thus can cause confusion. As a result, they should not be used in the reports (unless they appear in the “Terms to be Used in Reports” column).

Individual Values and Subscript Nomenclature

The calculations that compose the larger categories defined above are typically composed of individual parameter values and savings calculation results. Definitions for use in those components, particularly within tables, are as follows:

Deemed Value – a value that has been assumed to be representative of the average condition of an input parameter and documented in the Illinois TRM or ComEd’s approved deemed values. Values that are based upon a deemed measure shall use the superscript “D” (e.g., delta watts^D, HOU-Residential^D).

Non-Deemed Value – a value that has not been assumed to be representative of the average condition of an input parameter and has not been documented in the Illinois TRM or ComEd’s approved deemed values. Values that are based upon a non-deemed, researched measure or value shall use the superscript “E” for “evaluated” (e.g., delta watts^E, HOU-Residential^E).

Default Value – when an input to a prescriptive saving algorithm may take on a range of values, an average value may be provided as well. This value is considered the default input to the algorithm, and should be used when the other alternatives listed for the measure are not applicable. This is designated with the superscript “DV” as in X^{DV} (meaning “Default Value”).

Adjusted Value – when a deemed value is available and the utility uses some other value and the evaluation subsequently adjusts this value. This is designated with the superscript “AV” as in X^{AV}

Glossary Incorporated From the TRM

Below is the full Glossary section from the TRM Policy Document as of October 31, 2012³⁰.

Evaluation: Evaluation is an applied inquiry process for collecting and synthesizing evidence that culminates in conclusions about the state of affairs, accomplishments, value, merit, worth, significance, or quality of a program, product, person, policy, proposal, or plan. Impact evaluation in the energy efficiency arena is an investigation process to determine energy or demand impacts achieved through the program activities, encompassing, but not limited to: *savings verification, measure level research, and program level research*. Additionally, evaluation may occur outside of the bounds of this TRM structure to assess the design and implementation of the program.

Synonym: **Evaluation, Measurement and Verification (EM&V)**

Measure Level Research: An evaluation process that takes a deeper look into measure level savings achieved through program activities driven by the goal of providing Illinois-specific research to facilitate updating measure specific TRM input values or algorithms. The focus of this process will primarily be driven by measures with high savings within Program Administrator portfolios, measures with high uncertainty in TRM input values or algorithms (typically informed by previous savings verification activities or program level research), or measures where the TRM is lacking Illinois-specific, current or relevant data.

Program Level Research: An evaluation process that takes an alternate look into achieved program level savings across multiple measures. This type of research may or may not be

³⁰ IL-TRM_Policy_Document_10-31-12_Final.docx

specific enough to inform future TRM updates because it is done at the program level rather than measure level. An example of such research would be a program billing analysis.

Savings Verification: An evaluation process that independently verifies program savings achieved through prescriptive measures. This process verifies that the TRM was applied correctly and consistently by the program being investigated, that the measure level inputs to the algorithm were correct, and that the quantity of measures claimed through the program are correct and in place and operating. The results of savings verification may be expressed as a program savings realization rate (verified ex post savings / ex ante savings). Savings verification may also result in recommendations for further evaluation research and/or field (metering) studies to increase the accuracy of the TRM savings estimate going forward.

Measure Type: Measures are categorized into two subcategories: custom and prescriptive.

Custom: Custom measures are not covered by the TRM and a Program Administrator’s savings estimates are subject to retrospective evaluation risk (retroactive adjustments to savings based on evaluation findings). Custom measures refer to undefined measures that are site specific and not offered through energy efficiency programs in a prescriptive way with standardized rebates. Custom measures are often processed through a Program Administrator’s business custom energy efficiency program. Because any efficiency technology can apply, savings calculations are generally dependent on site-specific conditions.

Prescriptive: The TRM is intended to define all prescriptive measures. Prescriptive measures refer to measures offered through a standard offering within programs. The TRM establishes energy savings algorithm and inputs that are defined within the TRM and may not be changed by the Program Administrator, except as indicated within the TRM. Two main subcategories of prescriptive measures included in the TRM:

Fully Deemed: Measures whose savings are expressed on a per unit basis in the TRM and are not subject to change or choice by the Program Administrator.

Partially Deemed: Measures whose energy savings algorithms are deemed in the TRM, with input values that may be selected to some degree by the Program Administrator, typically based on a customer-specific input.

In addition, a third category is allowed as a deviation from the prescriptive TRM in certain circumstances, as indicated in Section 3.2:

Customized basis: Measures where a prescriptive algorithm exists in the TRM but a Program Administrator chooses to use a customized basis in lieu of the partially or fully deemed inputs. These measures reflect more customized, site-specific calculations (e.g., through a simulation model) to estimate savings, consistent with Section 3.2.

7.2 Detailed Impact Research Findings and Approaches

7.2.1 Electric Impact Results

All electric impacts presented in this report reflect SBES program measures installed in the premises of participating ComEd customers in the combined service territories of the three gas utilities, Nicor Gas, Peoples Gas and North Shore Gas. Table 7-1 disaggregates key electric impact findings by service territory.

Table 7-1. EPY5 Program Participation by Program Partner

Program Partner	Number of Measures	Number of Projects	Ex-ante Gross Savings, MWh	Verified Gross Savings, MWh	kWh percent
Direct-Installed (Nicor Gas)	868	331	341	340	1%
Contractor-Installed (Nicor Gas)	64,487	1,030	22,279	22,268	60%
Direct-Installed (Peoples Gas/North Shore Gas)	377	156	172	169	0%
Contractor-Installed (Peoples Gas/North Shore Gas)	125,076	622	14,537	14,526	39%
All Projects*	190,808	1,881	37,329	37,303	100%

Source: Utility tracking data and Navigant analysis.

Table 7-2 provides the measure quantities used to calculate the EPY5 ex-ante and verified gross electric savings. Navigant used the quantities from the August 2, 2013 Frontier Tracking System data extract provided by the implementation contractor. The Program distributed 177,613 electric measures through the core Program (1,245 direct-install measures and 176,368 contractor-installed measures), and 13,195 measures through the geo-marketing pilot program), for a total of 190,808 Program measures.

Table 7-2. Ex-Ante and Verified Electric Measure Quantities

Electric Measure	Ex-Ante Core Program Measures	Ex-Ante Geo Pilot Measures	Verified Program Overall Quantity
Bathroom Aerator (DI)	153	-	153
Kitchen Aerator (CI&DI)	12	-	12
Cooling Miser (DI)	81	-	81
Incandescent to CFLs (CI&DI)	1,580	38	1,618
Pre-Rinse Sprayers (DI)	7	-	7
Schedule Programmable Thermostats (DI)	10	-	10
Vending Miser (DI)	125	-	125
Showerhead (DI)	4	-	4
1,2,3,4-Lamp HP/LW T8 Retrofit (CI)	16,797	5,772	22,569
U-Tube Lamp Retrofit (CI)	169	66	235
HID/HBay to HPT8 (CI)	3,386	859	4,245
Cold Cathode (CI)	893	16	909
LED Exit Sign/Channel Sign (CI)	5,191	134	5,325
Delamping: 1,2,3,4-Lamp w/wo Reflector (CI)	23,462	4,493	27,955
Outdoor HID/T12 to LEDs (CI)	703	38	741
Metal Halides (CI)	157	-	157
EC Motor, Reach-in/Walk-in (CI)	417	-	417
Occupancy Sensor (CI)	84,763	13	84,776
LED Lamps/Fixtures (CI)	39,703	1,766	41,469
Program Total	177,613	13,195	190,808

Source: Navigant analysis of tracking data.

Table 7-3 provides the EPY5 electric measure ex-ante unit savings estimates. Navigant used the quantities of measures from Table 7-2 and the TRM deemed savings approach to verify gross savings. For non-deemed C&I measures (e.g., temperature turndown, installed and scheduled programmable thermostats), the evaluation relied on secondary research to verify the claimed savings.

Table 7-3. EPY5 Ex-Ante and Verified Gross Electric Unit Savings Estimates

Measure Name	Ex-Ante Unit kWh Savings	Verified Unit kWh Savings
Schedule Programmable Thermostats	63	63
Bathroom Aerator	143	102
Showerhead	273	273
Kitchen Aerator	298	85
EC Motor Reach-in	370	344
EC Motor Walk-in	467	401
Cooling Miser	1,210	1,210
Vending Miser	1,613	1,613
Pre-Rinse Sprayers	3,709 or 4,154	4,154
1,2,3,4-Lamp HP/LW T8 Retrofit	varies	varies
Cold Cathode	varies	varies
Delamping: 1,2,3,4-Lamp w/wo Reflector	varies	varies
HID/Hbay to HPT8	varies	varies
Incandescent to CFLs	varies	varies
LED Exit Sign/Channel Sign	varies	varies
LED Lamps/Fixtures	varies	varies
Metal Halides	varies	varies
Occupancy Sensor	varies	varies
Outdoor HID/T12 to LEDs	varies	varies
U-Tube Lamp Retrofit	varies	varies

Source: Navigant analysis of tracking data and deemed savings review.

7.2.2 Gas Impact Results

Table 7-4 provides the measure quantities used to calculate the GPY2 ex-ante and verified gross gas savings. As with the electric measures, Navigant obtained these quantities from the August 2, 2013 Frontier Tracking System data extract provided by the implementation contractor. The Program distributed 7,260 gas measures, including 582 direct-install measures, and 6,678 contractor-installed measures (including 3,535 dry cleaner steam trap measures).

Table 7-4. GPY2 Ex-Ante and Verified Gross Gas Measure Quantity and Unit Savings

Measure Name	Ex-Ante Measure Quantity	Verified Measure Quantity	Ex-Ante Unit Savings	Verified Unit Savings
Bathroom Aerator (CI+DI)	396	396	varies	5.12
Boiler Reset Control (CI)	43	43	varies	varies
Boiler Tune-up (CI)	72	72	varies	varies
Commercial Dry Cleaning Steam Traps (audited and replaced)	2,301	2,301	514	514
Commercial Dry Cleaning Steam Traps (mass replacement or insufficient audit info)	1,234	1,234	330	330
Condensing Furnace Upgrade (CI)	15	15	varies	varies
Furnace Tune-up (CI)	180	180	63	62.7
Gas Water Heater +88% TE (CI)	2	2	251	251
Hot Water Turn Down (DI)	3	3	11	11
HW Heater Insulation Jacket (CI)	8	8	16	16
Infrared Heaters (CI)	3	3	451	451
Installed Programmable Thermostats (CI)	2,699	2,699	178	178
Kitchen Aerator (CI+DI)	126	126	varies	4.28
Pre-Rinse Sprayers (DI)	73	73	164	164
Scheduled Programmable Thermostats (DI)	10	10	83	83
Showerhead (DI)	95	95	varies	13.51
Program Total	7,260	7,260		

Source: Navigant analysis of tracking data.

Table 7-5. GPY2 Gas Volumetric Findings Detail

Participation	Core Program Projects		Pilot Projects	Overall Program
	Direct Install	Contractor Installed	Contractor Installed	
Ex-Ante Gross Savings (Therms)	15,965	537,166	1,166,550	1,719,681
Total Installed Measures	582	3,143	3,535	7,260
Projects	246	1,042	230	1,465
Participants	228	999	201	1,258
Therms/Project	65	516	5,072	1,174
Projects/ Participant	1.08	1.04	1.14	1.16

Source: Utility tracking data and Navigant analysis.

* Overall unique projects was 1,465, and unique participants was 1258

7.2.3 Gross Program Impact Parameter Estimates

As described in Section 2, energy saving are estimated or verified using the assumptions and algorithm as specified in the TRM. Table 7-6 shows the input parameters to estimated verified electric savings. Each unit savings per measure were verified, and where inconsistencies were found in the ex-ante unit savings, we applied the correct TRM assumptions. We adjusted the claimed savings for kitchen and bath aerators, EC Motor Reach-in and Walk-in measures, and pre-rinse spray valves. We also corrected the delta watts and the savings claim for 20W CFLs. Details of the adjustment and the gross realization rates are shown in Table 7-7.

Table 7-6. Verified Gross Electric Savings Parameters

Input Parameters	Value	Deemed or Evaluated?
Verified Gross Realization Rate	1.00	Evaluated
NTG Ratio	0.90	Deemed
Savings from Lighting Measures	<i>varies</i>	Deemed
<i>Program Bulbs</i>	<i>varies</i>	<i>Evaluated</i>
<i>Delta Watts</i>	<i>varies</i>	<i>Deemed TRM v1.0</i>
<i>Hours of Use (HOU)</i>	<i>varies</i>	<i>Deemed TRM v1.0</i>
<i>Peak Load Coincidence Factor</i>	<i>varies</i>	<i>Deemed TRM v1.0</i>
<i>Energy Interactive Effects</i>	<i>varies</i>	<i>Deemed TRM v1.0</i>
<i>Demand Interactive Effects</i>	<i>varies</i>	<i>Deemed TRM v1.0</i>
<i>Installation Rate</i>	100%	<i>Deemed TRM v1.0</i>
Showerhead and Aerators (kWh)	273	Deemed TRM v1.0
Cooling Miser	1,210	Evaluated
Pre-Rinse Sprayers	4,145	Deemed TRM v1.0
Schedule Programmable Thermostats	63	Evaluated
EC Motor, Reach-in/Walk-in	401 (Walk-in), 344 (Reach-in)	Evaluated
Vending Miser	1,613	Evaluated

Source: Utility tracking data and Navigant analysis.
 Illinois_Statewide_TRM_Effective_060112_Final_091412_Clean.pdf

Table 7-7. Evaluation Adjusted Electric Unit Savings

Program Delivery	Ex-Ante Unit kWh Savings	Verified Unit kWh Savings	Verified Gross Realization Rate	Evaluator Comments
Pre-Rinse Sprayers	3,709 or 4,154	4,154	1.07	Different ex-ante claimed savings by ICs. TRM verified savings is 4,154 KWh
EC Motor, Reach-in	370	344	0.93	Verified unit savings is consistent with ex-ante claimed savings from ComEd EPY5 Standard Program, and ComEd's Refrigeration Workpaper
EC Motor, Walk-in	467	401	0.86	Verified unit savings is consistent with ex-ante claimed savings from ComEd EPY5 Standard Program, and ComEd's Refrigeration Workpaper
Bathroom Aerator	143	102	0.71	Verified savings is consistent with example calculation in TRM (v1.0) for EPY5 evaluation
Kitchen Aerator	298	85	0.29	Verified savings is consistent with example calculation in TRM (v1.0) for EPY5 evaluation
CFL 20W	varies	adjusted	Upward adjustment	Ex-ante delta watts is 53W, and the verified delta watts is 55W.

Sources: Utility tracking data and Navigant analysis;
 Illinois_Statewide_TRM_Effective_060112_Final_091412_Clean.pdf; ComEd_Refrigeration_Savings_6-7-12.xlsx

Table 7-8 shows the input parameters used to estimate verified gas savings. Each unit savings value was verified, and where there were inconsistencies in the ex-ante unit savings we applied the correct TRM assumptions. We adjusted the claimed savings for showerheads, kitchen and bath aerators. Savings from dry cleaner steam trap replacements were also adjusted to comply with the TRM requirements. Details of the adjustment and the gross realization rates are shown in Table 7-9 below.

Table 7-8. Verified Gross Gas Savings Parameters

Input Parameters	Value	Deemed or Evaluated?
Quantity	Varies	Evaluated
Verified Gross Realization Rate on Ex-Ante Gross Savings (Pilot Program)	1.56	Evaluated
Verified Gross Realization Rate on Ex-Ante Gross Savings (Overall Program)	1.25	Evaluated
Bathroom Aerator (CI+DI)	5.1	Deemed TRM v1.0 (section 4.3.2)
Kitchen Aerator (CI+DI)	4.3	Deemed TRM v1.0 (section 4.3.2)
Hot Water Turn Down (DI)	11.0	Evaluated
Pre-Rinse Sprayers (DI)	164.0	Deemed TRM v1.0 (section 4.2.11)
Scheduled Programmable Thermostats (DI)	83.0	Evaluated
Showerhead (DI)	13.5	Deemed TRM v1.0 (section 4.3.3)
Boiler Reset Control (CI)	varies	Deemed TRM v1.0 (section 4.4.4)
Boiler Tune-up (CI)	varies	Deemed TRM v1.0 (section 4.4.2)
Condensing Furnace Upgrade (CI)	varies	Deemed TRM v1.0 (section 4.4.11)
Furnace Tune-up (CI)	62.7	Evaluated (previous year value)
Installed Programmable Thermostats (CI)	178.0	Evaluated (previous year value)
Gas Water Heater +88% TE (CI)	251.0	Deemed TRM v1.0 (section 4.3.1)
Steam Trap Repair/Replacement (heating or dry cleaner with mass replacement), (CI)	330.5	Deemed TRM v1.0 (section 4.4.15)
Commercial Steam Trap Repair/Replace (Dry cleaner with full audit), (CI)	513.9	Deemed TRM v1.0 (section 4.4.15)
Infrared Heaters (CI)	451.0	Deemed TRM v1.0 (section 4.4.12)
HW Heater Insulation Jacket (CI)	16.0	Evaluated

Source: Utility tracking data and Navigant analysis and Illinois_Statewide_TRM_Effective_060112_Final_091412_Clean.pdf

Table 7-9. Evaluation Adjusted Gas Unit Savings

Program Measure	Ex-Ante Unit Therms Savings	Verified Unit Therms Savings	Gross Realization Rate	Evaluator Comments
Bath Aerator	Varies (4.0 to 4.7)	5.12	1.14	Applied TRM assumptions or example calculation to verify savings
Kitchen Aerator	Varies (4.0 to 4.7)	4.28	0.95	Applied TRM assumptions or example calculation to verify savings
Showerhead	Varies (13.6 to 41.0)	13.51	0.93	Ex-ante unit savings vary per measure. Corrected.
Steam Traps (Dry cleaners)	330	330 or 513.93	1.00 or 1.56	Ex-ante applied same savings for all measures. Evaluation adjusted savings for measures which received full audit before replacement.

Source: Utility tracking data and Navigant analysis

7.2.4 Development of Verified Electric Gross Realization Rate

Navigant calculated the program verified gross realization rates as the ratio of verified gross savings to tracking system ex-ante gross savings. Verified electric gross realization rates by program delivery channel are shown in Table 7-10, and by installation type in Table 7-11. Measure-level electric gross realization rates are shown in are shown in Table 7-12.

Table 7-10. EPY5 Electric Gross Realization Rate by Program Delivery Channel

Program Delivery	Number of Measures	Number of Projects	Ex-ante Gross Savings, MWh	Verified Gross Realization Rate	Verified Gross Savings, MWh	Percent of Verified Savings
Core Program Projects	177,613	1,855	31,857	1.00	31,831	85%
Geo-Marketing Pilot Projects	13,195	301	5,473	1.00	5,473	15%
Program Total	190,808	1,892	37,329	1.00	37,303	100%

Source: Utility tracking data and Navigant analysis

Note: Verified gross realization rates are round to 2 digits, so direct application to the ex-ante does not produce the actual verified gross savings shown.

Table 7-11 EPY5 Electric Gross Realization Rate by Install Type

Installed Type	Number of Measures	Number of Projects	Ex-ante Gross Savings, kWh	Realization Rate	Verified Gross Savings, kWh	Percent of Verified Savings
Direct-install (DI)	1,245	495	513	0.99	509	1%
Capital Investment (CI)	189,563	1,662	36,816	1.00	36,794	99%
Program Total	190,808	1,892	37,329	1.00	37,303	100%

Source: Utility tracking data and Navigant analysis

Table 7-12. EPY5 Electric Gross Realization Rate by Measure Type

Program Delivery	Ex-Ante Gross Savings, kWh	Verified Gross Realization Rate	Verified Gross Savings, kWh	Percent of Verified Savings
Bathroom Aerator	21,879	0.71	15,621	0.0%
Kitchen Aerator	3,278	0.31	1,021	0.0%
Cooling Miser	97,988	1.00	97,988	0.3%
Incandescent to CFLs	329,399	1.00	330,488	0.9%
Pre-Rinse Sprayers	27,298	1.07	29,081	0.1%
Schedule Programmable Thermostats	723	1.00	723	0.0%
Vending Miser	201,625	1.00	201,625	0.5%
Showerhead	1,092	1.00	1,092	0.0%
1,2,3,4-Lamp HP/LW T8 Retrofit	5,734,969	1.00	5,734,969	15.4%
U-Tube Lamp Retrofit	27,790	1.00	27,790	0.1%
HID/HBay to HPT8	5,670,203	1.00	5,670,203	15.2%
Cold Cathode	132,526	1.00	132,526	0.4%
LED Exit Sign/Channel Sign	1,533,974	1.00	1,533,974	4.1%
Delamping: 1,2,3,4-Lamp w/wo Reflector	14,261,691	1.00	14,261,691	38.2%
Outdoor HID/T12 to LEDs	581,299	1.00	578,901	1.6%
Metal Halides	61,124	1.00	61,124	0.2%
EC Motor, Reach-in/Walk-in	172,260	0.90	154,178	0.4%
Occupancy Sensor	473,751	1.00	473,751	1.3%
LED Lamps/Fixtures	7,996,580	1.00	7,996,580	21.4%
Program Total	37,329,449	1.00	37,303,326	100.0%

Source: Utility tracking data and Navigant analysis

Verified gas gross realization rates by program delivery channel are shown in Table 7-13, and by installation type in Table 7-14. Measure-level gas gross realization rates are shown in Table 7-15.

Table 7-13. GPY2 Gas Gross Realization Rate by Program Delivery Channel

Program Delivery	Number of Measures	Number of Projects	Ex-Ante Gross Savings, Therms	Realization Rate	Verified Gross Savings, Therms
Core Program Projects	3,725	1,288	553,131	1.00	553,240
Dry cleaner Steam Trap Special Projects	3,535	230	1,166,550	1.36	1,589,773
Program Total	7,260	1,465	1,719,681	1.25	2,143,013

Source: Utility tracking data and Navigant analysis

Note: Verified gross realization rates are rounded to 2 digits, so direct application to the ex-ante does not produce the actual verified gross savings shown.

Table 7-14. GPY2 Gas Gross Realization Rate by Install Type

Program Delivery	Number of Measures	Number of Projects	Ex-ante Gross Savings, Therms	Realization Rate	Verified Gross Savings, Therms
Direct Install (DI)	582	246	15,965	1.01	16,143
Contractor Installed	6,678	1,272	1,703,716	1.25	2,126,870
Program Total	7,260	1,465	1,719,681	1.25	2,143,013

Source: Utility tracking data and Navigant analysis

Note: Verified gross realization rates are rounded to 2 digits, so direct application to the ex-ante does not produce the actual verified gross savings shown.

Table 7-15. GPY2 Gas Gross Realization Rate by Measure Type

Measure Name	Ex-ante Gross Savings (Therms)	Gross Realization Rate	Verified Gross Savings (Therms)	Percent Verified Gross Savings
Bathroom Aerator (CI+DI)	1,737	1.16	2,015	0.1%
Kitchen Aerator (CI+DI)	562	0.96	539	0.0%
Hot Water Turn Down (DI)	33	1.00	33	0.0%
Pre-Rinse Sprayers (DI)	11,972	1.00	11,972	0.6%
Scheduled Programmable Thermostats (DI)	830	1.00	830	0.0%
Showerhead (DI)	1,376	0.93	1,283	0.1%
Boiler Reset Control (CI)	25,111	1.00	25,111	1.2%
Boiler Tune-up (CI)	7,869	1.00	7,869	0.4%
Condensing Furnace Upgrade (CI)	9,896	1.00	9,896	0.5%
Furnace Tune-up (CI)	11,340	1.00	11,286	0.5%
Installed Programmable Thermostats (CI)	480,422	1.00	480,422	22.4%
Gas Water Heater +88% TE (CI)	502	1.00	502	0.0%
Commercial Steam Traps (audited and replaced)	759,330	1.56	1,182,553	55.2%
Commercial Steam Traps (mass replacement or insufficient audit info)	407,220	1.00	407,220	19.0%
Infrared Heaters (CI)	1,353	1.00	1,353	0.1%
HW Heater Insulation Jacket (CI)	128	1.00	128	0.0%
Program Total	1,719,681	1.25	2,143,013	100%

Source: Utility tracking data and Navigant analysis

Note: Verified gross realization rates are rounded to 2 digits, so direct application to the ex-ante does not produce the actual verified gross savings shown.

7.3 EPY5 Geo-Marketing Pilot Program Process Evaluation Details

7.3.1 Customer Background Data

Nine of the 17 participant customers interviewed for EPY5 geo-marketing pilot program owned the company. All but one was in a management position. The maintenance man involved in the program was part of a two-man team who worked in a church.

Table 7-16. Title of Customer Interviewed.

Title	Frequency
Owner	9
Manager including Office and General	4
President/Director/CFO	3
Maintenance	1
Total	17

Small businesses were sampled to represent a broad spectrum of business types.

Business Activity

Single Mentions:

- Auto Accessory Store
- Bank
- Body Shop
- Farm and Lawn Shop
- Hotel
- Jewelry store
- Radiator Shop
- Restaurant
- Thrift store
- Video store

Multiple Mentions:

- Two truck and auto repair
- Two not-for-profits (church and office)
- Three light manufacturing

Number of Employees

The average number of employees for these 17 survey participants was 9.2. The businesses employed from one to 35 employees. Both the restaurant and the bank reported about 35 employees. Thirteen of the sample had ten employees or less.

Nine of the customers owned the facility and seven leased it. The restaurant manager did not know if the facility was owned or leased. All of the respondents who leased paid their own electric bills.

7.3.2 Pilot Program Trade Ally Interviews

In all cases, Navigant interviewed the president or owner of the trade ally company working with the EPY5 geo-marketing pilot. Trade allies reported that their firms had between two and eight permanent employees. All sub-contracted with local electricians to complete the work. One also reported sub-contracting the sales and marketing aspects of the work.

7.4 Dry Cleaner Steam Trap Special Offer Process Evaluation Details

7.4.1 Customer Interviews

The Navigant team interviewed twelve customers who participated in the dry cleaner steam trap special offer. All interviews took place during the first two weeks of September, 2013. All interviews were conducted in Korean by Navigant employees who were native speakers. They translated the results into English for analysis.

All of the respondents were the owners of the business or the wife of the owner. All performed a variety of tasks within the organization. The dry cleaner owners in this study had two to five full-time employees.

7.4.2 Trade Ally Interviews

The Navigant Team interviewed all four of the trade allies who participated in the dry cleaner steam trap option of the SBES Program. Three of the four were interviewed in Korean by Navigant employees who were native speakers. One of the three Korean-language interviews was conducted in person; the other interviews were conducted by telephone. All Korean-language interviews were recorded and transcribed into English by the interviewers for analysis by the process evaluation manager. All interviews took place during the first two weeks of September, 2013.

7.5 Geo-Marketing Pilot Trade Ally Interview Guide

ComEd Evaluation for the Small Business Energy Savings Program Geo-Based Pilot Draft Version July 24, 2013 Contractor In-Depth Interview Guide

Respondent name:	
Respondent phone number:	
Respondent title:	
Email Address:	
Respondent Company	
Date:	
Status:	
Utilities	ComEd

Discussion Guide Mapping Table

Section	Topics	Questions
Background	What are the characteristics of the customers and program trade allies participating in the pilot programs?	Q1-Q3
Pilot administration	Did you feel adequately trained to implement the program? Do you have any materials that you can leave with customers describing the pilot program? Any describing the full range of ComEd programs? Do you think the level of marketing and promotion of the Small Business Energy Savings Program has been appropriate so far?	Q4-Q6
Effectiveness of pilot program implementation	Did you previously participate in the core program? How successful was the pilot program compared to the core program? To what factor(s) do you attribute the difference? How effective were the marketing materials used in the Geo Pilot? Did you have sufficient materials? Were they	Q7-Q8

Section	Topics	Questions
	<p>effective with your customers? Was there a 'buzz' around the community about the pilot?</p>	
<p>Effectiveness of pilot program design and processes</p>	<p>What about the pilot attracted your organization to the program? Did you find any positive impacts of the pilot on your business? Did you find any negative impacts of the pilot on your business? Were the pilot participation process clearly explained to you? Was it easy to explain the program requirements to customers? Did the program meet your expectations? Why or why not? Were there any features of the community (or communities) you served that made the Geo Pilot less effective that it could have been?</p>	<p>Q9-Q12</p>
<p>Customer and program partner satisfaction with the program</p>	<p>What have been your customers' experiences with the SBES Geo-Pilot Program? Are customers satisfied with the pilot program? Are you satisfied with the pilot program? Were you satisfaction with the support you received from Nexant, the program implementer? How long did it take Nexant to process your payment after installation? Is this an acceptable amount of time? Were you satisfied with the support you received from ComEd?</p>	<p>Q13-q16</p>

Section	Topics	Questions
Program Barriers	<p>What challenges have occurred in implementation of each program pilot and how did you/will you overcome them?</p> <p>(For geo-marketing pilot): Was the program equally successful in all geographic locations? If not, to what do you attribute the difference(s)? Were they foreseeable? Do pilot program processes create any barriers to partner or customer participation? If yes, what barriers?</p>	Q17-Q19
Opportunities for program improvement	<p>What areas of the pilot worked particularly well for you? What worked less well than anticipated? What areas of the pilot program are working well for your customers?</p> <p>Do you have any recommendations for improving the program?</p>	Q20-Q21
Potential market effects	<p>Are you continuing to market the core program after the 12-week blitz? How many geo pilot customers are going on to participate in the core program?</p> <p>Are customers in the geo pilot program installing any additional energy efficient equipment outside the programs?</p>	Q22-Q25
Market Indicators	<p>Do you think that current economic conditions are affecting the program? If so, how?</p> <p>Do you find the SBES Program is a competitive advantage for your firm?</p> <p>Have your business revenues grown in the past year (Y/N)? [IF YES] Would you attribute any of that growth to the Small Business Energy Savings Program Geo Pilot? About what %?</p> <p>Have you hired more employees because of work generated by the Small Business Energy Savings Program Geo Pilot? How many? In the next year do you plan to hire more employees to handle increased work generated by the program? About how many?</p> <p>Do you plan to continue participating in the program through the 2013-2014 Program Year?</p>	Q26-Q32
Closing	<p>Is there anything else that you would like to let us know based on the topics we covered today?</p>	Q33

[Note to Reviewer] The Interview Guide is a tool to guide process evaluation interviews with utility staff and implementation contractors. The guide helps to ensure the interviews include questions concerning the most important issues being investigated in this study. Follow-up questions are a normal part of these types of interviews. Therefore, there will be sets of questions that will be more fully explored with some individuals than with others. The depth of the exploration with any particular respondent will be guided by the role that individual played in the program's design and operation, i.e., where they have significant experiences for meaningful responses. The interviews will be audio taped and transcribed.

Introduction

(Note: the interviewer should change the introduction to match his/her own interviewing style)

Hi, may I please speak with [NAME]?

My name is ___ and I'm calling from Navigant Consulting. We are part of the team hired to conduct an evaluation of the ComEd Small Business Energy Savings Geo Marketed Pilot Program. At this time we are interested in asking you some questions about your experiences with the Small Business Energy Savings program. The questions will only take about a half hour. Is this a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

I want to let you know that this call will be recorded for quality control purposes. Responses will remain confidential and only be reported in aggregate with other responses.

To help me understand what we are discussing, I will refer to the three-month community based SBES Program as the Geo-Pilot and the ongoing program as the core SBES Program.

Background

1. Can you briefly describe the company you work for and the type of business it conducts?

How many full-time employees are employed at your company? Who are your primary business customers in the pilot?

2. Can you briefly summarize your roles and responsibilities at your company? For how long have you carried these out?

3. Who [Utility? Nexant? Other?] should be more involved in the pilot but is not, and how can the program increase their involvement?

Pilot Administration

4. How were you recruited for the pilot? Was the training for the program what you anticipated? Do you think the training was adequate?

5. Do you have any materials that you can leave with customers describing the pilot program? Any describing the full range of ComEd programs?

6. Do you think the level of marketing and promotion of the Small Business Energy Savings Program to the participating customers has been appropriate so far?

Effectiveness of pilot program implementation

7. Did you previously participate in the regular Small Business Energy Savings program? How successful was the pilot program compared to the regular program? To what factor(s) do you attribute the difference?
8. How effective were the marketing materials used in the Geo Pilot? Did you have sufficient materials? Were they effective with your customers? Was there a 'buzz' around the community about the pilot?

Effectiveness of pilot program design and processes

9. Were the pilot participation process and program requirements clearly explained to you? Were they easy to explain to customers?
10. What about the pilot program attracted your organization to the program? What were your expectations for the program? Did the program meeting your expectations?
11. Are you marketing the core SBES Program to your customers in [INSERT COMMUNITY]?
12. How does the proportion of customers rejecting the program compare between the regular program and the pilot? Why is that?

Customer and program partner satisfaction with the program

13. What have been your customers' experiences with the SBES Geo-Pilot Program? Are customers satisfied with the pilot program?
14. Are you satisfied with the pilot program?
15. Were you satisfaction with the support you received from Nexant, the program implementer? How long did it take Nexant to process your payment after installation? Is this an acceptable amount of time?
16. Were you satisfied with the support you received from ComEd [such as ...]?

Program Barriers

17. What challenges did you face as you implemented the program pilot? How did you overcome them?
18. Was the pilot successful in your geographic location? If marketed in more than one town: Was the program equally successful in all geographic locations? If not, to what do you attribute the difference(s)? Were they foreseeable? Were they due to the economy?
19. Do pilot program processes create any barriers to partner or customer participation? If yes, what barriers? What other barriers exist?

Opportunities for program improvement

20. What areas of the pilot worked particularly well? What worked less well than anticipated, if anything? To what do you attribute these differences?
21. What areas could the pilot program improve to create a more effective program for customers? For trade allies? How could the trade allies help increase the energy and demand impacts?

Potential market effects/Spillover

22. Are customers going on to do other projects after the pilot is completed? Have you referred any customers to other ComEd, Nicor, Peoples Gas and North Shore Gas] business programs? Or to the “core” Small Business Energy Savings program?
23. How often does this occur? Are customers participating in the SBES Program or other ComEd or Nicor Programs? Are they installing energy efficient equipment without participating in a utility program?
24. Were the pilot customers current customers of yours or new customers?
25. During the pilot, did you identify any opportunities to install gas measures? What types of equipment did you install? Did you pass these over to the gas company? What was the referral process?
26. Did you change your business (for example, the line of products and services you offer, how you market yourself) as a result of the pilot? In what ways?

Economic Indicators

27. Do you think the SBES Program is a competitive advantage for your firm?
28. Have your business revenues grown in the past year (Y/N)?
29. [IF YES] Would you attribute any of that growth to the Small Business Energy Savings Program? About what % (+/- 10%)
30. Have you hired more employees because of work generated by the Small Business Energy Savings Program? How many?
31. In the next year will you hire more employees to handle increased work generated by the program? About how many?
32. Do you think the current economic conditions are affecting the program? If so, how?
33. Do you plan to continue participating in the core SBES program through the 2013-2014 program year?

Closing

34. That brings us to the end of my questions for you. Is there anything else that you would like to let us know based on the topics we covered today?

On behalf of ComEd, we thank you for your time today. If in reviewing my notes, I discover a point I need to clarify, is it all right if I follow-up with you by phone or email? [IF YES, VERIFY PHONE NUMBER OR EMAIL]

7.6 Geo-Marketing Pilot Participant Interview Guide

ComEd Evaluation for the Small Business Energy Savings Program Geo-Based Pilot

Draft Version July 24, 2013

Customer In-Depth Interview Guide

Respondent name:	
Respondent phone number:	
Respondent title:	
Email Address:	
Respondent Company	
Date:	
Status:	
Utilities	ComEd

Discussion Guide Mapping Table

Section	Topics	Questions
Pilot administration	How you learned about the program. Process of participating in the program. Ease of understanding	Q4-Q7
Communications	Marketing materials - How effective were they in explaining the program to you? Communications with contractor; communications with Nexant	Q8-Q11
Program	Satisfaction with the Small Business Energy	Q12-Q16

Section	Topics	Questions
Satisfaction and Improvements	<p>Savings Program</p> <p>Satisfaction with the amount of incentives</p> <p>Program could be improvements</p> <p>Satisfaction with contractor</p> <p>Impact of current economic conditions</p>	
Awareness of Other ComEd/Nicor Programs	<p>Plan to install other energy efficient equipment</p> <p>Knowledge of or participation in other programs</p> <p>Plan to participated in the future</p> <p>Contractor recommendation of other ComEd or Nicor programs</p>	Q17-Q20
Customer Background	Firmographics	Q21-Q26

Identify Appropriate Respondent

1. Hello, this is <INTERVIEWER NAME> calling from Navigant Consulting on behalf of ComEd and Nicor Gas about the Small Business Program you participated in this summer. This is not a sales call. May I please speak with <CONTACT> ?

1 No, this person no longer works here → Is there someone else that was involved with the Small Business Energy Savings Program? [Repeat introduction with new contact]

2 No, this person is not available right now [Ask when available or leave message.]
CALL BACK LATER

3 Yes – SKIP to Q2

97 No, other reason (THANK & TERMINATE)

2. Hello, my name is <INTERVIEWER NAME> calling from Navigant Consulting on behalf of ComEd and Nicor Gas. We’re calling to do a follow-up survey about your firm’s participation in the Small Business Program this past summer. Do you recall participating in the Small Business Program on or about <PROGRAM DATE>?

•

1 Yes → continue to Q3

2 No → [Describe program and ask if they were involved. If still no recall → Can I speak with someone who is more familiar with your organization's participation in the Small Business Energy Savings Program?]

3 There is no one here with information on that address/wrong address – THANK & TERMINATE

[IF NEEDED] Navigant is an independent consulting firm hired by ComEd and Nicor Gas to learn about customer experiences with its Small Business Energy Savings program and to help the utilities improve their programs in the future.

[IF NEEDED] This is a very important fact-finding survey with companies that have recently participated in an energy efficiency program sponsored by ComEd and Nicor Gas. We are NOT interested in selling anything, and we are primarily interested in gaining your feedback on the Small Business Energy Savings program to help ComEd and Nicor improve the services they provide to their customers in the future. Your responses will not be connected with your firm in any way and will be summarized along with responses we get from other businesses that we talk with.

3. Are you the person responsible for your organization's decision to participate in the program or were you the main point of contact for the program?

1. Person responsible for program participation
2. Main point of contact for the program

1 Yes → Great. We would like to ask you some questions about this program, which should only take about 15 to 20 minutes. Is now a good time, or is there a time we can call you back tomorrow?

2 No → Ask for contact name and repeat introduction in Q2.

Now I'd like to ask you about your program experiences.

Pilot Administration

4. Do you remember how you first learned about the Small Business Energy Savings Program? [Contractor, chamber, business associate, newspaper, etc.]?
5. Can you spend just a few minutes and describe the process that you went through to complete your participation in the SBES Geo Marketing Pilot Program? When did you discuss the program with your local contractor?

6. Was the process of participating in the program easy to understand?
 - a. Did you consult any other information source in your community before you decided to participate in the program? Did you have any reservations about the offer from the utilities?
 - b. Did [you/they] experience any difficulties in preparing/submitting the incentive application? What was the source of difficulty/delay? What level of support was provided by the contractor who implemented the program in your community?
 - c. How could ComEd simplify this process?
7. Has a representative from Nexant visited to verify the installation of energy efficient equipment? How did that process work? Were you satisfied with this process? If not, how could it be improved?

Communications

8. Did you receive any marketing materials explaining the SBES Program? Who provided the materials? How effective were they in explaining the program to you? How could they be improved?
9. How would you describe communications between your organization and the contractor representing ComEd and Nicor Gas during your program participation?
10. Did you have any contact with the program implementer, Nexant? [IF NO, SKIP NEXT QUESTION] How would you describe communications between your organization and Nexant during your program participation?
11. Were there any issues with the program implementer, Nexant? If so, please describe. How could these issues be improved?

Program Satisfaction and Improvements

12. Overall, how satisfied were you with the Small Business Energy Savings Program?
13. Are you satisfied with the amount of incentives offered through the Small Business Energy Service program?
14. How do you think the program could be improved?
15. How satisfied are you with the contractor who contacted you about the program? Did you have a relationship with the contractor before you participated in the program?
16. Are current economic conditions affecting the program? If so, how?

Awareness of Other ComEd/Nicor Programs

17. Do you plan to install other energy efficient equipment through the Small Business Program within the next year? What do you plan to install?
18. Aside from the Small Business Program that we have been discussing today, are you aware of other programs that are designed to promote energy efficiency for businesses like yours? What types of programs or resources can you recall?
 - PROBES: Do you know what organization/company administers that program? After each response prompt with "Can you recall any others?"
19. Have you participated in any of these programs? Which ones? What did you install? Do you plan to participate in any of these programs in the future?
20. Did the contractor recommend any other ComEd or Nicor programs to you? What were you planning to install?

Customer Background

We are almost finished. I'd just like to get some general background information about <COMPANY> and your responsibilities there.

21. Can you briefly summarize your role at your company? What are your main responsibilities?
22. What is <COMPANY>'s primary business activity at this particular facility (<SERVICE ADDRESS>)? [RECORD ONE]

- 1 Office
- 2 Retail (non-food)
- 3 College/University
- 4 School
- 5 Grocery Store
- 6 Restaurant
- 7 Health Care
- 8 Hospital
- 9 Hotel or Motel
- 10 Warehouse/Distribution
- 11 Construction
- 12 Community Service/Church/Temple/ Municipality
- 13 Industrial Process/ Manufacturing/ Assembly – type?
- 14 Condo Assoc./Apartment Mgmt.
- 15 Other (Please specify) _____
- 98 Refused
- 99 Don't Know

23. About how many full-time employees work at this location?

&EMP # of employees

98 Refused

99 Don't Know

24. Does <COMPANY> own or lease this facility?

1 Own

2 Lease

98 Refused

3/4/201199 Don't Know

IF THE COMPANY LEASES THE FACILITY:

25. Do you pay the electric bill?

26. Do you have any other comments or suggestions for us about the Program?

That's all of the questions I have for you today. Thank you so much for your time, your insights are extremely valuable to ComEd and Nicor Gas. Have a great day!

We might follow-up with you by phone later, if additional questions arise.

7.7 Dry Cleaner Steam Trap Special Offer Trade Ally Interview Guide

**Nicor Gas Evaluation for the Small Business Energy Savings
Program- Steam Trap Option
Draft Version July 29, 2013
Contractor In-Depth Interview Guide**

Respondent name:	
Respondent phone number:	
Respondent title:	
Email Address:	
Respondent Company	
Date:	
Status:	
Utilities	ComEd
	Nicor Gas

Discussion Guide Mapping Table

Section	Topics	Questions
Background	The characteristics of the customers and program trade allies participating in the Steam Trap Option of the SBES Program	Q1-Q3
Steam Trap Option of the SBES Program Administration	Recruitment of trade allies for the SBES Program Impact of the program	Q4-Q6

Section	Topics	Questions
Effectiveness of SBES design and processes	<p>Attraction of SBES Program Positive/negative impacts on your business</p> <p>Easy to understand the participation process. Easy to explain the program requirements to Korean-American dry cleaner decision makers Meeting trade ally expectations.</p>	Q7-Q9
Customer and program partner satisfaction with the program	<p>Customers' experiences with the SBES Program. Customers' satisfaction with the program Trade ally's satisfaction with the program Satisfaction with the support received from Nexant Satisfaction with support from Nicor Gas</p>	Q10-q13
Program Barriers	<p>Challenges of the SBES Program Any process barriers to trade ally or customer participation</p>	Q14-Q16
Opportunities for program improvement	<p>What worked well; what worked less well Areas of the program that worked for your customers Recommendations for improving the program</p>	Q17-Q18
Potential market effects	<p>Customers who do other projects after the steam trap is installed</p>	Q19-Q22

Section	Topics	Questions
	Referral of customers to other ComEd or Nicor Gas business programs Energy assessment to identify other energy efficient equipment Identification of opportunities to install electric measures	
Market Indicators	Impact of current economic conditions on the program SBES Program as a competitive advantage for your firm Growth of business revenues Employee hiring because of the Program; future plans to hire Plans to continue participating in the program	Q23-Q29
Closing	Is there anything else that you would like to let us know based on the topics we covered today?	4

[Note to Reviewer] The Interview Guide is a tool to guide process evaluation interviews with utility staff and implementation contractors. The guide helps to ensure the interviews include questions concerning the most important issues being investigated in this study. Follow-up questions are a normal part of these types of interviews. Therefore, there will be sets of questions that will be more fully explored with some individuals than with others. The depth of the exploration with any particular respondent will be guided by the role that individual played in the program’s design and operation, i.e., where they have significant experiences for meaningful responses. The interviews will be audio taped and transcribed.

Introduction

(Note: the interviewer should change the introduction to match his/her own interviewing style)

Hi, may I please speak with [NAME]?

My name is ___ and I’m calling from Navigant Consulting. We are part of the team hired to conduct an evaluation of the ComEd Small Business Energy Savings Pilot Program. At this time we are interested in asking you some questions about your experiences with the Small Business Energy Savings program. The questions will only take about a half hour. Is this a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

I want to let you know that this call will be recorded for quality control purposes. Responses will remain confidential and only be reported in aggregate with other responses.

To help me understand what we are discussing, I will refer to the full program offering as the core SBES Program and the steam trap offer as the Steam Trap Option of the SBES Program.

Background

35. Can you briefly describe the company you work for and the type of business it conducts?

How many full-time employees are employed at your company? Who are your primary business customers in the SBES Program?

36. Are you expanding program participation beyond dry cleaners customers? To what type of customer?

37. Can you briefly summarize your roles and responsibilities at your company? How long have you carried these out?

SBES Steam Trap Option Program Administration

38. How were you recruited for the Steam Trap Option of the SBES Program? Did you receive training for the SBES Program? Was the training helpful; was it what you anticipated?

39. Do you have any materials such as brochures that you can leave with customers describing other SBES program options beyond steam trap equipment? Any describing the full range of ComEd or Nicor programs?

40. Do you think the level of marketing and promotion of the Small Business Energy Savings Program has been appropriate so far?

Effectiveness of pilot program design and processes

41. Were the participation processes and the program requirements clearly explained to you? Were they easy to explain to customers?

42. What about the program attracted your organization? What are your expectations for the program? Is the program meeting your expectations?

43. How many customers decline the dry cleaner program option? Why do they decline to participate?

Customer and program partner satisfaction with the program

44. What were your customers' experiences with the steam trap equipment? Are customers who received the steam trap equipment satisfied with the SBES program?

45. Are you satisfied with the SBES program? Are you satisfied with the Steam Trap Option of the SBES Program?

46. Were you satisfied with the support you received from Nexant, the program implementer? On average, how long did it take Nexant to process your payment after installation? Is this an acceptable amount of time?

47. Were you satisfied with the support you received from Nicor Gas?

Program Barriers

48. What challenges did you face in delivering the steam traps to customers? How did you overcome them?
49. Was the Steam Trap Option of the SBES Program successful for your organization?
50. Were there any barriers to customer participation? If yes, what barriers? How did you get around these barriers?

Opportunities for program improvement

51. What areas of the SBES Program worked particularly well? How did the Steam Trap Option work for you? What worked less well than anticipated, if anything?
52. How could Nicor Gas improve the program to better meet customer needs? To better meet trade ally/contractor needs? How could trade allies help increase the energy and demand impacts of the program?

Potential market effects/Spillover

53. Are customers going on to do other projects to save energy after the steam trap is installed? How often does this occur? Have you referred customers to other ComEd or Nicor Gas business programs?
54. Did you conduct an assessment to identify other energy efficient equipment the customer needed?
55. Did you identify any opportunities to install electric measures like lighting? Did you pass these suggestions to ComEd or Nexant? What was the referral process?
56. Are the dry cleaner customers current customers of yours?
57. Prior to participating in the program, was your company offering these services?

Economic Indicators

58. Do you think current economic conditions are affecting customer participation in the program? If so, how?
59. Do you think the SBES Program is a competitive advantage for your firm?
60. Have your business revenues grown in the past year (Y/N)?
61. [IF YES] Would you attribute any of that growth to the Steam Trap Option of the Small Business Energy Savings Program? About what % (+/- 10%)?
62. Have you hired more employees because of work generated by the Small Business Energy Savings Program? How many?
63. In the next year will you hire more employees to handle increased work generated by the program? About how many?

64. Do you plan to continue participating in the SBES program through 2013-2014 program year?

CLOSING SECTION

That brings us to the end of my questions for you. Is there anything else that you would like to let us know based on the topics we covered today, including any ways to improve the program if possible, or how the program has affected your use of energy efficient measures or design in projects?

On behalf of Nicor Gas, we thank you for your time today. If in reviewing my notes, I discover a point I need to clarify, is it all right if I follow-up with you by phone or email? [IF YES, VERIFY PHONE NUMBER OR EMAIL]

7.8 Dry Cleaner Pilot Customer Interview Guide

**Nicor Gas Evaluation for the Small Business Energy Savings Program – Steam Trap Option
Draft Version August 13, 2013**

SBES Steam Trap Option Customer In-Depth Interview Guide

Respondent name:	
Respondent phone number:	
Respondent title:	
Email Address:	
Respondent Company	
Date:	
Status:	
Utilities	ComEd
	Nicor Gas

Discussion Guide Mapping Table

Section	Topics	Questions
Pilot administration	How you learned about the program. Process of participating in the program. Ease of understanding	Q4-Q7
Communications	Marketing materials - How effective were they in explaining the program to you? Communications with contractor; communications with Nexant	Q8-Q11
Program Satisfaction and Improvements	Satisfaction with the Small Business Energy Savings Program Satisfaction with the amount of incentives Program could be improvements	Q12-Q16

Section	Topics	Questions
	Satisfaction with contractor Impact of current economic conditions	
Awareness of Other ComEd/Nicor Programs	Plan to install other energy efficient equipment Knowledge of or participation in other programs Plan to participated in the future Contractor recommendation of other ComEd or Nicor programs	Q17-Q21
Customer Background	Firmographics	Q22-Q26

Identify Appropriate Respondent

1. Hello, this is <INTERVIEWER NAME> calling from Navigant Consulting on behalf of Nicor Gas about the Small Business Program you participated in this summer. This is not a sales call. May I please speak with <CONTACT>?

1 No, this person no longer works here → Is there someone else that was involved with the Small Business Energy Savings Program? [Repeat introduction with new contact]

2 No, this person is not available right now [Ask when available or leave message.]
CALL BACK LATER

3 Yes – SKIP to Q2

97 No, other reason (THANK & TERMINATE)

2. Hello, my name is <INTERVIEWER NAME> calling from Navigant Consulting on behalf of Nicor Gas. We’re calling to do a follow-up survey about your firm’s participation in the Small Business Program this past summer when you installed the steam traps. Do you recall participating in the Small Business Program on or about <PROGRAM DATE>?

1 Yes → continue to Q3

2 No → [Describe program and ask if they were involved. If still no recall → Can I speak with someone who is more familiar with your organization’s participation in the Small Business Energy Savings Program?]

3 There is no one here with information on that address/wrong address – THANK & TERMINATE

[IF NEEDED] Navigant is an independent consulting firm hired by Nicor Gas to learn about customer experiences with its Small Business Energy Savings program and to help the utilities improve their programs in the future.

[IF NEEDED] This is a very important fact-finding survey with companies that have recently participated in an energy efficiency program sponsored by ComEd and Nicor Gas. We are NOT interested in selling anything, and we are primarily interested in gaining your feedback on the Small Business Energy Savings program to help ComEd and Nicor improve the services they provide to their customers in the future. Your responses will not be connected with your firm in any way and will be summarized along with responses we get from other businesses that we talk with.

3. Are you the person responsible for your organization’s decision to participate in the program by installing the steam traps or were you the main point of contact for the program?

3. Person responsible for program participation

4. Main point of contact for the program

1 Yes → Great. We would like to ask you some questions about this program, which should only take about 15 to 20 minutes. Is now a good time, or is there a time we can call you back tomorrow?

2 No → Ask for contact name and repeat introduction in Q2.

Now I’d like to ask you about your program experiences.

Program Administration

4. Do you remember how you first learned about the Small Business Energy Savings Program? [Contractor, chamber, business associate, newspaper, etc.]? How did you hear about the steam trap option?

5. Can you spend just a few minutes and describe the process that you went through to complete your participation in the SBES Program? When did you discuss the program with your local contractor?

6. Was the process of participating in the program easy to understand?

- d. Did you consult any other information source in your community before you decided to participate in the program? Did you have any reservations about the offer from the utilities?
 - e. Did [you/they] experience any difficulties in preparing/submitting the incentive application? What was the source of difficulty/delay? What level of support was provided by the contractor who implemented the program?
 - f. How could Nicor Gas and Nexant simplify this process?
7. Has a representative from Nexant visited to verify the installation of energy efficient equipment? How did that process work? Were you satisfied with this process? If not, what could be improved?

Communications

- 8. Did you receive any marketing materials explaining the SBES Program? Who provided the materials? How effective were they in explaining the program to you? How could they be improved?
- 9. How would you describe communications between your organization and the contractor representing Nicor Gas during your program participation?
- 10. Did you have any contact with the program implementer, Nexant? [IF NO, SKIP NEXT QUESTION] How would you describe communications between your organization and Nexant during your program participation?
- 11. Were there any issues with the program implementer, Nexant? If so, please describe. How could these issues be improved?

Program Satisfaction and Improvements

- 12. Overall, how satisfied were you with the Small Business Energy Savings Program?
- 13. Are you satisfied with the amount of incentives offered through the Small Business Energy Service program?
- 14. How do you think the program could be improved?
- 15. How satisfied are you with the contractor who contacted you about the program? Did you have a relationship with the contractor before you participated in the program?
- 16. Are current economic conditions affecting your ability to participate in the program? If so, how?

Awareness of Other ComEd/Nicor Programs

17. Did you install energy efficient equipment at the same time as the stream traps?
18. Do you plan to install other energy efficient equipment through the Small Business Program within the next year? What do you plan to install?
19. Aside from the Small Business Program that we have been discussing today, are you aware of other programs that are designed to promote energy efficiency for businesses like yours? What types of programs or resources can you recall?
 - PROBES: Do you know what organization/company administers that program? After each response prompt with "Can you recall any others?"
20. Have you participated in any of these programs? Which ones? What did you install? Do you plan to participate in any of these programs in the future?
21. Did the contractor recommend any other ComEd or Nicor Gas programs to you? What were you planning to install any equipment through the Standard or Custom Programs?

Customer Background

We are almost finished. I'd just like to get some general background information about <COMPANY> and your responsibilities there.

22. Can you briefly summarize your role at your company? What are your main responsibilities?
23. About how many full-time employees work at this location?

&EMP # of employees

98 Refused

99 Don't Know

24. Does <COMPANY> own or lease this facility?

1 Own

2 Lease

98 Refused

3/4/201199 Don't Know

IF THE COMPANY LEASES THE FACILITY:

25. Do you pay the electric bill? Do you pay the gas bill?

26. Do you have any other comments or suggestions for us about the SBES Program?

That's all of the questions I have for you today. Thank you so much for your time, your insights are extremely valuable to Nicor Gas and ComEd. Have a great day!

We might follow-up with you by phone later, if additional questions arise.

7.9 ComEd-Nicor Gas SBES PY2 PM Interview Guide

Nicor Gas PY2 Evaluation – Nicor and ComEd

**Program Staff and Implementer In-Depth Interview Guide
(Interviews to be Conducted Separately)**

May 31, 2013

Name of Interviewee: _____ Date: _____

Title: _____ Company: _____

Role in Program: _____

[Note to Reviewer] The Interview Guide is a tool to guide year 2 process evaluation interviews with utility staff and implementation contractors. The guide helps to ensure the interviews include questions concerning the most important issues being investigated in this study. Follow-up questions are a normal part of these types of interviews. Therefore, there will be sets of questions that will be more fully explored with some individuals than with others. The depth of the exploration with any particular respondent will be guided by the role that individual played in the program’s design and operation, i.e., where they have significant experiences for meaningful responses. Where possible, interview date/times will be arranged in advance.

The interviews may be audio taped only with the interviewee’s knowledge and consent.

If respondents ask, tell them yes, their answers will remain confidential.

Introduction

Hi, may I please speak with [NAME]?

My name is ___ and I’m calling from Navigant Consulting, We’re conducting interviews with program managers and key staff in order to improve our understanding of your PY2 savings results and PY2 and planned PY6/PY3 changes to the program. At this time we are interested in asking you some questions about the Nicor Gas/joint utilities’ _____ program. The questions will only take about an hour. Is this still a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

Ok, great. [Optional: If you don’t mind, I would like to do a voice recording our conversation to speed up the note taking. Is that OK? I’m going to switch you to speaker phone. I am in an enclosed, private office.]

ComEd/Nicor Overall Goals and Objectives

1. According to our preliminary tracking data extract [which is current through roughly the end of Q3], you achieved [amount] in savings in PY5/PY2 through [month].
 - a. How does that compare to your yearend PY5/PY2 kWh/therm goal at that point? How far ahead or behind are you?
 - b. Do you think you will meet kWh/therm goal at the end of the program year? Why do you think you are ahead or behind in kWhs/therms?
 - c. ComEd only: Do other goals such as participation level or kW follow this same pattern? If they do not: Why does kW deviate? Why does participation level deviate?
2. How do your PY6/PY3 savings goals compare to your PY5/PY2 goals? kWh, kW/therms, Number of participants. What do you think about your PY6/PY3 goals? Do you think your PY6/PY3 goals are achievable? Why or why not?
3. Outside of the quantitative goals (e.g., \$, \$/kWh/therm, savings and participation rates), what were the key goals and objectives of this program for PY2? How did you perform against those goals?
4. What percent of the total kWh savings was earned through the (ComEd: Geo based pilot/Nicor: the Korean Cleaners focus)?

ComEd Changes in Program Structure in PY5/

5. How did the Geo Based Pilot program change in PY5?
[Prompt for each of the below, adding anything specific to your program.]
 - PM or IC and their roles? Change in David's role?
 - Incentive structure? Higher incentives in Pilot Areas?
 - Marketing materials or approach? What collateral materials were used in blitzed areas? Please provide copies.
 - Participant targets? Define the target business. Does it differ from the target in the base program?
 - Key program processes?
 - Data tracking systems – Are pilot participants identified in the database? If not, can you provide pilot program participants so we can identify them in the tracking database?
 - QA/QC – how many pilot participants received post installation visits? Were the same standards applies to the pilot as existed in the base. Who made these visits?
 - Customer participation – Was participation higher or lower than expected in the pilot areas? Did it differ by geography?
 - Trade ally participation – How do you recruit trade allies? How many trade allies do you need in a geographic area?
 - Trade ally training and recruiting? What training did the trade allies receive? Was it as rigorous as the training for the trade allies in the base program?

- Trade ally targets and population size? How many of the potential businesses do you target in a community?
- New measures or participant channels? Successful?
- Have you identified new geo-based pilot communities to target in PY6?

Nicor Changes in Program Structure in PY2

6. How did the Korean Cleaners program focus change the Program in PY2? [Prompt for each of the below, adding anything specific to your program.]
 - PM or IC and their roles? Addition of new PM for Nicor.
 - Incentive structure? Offer of higher incentives to Pilot participants?
 - Marketing materials or approach? Who works with the Korean organizations? Is there only one or more than one? Did you develop specific collateral materials for this technology? .
 - Participant targets? Define the target business. Does every cleaner belong to the organization? Do the targeted cleaners differ from other cleaning businesses in the service area?
 - Key program processes?
 - Data tracking systems – Are pilot participants identified in the database?
 - QA/QC – how many pilot participants received post installation visits? Were the same standards applies to the pilot as existed in the base. Who made these visits? Nexant Staff?
 - Customer participation – Was participation higher or lower than expected in the pilot areas?
 - Trade ally participation – What type of trade ally installs steam traps? How do you recruit this type of trade ally? Are these trade allies likely to expand their marketing of the steam trap to other types of customers?
 - Trade ally training and recruiting? Did the trade allies received extra training in steam trap installation? What training did the trade allies receive? Was it as rigorous as the training for the trade allies in the base program?
 - Trade ally targets and population size? How much of the potential businesses do you plan to target with the program?
 - New measures or participant channels? Successful?

ComEd/Nicor

7. What participant feedback have you gotten this year – complaints, successes, etc. from the base program? From the Pilot or Korean cleaner focus? If complaints, how did the program respond?
8. Did you identify any particular issues or challenges this year that you plan to address in PY3?

ComEd/Nicor Planned Changes in Program Structure in PY3

9. What specific program changes are you planning for PY3? Why?
 - a. PM or IC and their roles?
 - b. Incentive structure?

- c. Marketing materials or approach?
- d. Participant targets?
- e. Key program processes?
 - i. Data tracking systems
 - ii. QA/QC
 - iii. Customer participation
 - iv. Trade ally participation
- f. Trade ally training and recruiting?
- g. Trade ally targets and population size?
- h. New measures or participant channels?

ComEd/Nicor PY5/PY1 Follow Up [Please refer to the returned email]

- 10. Have you encountered any issues to implementing the KPI tracking or VDDTSR recommendations? Please describe.
- 11. *[For each KPI that will not be tracked or VDDTSR recommendation that won't be implemented, ask:]* Please describe why the KPI/recommendation won't be implemented? Are we likely to see the same result in PY2?
- 12. Have you encountered any issues in implementing the program changes recommended in the report?
 - a. Include a common id to match electric and gas projects at the same site. Was this change made to the database?
 - b. Require TAs to use the customer name on the application? Was the requirement communicated to Trade Allies?
 - c. Nexant and Franklin could combine their training for TAs. Was this implemented?
 - d. Offer an abbreviated training for fully trained Trade Allies? Was this change implemented?
 - e. Encourage TAs to use marketing materials.
 - f. Financing – Small customers are cut off from the finance market.
- b. Official Id System/Branding to help TA in neighborhoods with less trust.

ComEd/Nicor Data in Addition to Tracking System

- 13. Is there any useful information such as marketing plans, collateral materials such as fact sheets, brochures, etc.? If so, when can you upload it to our SharePoint?

Other

- 14. Is there anything else we should know about how the program implementation is progressing?
- 15. Do you have any other comments or suggestions for us?



**Thank you very much for taking the time in assisting us with this evaluation. Your contribution is a very important part of the process.
We might follow-up with you by phone later, if additional questions arise.**

7.10 Follow-up Memo For SBES GPY1 Recommendations

To: Tom Kovolak, Selena Walde-Worster, David Nichols, David Hernandez
Copy: Jennifer Hinman, David Brightwell, Randy Gunn, Julianne Meurice, Laura Agapay, Jennifer Barnes, Jeff Erickson, Kevin Grabner, Mary Thony
From: Paul Higgins
Date: June 25, 2013
Re: Joint ComEd/Nicor Gas GPY1/EPY4 Follow Up for Small Business Energy Savings GPY1 Recommendations

This document summarizes our review of the GPY2/EPY5 Small Business Energy Savings Program (SBES) status of implementing recommendations made for 1) key performance indicators (KPI) in our program logic model review, and 2) processes in our review of verification, due diligence, and tracking systems (VDDTSR) of the program in GPY1/EPY4.

This memo is based on information disclosed by the implementation contractor to Navigant that is confidential.

Summary

Key Performance Indicators

- **Finding.** The program implementation staff has implemented all of the recommended KPIs excluding one (participation in other programs) that can be addressed by Navigant.
- **Recommendation:** Navigant should compare program participation files to verify SBES customers' participation in other programs.

Review of Verification, Due Diligence, and Tracking Systems

- **Finding.** The program has implemented or is in the process of implementing most of the recommendations for VDDTS. Navigant recommends prioritizing the remaining recommendations equally.
- **Recommendation:** The program should prioritize all of the remaining recommendations as they all relate to the ability of Nexant to provide Navigant with the data needed for program evaluation purposes.

Status of Implementation of KPIs

Table 7-17 below lists the current implementation status of key performance indicators that Navigant recommended in the GPY1/EPY4 memo reviewing the program's logic model.

Table 7-17. Status of Implementation of KPIs from GPY1/EPY4 Program Logic Model Review

KPIs from LMPT Memo			Status of Implementation July 2013	KPI Value July 2013
Outputs	Key Performance Indicators	Data Sources and Potential Collection Approaches		
<i>Recommendations report and installation of no-cost measures</i>	<i>Number of energy assessments conducted by energy advisors</i>	<i>Interviews with energy advisors, program tracking data</i>	Implemented	2,269
<i>Lighting and HVAC contractors screened and recruited</i>	<i>Number of participating contractors</i>	<i>Program tracking data, interviews with program staff</i>	Implemented	38
<i>Contractors trained, measure costs negotiated, and contracts signed</i>	<i>Number of participating contractors; number of contracts signed</i>	<i>Program tracking data, interviews with program staff</i>	Implemented	38 – started PY2/5 with 32 TAs
<i>Contractor trainings, yearly kickoff meetings, business group presentations, expos, radio ads, bill inserts, direct mail etc.</i>	<i>Number of contractors attending trainings; number of group presentations ; number of ads, bill inserts, direct mail pieces dropped</i>	<i>Marketing/communication records; interviews with program staff and contractors</i>	Implemented	2 main TA Trainings (Fall/Spring) both were mandatory; 29 Group Presentations; Postcards/direct mail pieces dropped - approx. 5100
<i>Contractors with performance issues identified and monitored</i>	<i>Number of contractors warned or dropped from program</i>	<i>Program tracking data</i>	Implemented	Performance monitored and TAs that were not performing/meeting program standards were removed

KPIs from LMPT Memo (continued)			Status of Implementation July 2013	KPI Value July 2013
Outputs	Key Performance Indicators	Data Sources and Potential Collection Approaches		
<i>Customers have a better understanding of what measures are appropriate and cost-effective for their businesses</i>	<i>Number of small business customers participating in the program</i>	<i>Program tracking data</i>	Implemented	Customer projects increased to 1858 in PY2 from 414 in PY1
<i>Customers are able to locate qualified contractors from website</i>	<i>Percent of participants obtaining contractors from Nicor's website</i>	<i>Participating customer interviews</i>	Implemented	One out of 77 (1%) of program participants accessed the Nicor or the ComEd Web site
<i>Increased contractor awareness and knowledge of energy efficiency programs</i>	<i>Number of small business customers participating in other Nicor programs</i>	<i>Program tracking data</i>	Implementation Pending SBES Process Survey	Add question to the next process survey.
<i>Nexant provides outreach to business groups and individually to contractors and customers</i>	<i>Number of meetings with business groups, contractors and trade allies</i>	<i>Program tracking data</i>	Implemented	Met with TAs individually at the beginning of PY2 and new TA's had an initial recruitment mtg; approx. 28 presentations were given at chambers, association, industry events
<i>Customers (and Nicor) assured that contractors doing high quality work</i>	<i>Number of shadowing or post-inspections with quality concerns, number of customer complaints about program; customer satisfaction with contractors</i>	<i>Program tracking data; customer survey</i>	Implemented	Can provide customer complaint log. Customer satisfaction data provided by MindsEye; Process Evaluation Survey

Status of Implementation of VDDTS Recommendations

Table 7-18 below lists the current implementation status of key performance indicators that Navigant recommended in the GPY1/EPY4 memo reviewing the program’s logic model.

Table 7-18. Status of Implementation of Recommendations from GPY1 Review of VDDTS

VDDTSR RECOMMENDATION	STATUS OF IMPLEMENTATION – JULY 2013
QUALITY ASSURANCE AND VERIFICATION RECOMMENDATIONS	KNOWN STATUS/CONFIRMED STRATUS
<p>Consider revision of the program Operations Manual: Implementation Contractor should consider including in the Operations Manual brief guidelines for installing the direct install water devices and CFLs, identify the minimum gallons per minute (GPM) eligibility standard for the water devices, and describe procedures and frequency for conducting water-flow testing during the pre-installation site survey. If these guidelines are available elsewhere (the Implementation Contractor mentioned Energy Advisor Manual), the Operations Manual should provide appropriate references to such documentation. The manual should clarify trade ally’s installation inspection targets and how they tie into annual program posts inspection targets.</p>	<p>Implemented – reference Nexant Energy Advisor manual.</p>
<p>Consider modification of the Site Energy Assessment Report: Site Energy Assessment Report should include information about the condition of the baseline equipment that was replaced since these are key assumptions in the savings estimation. The form should indicate the “rated” GPMs for the efficiency water devices, or some useful specs from HVAC measures. This may be provided as an appendix to avoid customer confusion.</p>	<p>The recommendation will not be Implemented – Customer feedback indicated that current report is already confusing. Concern that adding more info would only increase this confusion.</p>
<p>Ensure handwritten notes are legible: Implementation Contractor should ensure additional handwritten notes on Energy Assessment Reports or Installation Agreement Forms are easy to read, particularly when the scope of work changes and the installation agreement needs to be modified with new measures and quantities. This is important to avoid any possibility of tracking data entry errors (e.g., handwritten notes were difficult to read in the Installation Agreement Form for project SBES-000044).</p>	<p>Implemented – The installation agreements are reviewed for each project to make sure they are legible</p>

QUALITY ASSURANCE AND VERIFICATION RECOMMENDATIONS (CONTINUED)	KNOWN STATUS/CONFIRMED STRATUS
<p>Ensure installation Agreement Form is complete and dated, and establish a process for trade allies to confirm the scope of the revised Installation Agreement when a change is made: Navigant observed some Installation Agreements were not dated or completed to confirm customer approval of the selected installation measures. To the extent possible, customers should be required to provide completed, marked, signed, and dated Installation Agreement Forms to verify which measures they consented to install.</p> <p>In addition, although the Implementation Contractor strives to minimize paperwork and relies on invoices to verify savings and costs, Navigant suggests this process does not provide enough quality control of the work completed by the trade ally when the original Installation Agreement is modified. Customers should be required to sign next to or initial any changes to the original Installation Agreement. Then the Operations Manual should be revised to clarify what the new practice is when a work order changes.</p>	<p>Implemented – TAs are required to submit a revised Installation Agreement w/customer initials for revisions. For the pilots we made an exception if the revision was decrease in items installed due to time constraints customers & TAs were under for turnaround between assessment and projects and high volume, or if the quantities were verified via inspection.</p>
<p>Ensure only Implementation Contractor technical staff or trade allies perform installations: Energy Advisors should not allow customer installation of the no-cost measures even if the customer drops out of the program. In the case of project “SBES-_000635”, after the Energy Advisor allowed the customer to install the measures, he was not allowed to visually inspect and verify the installation. Energy savings claims for this project could be rejected.</p>	<p>Implemented – Customer installation of DIs is not allowed.</p>
<p>Complete post inspection for both gas and lighting capital investment installation: Implementation Contractor should consider post inspection of both contractor installed gas and lighting installations, but not only lighting measures as we observed with projects “SBES-_000049” and “SBES-_000518”. The Operations Manual should clarify if only capital investment measures require post inspection, or including direct install measures, and whether the 10% post inspection requirement is based on trade allies installations only or included any direct install inspections.</p>	<p>Implemented – 10% CI projects inspected, all measures installed; N/A – Direct installs are performed by Nexant – no post installs.</p>

QUALITY ASSURANCE AND VERIFICATION RECOMMENDATIONS (CONTINUED)	KNOWN STATUS/CONFIRMED STRATUS
<p>Conduct random sampling of capital investment projects for post installation inspection: Operations Manual indicates post-inspections of 10% of all completed projects could be random or manual selection at the discretion of the Implementation Contractor. At a minimum, Navigant would expect the samples to be selected randomly from those projects requiring inspection, unless the program’s Operations Manual clarifies the objective of manual selection.</p>	<p>Implemented – 11% of projects have been inspected</p>
<p>Develop a simplified Access or Spreadsheet database format that serves program evaluation efforts: If the TrakSmart database system contains all the missing fields discussed above and others, then a centralized database in Access or Excel Spreadsheet format that shows all the inputs to the TrakSmart database system could be developed that would provide easy access to the program evaluation team and program staff.</p>	<p>N/A – Data provided to evaluator is from Utility tracking systems.</p>
<p>Develop data dictionary and process guide to the tracking database: Implementation Contractor should provide a data dictionary or process guide for the TrakSmart Data Management system. This guide will enable the evaluation team and program staff to learn the process for creating customer accounts, setting up a project file, and recording project information, and what QC activities are pursued before the completion of every project data entry.</p>	<p>N/A - TrakSmart guide is in existence for program staff</p>
<p>Consider including additional information in the tracking system: Implementation Contractor can improve on the data input to the spreadsheet tracking reporting, including the information listed below. If these are tracked in the TrakSmart, they should be made available for PY1 evaluation review:</p> <ul style="list-style-type: none"> • Complete addresses, phone numbers and email addresses for trade allies • Baseline equipment conditions/efficiency (if tracked) • The retrofit equipment brand and model specifications • Post installation inspection findings documented in field inspection checklist • Indication of referrals from the Multi-family program’s central plant survey • Invoice numbers from capital investment projects 	<p>N/A – TrakSmart & Utility tracking systems track TA info, baseline equipment info as required, installation inspection findings, & TA invoice numbers</p>
<p>Ensure accurate and complete tracking of project information: Implementation Contractor should ensure complete and accurate transfer of customer application information into the tracking system. Navigant noticed project “SBES-_000049” Installation Agreement showed the customer signed a capital investment agreement to implement a boiler reset control measure, but no record of the installation was found. The invoice and the tracking system report showed that a boiler tune-up was</p>	<p>Implemented – this is part of the implementation strategy of ensuring the signed installation agreements match the TA invoices</p>

performed instead of a boiler reset control measure.	
<p>Clarify special cases of installing water devices as part of capital investment: Navigant identified over 20 projects in the 5/31/2012 tracking spreadsheet report where it appears customers installed kitchen and bathroom aerators as part of capital investment installations, and both customer and trade ally received incentives. It is not clear if the program requirements allow installation of water devices as part of the capital investment measures. Navigant recommends the Implementation Contractor should include additional notes in the Operations Manual or tracking system for clarification of special cases.</p>	<p>N/A – Aerators were added as a CI measure part way through PY1 and for the entire PY2. These therefore can be installed by TAs</p>
<p>DATA TRACKING SYSTEM AND REPORTING RECOMMENDATIONS</p>	<p>KNOWN STATUS/CONFIRMED STRATUS</p>
<p>Define and identify key information needed to track and report early in the program development process: The SBES program data requirements are defined early in the program development process and are tracked in the program tracking database. This memo is one step in the process of identifying key information. All the inputs into the TrakSmart tracking system were not available to Navigant to verify if all key program metrics are adequately tracked.</p>	<p>N/A – Data provided to evaluator is from Utility tracking system</p>
<p>1. <i>Use automated or otherwise regularly scheduled notification to achieve close monitoring and management of project progress.</i></p> <ul style="list-style-type: none"> The Implementation Contractor reports weekly to Nicor Gas on all projects. These reports are not automatically generated. The report highlights potential and realized energy savings and summarizes program key performance indicators, application changes and marketing challenges. 	<p>Implemented – Weekly Ops reports continued to be generated in PY2, as was the case in PY1. These address savings, marketing, and program challenges in the workbook and email coversheets.</p>
<p>2. <i>Design program tracking system to support the requirements of evaluators as well as program staff.</i></p> <ul style="list-style-type: none"> The Implementation Contractor indicates the TrakSmart tracking system is fully electronic and allows real-time reporting of routine functions like monthly portfolio and program reporting and financial tracking. The spreadsheet report provided by the Implementation Contractor to Navigant contained customer/trade ally and impact data. This data enables the Implementation Contractor and the evaluation team to track the timeline of each project and pinpoint important milestones in the process. The Implementation Contractor could do more. If all the missing data fields in the spreadsheet extract (indicated above in the summary recommendations) exist in the main TrakSmart database system, then a more complete Access or Excel file showing all the inputs to the TrakSmart database system could be extracted. This step would 	<p>Tracking and metrics continues to be an ongoing effort. Systems configurations are considered along with these recommendations for future changes. N/A – Data provided to evaluator is from Utility tracking system</p>

<p>give the evaluation team access to evaluate the entire database.</p>	
<p>3. <i>Set reasonable and accurate expectations for energy savings and measure performance</i></p> <ul style="list-style-type: none"> The Implementation Contractor meets with potential participants before program participation to discuss their expectations for energy and bill savings. The site energy assessment tool provides estimated savings to the customer during the initial site energy assessment. 	<p>Implemented</p>
<p>DATA TRACKING SYSTEM AND REPORTING RECOMMENDATIONS</p>	<p>KNOWN STATUS/CONFIRMED STRATUS</p>
<p>4. <i>Integrate or link with other appropriate systems such as cross-program databases, customer information systems (CIS) and marketing or customer relationship management (CRM) systems</i></p> <ul style="list-style-type: none"> It appears key program applicant metrics, milestones and therm savings are captured in the TrakSmart tracking database. But the Implementation contractor mentioned to Navigant that the TrakSmart tracking system did not integrate or link with other appropriate databases such as customer and trade ally survey feedback, marketing and outreach information, complaint logging, leads or common area referral database. Navigant suggests linking up these files or submitting all these data for review would streamline the evaluation efforts. 	<p>N/A – Utility tracking systems link to other customer systems</p>
<p><i>Verify accuracy of invoices to ensure the reporting system is recording actual product installations by target market.</i></p> <ul style="list-style-type: none"> Customers or contractors are required, as part of the SBES program terms and conditions, to submit copies of all invoices or other reasonable documentation of the costs associated with purchasing the qualified equipment. As part of the application review process, program staff compares invoices and purchase orders to the application information to verify measure installation. Incentives are paid only after the Implementation Contractor verifies the invoices are genuine and that all equipment meets the program requirements. The Implementation Contractor strives to minimize paperwork and relies on invoices to verify final project savings and costs. Navigant suggests this process does not provide enough quality control of the work completed by the trade ally. Customers should be required to sign next to or initial any changes to the original installation agreement. Then the Operations Manual should be revised to clarify what the new practice is when a work order changes. 	<p>Implemented – TAs are required to submit a revised Installation Agreement w/customer initials for revisions. For the pilots we made an exception if the revision was decrease in items installed due to time constraints customers & TAs were under for turnaround between assessment and projects and high volume, or if the quantities were verified via inspection.</p>