NAVIGANT

Energy Efficiency / Demand Response Plan: Plan Year (6/1/2011-5/31/2012)

Evaluation Report: Small Business Energy Savings Evaluation

FINAL

Presented to
Commonwealth Edison Company
Peoples Gas and North Shore Gas

June 17, 2013

Prepared by:
Randy Gunn
Managing Director
Navigant Consulting
30 S. Wacker Drive, Suite 3100
Chicago, IL 60606

Phone 312.583.5700
Fax 312.583.5701

www.navigant.com

© 2013 Navigant Consulting, Inc.

NAVIGANT

Submitted to:

ComEd
Three Lincoln Centre
Oakbrook Terrace, IL 60181

Peoples Gas
North Shore Gas
130 East Randolph Street
Chicago, IL 60601

Submitted by:

Navigant Consulting, Inc.
30 S. Wacker Drive, Suite 3100
Chicago, IL 60606
Phone 312.583.5700
Fax 312.583.5701

Contact:

Randy Gunn, Managing Director
312.938.4242
Randy.Gunn@Navigant.com

Jeff Erickson, Director
608.497.2322
Jeff.Erickson@Navigant.com

Prepared by:

Argene McDowell, Senior Consultant
608.497.2330
Argene.McDowell@Navigant.com

Kevin Grabner, Associate Director
608.497.2323
Kevin.Grabner@Navigant.com

Disclaimer: This report was prepared by Navigant Consulting, Inc. ("Navigant") for ComEd and Peoples Gas and North Shore Gas based upon information provided by ComEd, Peoples Gas and North Shore Gas and from other sources. Use of this report by any other party for whatever purpose should not, and does not, absolve such party from using due diligence in verifying the report's contents. Neither Navigant nor any of its subsidiaries or affiliates assumes any liability or duty of care to such parties, and hereby disclaims any such liability.

NAVIGANT

Table of Contents

E. Executive Summary 1

E.1 Evaluation Objectives 1
E.2 Evaluation Methods 1
E.3 Key Evaluated Parameters and Participation Metrics 2
E.4 Key Impact Findings and Recommendations 5
E.4 Key Process Findings and Recommendations 9

1. Introduction to the Program 12

1.1 Program Description 12
1.2 Evaluation Questions 13

2. Evaluation Methods 14

2.1 Primary Data Collection 14
2.1.1 Tracking Data 15
2.1.2 Program and Implementation Staff Interviews 15
2.1.3 Market Actor (Trade Ally) In-Depth Interviews 16
2.1.4 Sampling Plan 16
2.1.5 Project Application File Review 16
2.1.6 On-Site Visits 16
2.1.7 CATI Telephone Survey of Participating Customers 16
2.1.8 In-Depth Interviews with Utility Program Managers, Program Implementer Staff, and Trade Allies 17
2.2 Impact Evaluation Methods 17
2.2.1 Defining Ex Ante Measure-Level Energy Savings 17
2.2.2 Verification Method 18
2.2.3 Net Savings Approach 18

3. Evaluation Results 20

3.1 Impact Evaluation Results 20
3.1.1 Verification and Due Diligence Procedure and Tracking System Review 20
3.1.2 Measure Per-Unit Savings Review 20
3.1.3 Findings from the CATI Survey Impact Research Questions 22
3.1.4 Gross and Net Program Impact Parameter Estimates 24
3.1.5 Gross and Net Program Impact Results 27
3.2 Process Evaluation Results 30
3.2.1 Meeting Program Goals 30
3.2.2 Customer and Trade Ally Satisfaction with the SBES Program 30
3.2.3 Program Awareness 34
3.2.4 Marketing, Implementation, and Delivery 36
3.2.5 Program Improvements 40

4. Findings and Recommendations 44

4.1 Key Impact Findings and Recommendations 44
4.2 Key Process Findings and Recommendations 46

5. Appendix 49

5.1 Glossary 49
5.2 Detailed impact evaluation methods 53
5.2.1 Measure-level per-unit savings 53
5.2.2 CATI telephone surveys 53
5.2.3 Gross Savings Evaluation Research Findings 59
5.2.4 Verified Gross Savings with Aerator and Showerhead Errata Fixed 60
5.2.5 Net-to-gross analysis 60
5.2.6 Basic Rigor Free-Ridership Assessment 61
5.2.7 Participant Spillover 61
5.2.8 NTG Scoring for Customer Participant Data 62
5.2.9 Trade Ally Net-to-Gross Assessment and Final NTGR 62
5.3 Detailed process results 65
5.3.2 Marketing 67
5.4 TRM Recommendations 69
5.5 VDDTSR Memo-Final version and Franklin Response 70
5.6 Data Collection Instruments 80
5.6.1 Program Staff and Implementer In-Depth Interviewer Guide 80
5.6.2 Trade Ally In-Depth Interviewer Guide 84
5.6.3 Energy Advisor In-Depth Interviewer Guide 90
5.6.4 Program Implementer In-Depth Interviewer Guide 92
5.6.5 Small Business Energy Savings Program Participant Survey 97

NAVIGANT

List of Figures and Tables

Figures:

Figure 3-1. ComEd and Peoples Gas/North Shore Gas Participant Satisfaction with SBES Program by Installation Type 31
Figure 3-2. Satisfaction with Program Attributes by Utility 32
Figure 3-3. ComEd and Peoples Gas/North Shore Gas Customers Awareness of Program Benefits 34
Figure 3-4. ComEd Participants and Peoples Gas/North Shore Gas Participants – Source of SBES Program Information 35
Figure 3-5. ComEd and Peoples Gas/North Shore Gas Participants – Preferred Method of Contact 36
Figure 3-6. ComEd and Peoples Gas/North Shore Gas Participants - Usefulness of Marketing Materials 37
Figure 3-7. ComEd and Peoples Gas/North Shore Gas Survey Respondents – Type of Installation 39
Figure 3-8. SBES Program Improvements Mentioned by ComEd and Peoples Gas/North Shore Gas Customers 41
Figure 3-9. Drawbacks to the SBES Program ComEd Participants 43

Tables:

Table E-1. Program Parameters for the ComEd EPY4 SBES Program 3
Table E-2. Program Parameters for the PG/NS Gas EPY4 SBES Program 4
Table E- 3. Profile of the ComEd EPY4 SBES Population 5
Table E- 4. Profile of the PG/NSG GPY1 SBES Population 5
Table E- 5. Savings of the Small Business Energy Savings Program 6
Table 2-1. SBES Program Evaluation Data Collection Research Methodologies 15
Table 3-1. Participant Reponses to CATI Impact Questions 23
Table 3-2. Program Parameters for the ComEd EPY4 SBES Program 25
Table 3-3. Program Parameters for the PG/NSG GPY1 SBES Program 26
Table 3-4. Gross and Net Energy Savings, ComEd EPY4 SBES Program 27
Table 3-5. Evaluation Estimated Gross and Net Peak Demand Reduction, ComEd EPY4 SBES Program 27
Table 3-6. Gross and Net Energy Savings, PG/NSG GPY1 SBES Program 28
Table 5-1. Installed Electric Measures for ComEd 54
Table 5-2. Installed Gas Measures for Peoples Gas 55
Table 5-3. Installed Gas Measures for North Shore Gas 55
Table 5-4. Sample Disposition for Gross Impact, NTG and Process Analysis 56
Table 5-6. Profile of the PG/NSG GPY1 SBES Population and Gross Savings Evaluation Sample 57
Table 5-7. Participant Net-to-Gross Sample for ComEd EPY4 58
Table 5-8. Participant Net-to-Gross Sample for PG/NSG GPY1 58
Table 5-9. Research Findings Savings of the Small Business Energy Savings Program 59
Table 5-10. Verified Savings of the SBES with Aerator and Showerhead Errata Fixed 60
Table 5-11. Net-to-Gross Scoring Algorithm for Customer Participant Data 62

E. Executive Summary

E.1 Evaluation Objectives

This report covers the impact and process evaluation of the Small Business Energy Savings (SBES) Program in the first year of delivery[1], which is electric program year 4 (EPY4) and gas program year 1 (GPY1). The program provides natural gas energy efficiency measures to Nicor Gas, Peoples Gas, and North Shore Gas customers, and electric measures to ComEd customers. Nexant Inc. implements the program for customers served by ComEd and Nicor Gas. They sub-contracted the administration of the program to Wisconsin Energy Conservation Corporation (WECC). Franklin Energy Services implements and administers the program for customers served by ComEd and Peoples Gas or North Shore Gas. This evaluation report covers the total ComEd electric impacts from all of the gas service territories, the gas impacts for Peoples Gas and North Shore Gas (PG/NSG or Peoples Gas/North Shore Gas), and the process evaluation for the Franklin-delivered ComEd/Peoples Gas/North Shore Gas program. A separate report covers the impact and process evaluation of the ComEd/Nicor Gas by Nexant.

The objectives of the SBES Program evaluation are to quantify gross and net savings impacts for the program, determine key process-related program strengths and weaknesses, and identify ways the program can be improved.

The purposes of the impact evaluation are to determine the gross impacts and the net impacts of the program, review the reasonableness of the default values, and determine if the SBES Program met its program goals.

The purposes of the process evaluation are to develop a complete understanding of how the program works, comprehensively review program marketing and outreach materials, and identify potential barriers to program participation. In addition, the process evaluation studies the marketing materials, tracking systems, and process forms for the overall purpose of program improvement and evaluates customer and trade ally satisfaction with the program.

E.2 Evaluation Methods

The impact analysis included an engineering review of savings assumptions, verifying that the tracking system properly implemented calculations of ex-ante savings from deemed and custom inputs; an analysis of participating customer telephone survey data to verify participation and gather site-specific measure data; an engineering review of project documentation at the measure level for a sample of projects; and on-site visits for a small sample of projects to verify that invoiced equipment was installed.

The process analysis was conducted following completion of the telephone surveys of program participants. Process data were analyzed from trade ally interviews, participant surveys, program manager interviews, and implementer interviews to identify the most defensible conclusions and recommendations. Free-ridership was calculated algorithmically based on survey self-report data. The analysis relied on interview results from participating customers supported by data collected through in-

[1] There was a limited pilot in the previous year, but the pilot was not evaluated.

depth trade ally interviews. The existence of spillover was examined using survey self-report data and trade ally estimates of customer spillover.

This program has not been evaluated before and so according to the NTG Framework,[2] the Net-to-Gross (NTG) ratio is to be applied retroactively. The program falls under the following condition from the NTG Framework: "*For existing and new programs not yet evaluated, and previously evaluated programs undergoing significant changes — either in the program design or delivery, or changes in the market itself*[3] *— NTG ratios established through evaluations would be used retroactively, but could also then be used prospectively if the program does not undergo continued significant changes.*"

E.3 Key Evaluated Parameters and Participation Metrics

The key evaluated parameters for the ComEd and Nicor Gas EPY4/GPY1 SBES Program are shown in Table E-1. and Table E-2. , respectively.

[2] "Proposed Framework for Counting Net Savings in Illinois." Memorandum March 12, 2010 from Philip Mosenthal, OEI, and Susan Hedman, OAG.

[3] An example of a market change might be where baselines have improved significantly and the likely free riders are growing substantially because of it.

Table E-1. Program Parameters for the ComEd EPY4 SBES Program

Parameter	Value	Deemed or Evaluated?	Source Notes
Free-ridership Rate from Customer Participant Data	0.17	Evaluated	Evaluation of EPY4 participants with electric saving projects
Free-ridership Rate from Trade Ally Data	0.05	Evaluated	Interviews with EPY4 trade allies
Program Free-ridership Rate	0.05	Evaluated	Evaluation analysis
Participant Spillover Rate	0.00	Evaluated	Evaluation of EPY4 participant responses. Participant spillover rate was 0.003 and rounded to zero.
Non-Participant Spillover Rate	0.00	Evaluated	Interviews with EPY4 trade allies
Evaluation Research Findings NTGR	0.95	Calculated	NTGR = 1- Program Free Rider rate + Participant Spillover rate + Non-Participant Spillover Rate
Quantity	Varies	Evaluated	Ex-ante quantities for the primary sample were verified by CATI survey, and by file review and on-site verification for a subset of the CATI respondents.
Ex Ante Gross Savings per Unit	Varies		*PY4 Deemed Values*, *Appendix A*, implementer calculations for water saving measures and vending/cooler misers
Verified Gross Savings per Unit	Varies	Evaluated	Evaluation analysis, using *PY4 Deemed Values*, *Appendix A*, and implementer calculations except where noted.
Research Findings Gross Savings per-Unit	Varies	Evaluated	Evaluation analysis, using CATI lighting hours of use, CATI reported quantities, and *PY4 Deemed Values*, *Appendix A*, and implementer calculations except where noted.
Verified Realization Rate on Ex-Ante Gross Savings	1.03	Calculated	Calculated from sampled EPY4 measures.
Research Findings Realization Rate on Ex-Ante Gross Savings[4]	0.86	Calculated	Calculated from sampled EPY4 measures.

[4] Details on the research findings for gross realization are provided in Appendix 5.2.3.

Table E-2. Program Parameters for the PG/NS Gas EPY4 SBES Program

Parameter	Value	Deemed or Evaluated?	Source Notes
Free-ridership Rate from Customer Participant Data	0.18	Evaluated	Evaluation of GPY1 participants with gas saving projects
Free-ridership Rate from Trade Ally Data	0.02	Evaluated	Interviews with GPY1 trade allies
Program Free-ridership Rate	0.02	Evaluated	Evaluation analysis
Participant Spillover Rate	0.01	Evaluated	Evaluation of GPY1 participant responses.
Non-Participant Spillover Rate	0.00	Evaluated	Interviews with GPY1 trade allies
Evaluation Research Findings NTG Ratio	0.99	Calculated	NTGR = 1- Program Free Rider rate + Participant Spillover rate + Non-Participant Spillover Rate
Quantity	Varies	Evaluated	Ex-ante quantities for the primary sample were verified by CATI survey, and by file review and on-site verification for a subset of the CATI respondents.
Ex Ante Gross Savings per Unit	Varies		*Illinois TRM,* implementer calculations for measures not in the TRM (programmable thermostats, hot water turn-down and furnace tune-ups)
Verified Gross Savings per Unit	Varies	Evaluated	Evaluation analysis, using the Illinois and implementer calculations except where noted.
Research Findings Gross Savings per-Unit	Varies	Evaluated	Evaluation analysis, using CATI responses, and the Illinois TRM and implementer calculations except where noted.
Verified Realization Rate on Ex-Ante Gross Savings	0.99	Calculated	Calculated from sampled GPY1 measures.
Research Findings Realization Rate on Ex-Ante Gross Savings[5]	0.87	Calculated	Calculated from sampled GPY1 measures.

Table E-3 and Table E- 4 provide profiles of the ComEd and Peoples Gas/North Shore Gas EPY4/GPY1 SBES program participant populations, respectively.

[5] Details on the research findings for gross realization are provided in Appendix 5.2.3.

Table E- 3. Profile of the ComEd EPY4 SBES Population

Population Summary			
Installed Electric Measure Type	Number of Projects (N)	Ex-ante Gross Savings, kWh	kWh percent
Direct-Installed (DI)	478	577,571	6%
Contractor-Installed (CI)	401	8,629,410	94%
All Projects*	690	9,206,981	100%

Table E- 4. Profile of the PG/NSG GPY1 SBES Population

Population Summary			
Installed Gas Measure Type	Number of Projects (N)	Ex-ante Gross Savings, Therms	kWh percent
Direct-Installed (DI)	299	25,979	19 %
Contractor-Installed (CI)	222	108,935	81 %
All Projects*	396	134,914	100 %

E.4 Key Impact Findings and Recommendations

The impact evaluation of the SBES Program resulted in adjustments to the ex-ante gross savings for electric and gas measures under conditions that will be described later in this report. The verified gross savings shown in Table E- 5 assumes that gas measures covered by the State of Illinois Technical Reference Manual (TRM) are deemed for evaluation purposes in GPY1. [6] An alternative estimate for the program as a whole is provided in the Appendix. The savings in the Appendix does not assume any deeming, but consists of research estimates for all measures, whether a measure is in the TRM or not.

As shown in Table E- 5, verified gross energy savings were nearly equal to the ex-ante gross savings reported in the ComEd and PG/NSG tracking systems, resulting in a realization rate of 1.03 for electric savings, and 0.99 for gas savings (realization rate = verified gross / ex-ante gross from the tracking system).

[6] The September 14, 2012 final version of the first State of Illinois Energy Efficiency Technical Reference Manual (TRM) (effective as of June 1, 2012) was approved on January 9, 2013 by the Illinois Commerce Commission in Docket No. 12-0528. The verified gross savings shown in Table E- 5 recognizes that gas measures covered by the TRM are deemed for evaluation purposes in GPY1. Since the TRM was not final until after the end of GPY1, the TRM is applicable for evaluation purposes, but not GPY1 implementation. Evaluation research findings for gross savings in GPY1 are provided in the Appendix.

Table E- 5 also provides the verified findings for net energy savings based on research conducted with first-year program participants and trade allies to estimate the NTG ratios. The NTGR for electric savings was 0.95, while the NTGR for PG/NSG savings was 0.99. The NTGR for PG/NSG includes a 0.01 adder for participant self-reported spillover. Three small participant spillover projects were included in the ComEd NTG ratio, but the impact (about 0.003 added) was not significant at the two-digit level. Trade allies reported no non-participant spillover for gas measures. Trade allies provided anecdotal evidence of non-participant spillover for electric measures, but they did not provide enough information to quantify it.

Table E- 5. Savings of the Small Business Energy Savings Program

Savings Estimate	EPY4 ComEd Electric Energy Savings (kWh)	EPY4 ComEd Electric Peak Demand Reduction (peak kW)†	GPY1 Peoples Gas Natural Gas Energy Savings (Therms)[7]		GPY1 North Shore Gas Natural Gas Energy Savings (Therms)[9]	
			ICC-Approved TRM	Corrected TRM Algorithm	ICC-Approved TRM	Corrected TRM Algorithm
Ex-Ante Gross*	10,728,417[8]	NA	90,515	98,583	44,399	48,347
Ex-Ante Net**	8,582,734	NA	85,989	93,654	42,179	45,930
Tracking System Ex-Ante Gross[9]	9,206,981	1,704	NA	NA	NA	NA
Verified Gross	9,483,190	1,755	89,610	97,597	43,955	47,864
Verified Net	9,009,031	1,677	88,714	96,621	43,515	47,385

** Source: Electric ex-ante gross savings from ComEd online tracking system, October 29, 2012. Peoples Gas and North Shore Gas ex-ante savings from an extract dated October 23, 2012.*
*** ComEd ex-ante net savings shown here is an evaluation estimate that applied a NTGR of 0.80 to the ex-ante gross savings. PG/NSG ex-ante net savings includes a NTG ratio of 0.95.*
† All estimates of electric peak demand reduction are from evaluation analysis.

The relative precision at a 90 percent confidence level is ±5 percent for the electric gross impact savings verification sample, and ±3 percent for the electric NTG sample. The relative precision at a 90 percent

[7] The ex-ante gross savings for Peoples Gas and North Shore Gas shown in the columns labeled "ICC-Approved TRM Algorithm" have not been adjusted for errata found in the approved September 14, 2012 TRM that are corrected by removing the redundant GPM factor from the algorithm for aerators and showerheads. The ex-ante and verified gross and net savings that reflect the corrected algorithm are found in the columns labeled "Corrected TRM Algorithm." This issue is discussed in detail in chapter 3.

[8] Derived by Evaluation staff from ComEd's tracking system data.

[9] The basis for the EPY4 evaluation of electric measures was an October 29, 2012 extract of the ComEd tracking system from which evaluation identified gross savings of 9,206,981 kWh. ComEd verified that program-year data was being properly populated in the direct-install and installed prescriptive measure tables, for both Franklin and Nexant, for active measures in the October 29, 2012 extract (email from Roger Baker October 29, 2012).

confidence level is ±3 percent for the gas gross impact savings verification sample, and ±9 percent for the PG/NSG NTG sample.

The primary impact findings and recommendations are as follows:

Finding: For electric measures claimed by ComEd, the telephone survey responses from 89 of 90 participants confirmed measure installations. On one project, the respondent reported that only 12 of 18 claimed direct installed CFLs were installed. Invoices supplied for file reviews confirmed claimed measure counts, but two of the on-site verification visits found some differences between claimed quantities and observed lighting fixture types and quantities.[10] Adjustments to these three individual projects resulted in realization rates higher and lower than 1.0, but in aggregate the resulting savings for sampled projects was very close to 1.0. Rounded to two digits, the final evaluation verified gross realization rate was equal to 1.03.

There were no adjustments to quantities or measure types for gas measures claimed by PG/NSG based on the CATI survey, the file reviews, or the on-site visits, but there was a minor downward adjustment due to miscalculation of the TRM savings for faucet aerators made in the ex-ante basis. The TRM gross ex-ante savings should have been calculated as 5.14 therms per aerator rather than the 7.2 therms Franklin used. However, after GPY1 ex-ante savings were final, an error was found in the TRM: the corrected value for the TRM is 18.0 therms rather than 5.14 therms. The correction of the ex-ante per-unit savings from 7.2 to 5.14 gross therms is reflected in the savings reported under the rubric "ICC-Approved TRM", while the correction of the ex-ante per-unit savings from 7.2 to 18.0 therms is reflected in the savings reported under "Corrected TRM Algorithm."

- **Recommendation:** Implementers should reinforce with trade allies the importance of accurate invoicing that reflects final customer decisions regarding installed measures. On those lighting projects where differences were found between verified and claimed savings, it appeared customers and trade allies had altered the scope on one or two measures after the initial assessment but did not update the invoice. The changes we observed led us to believe these were reasonable modifications to accommodate facilities with a mix of spaces and fixtures, and did not result in significant deviations from claimed project savings or cost. The basic issue is ensuring that the type and quantity of energy efficient equipment installed was correctly invoiced and the database updated.
- **Recommendation:** Franklin has incorrectly applied the "GPM factor" in their bath aerator per unit savings, and should update their tracking system with approved TRM savings.

Finding: On five of 90 telephone interviews, participants had indicated they had added some lighting, roughly 1 to 2 percent of their installed quantities, to the same spaces after completing the project to increase light levels. This resulted in minor adjustments to reduce savings for those projects.

- **Recommendation:** While some level of post-installation adjustment to quantities is to be expected, implementers should monitor participant satisfaction regarding lighting levels.

[10] These were ComEd projects with PJ_ID 2759 and 4656.

Finding: Evaluation research findings for customer participant self-reported free-ridership were 17 percent for ComEd and 18 percent for PG/NSG. In contrast, trade ally feedback supported free-ridership estimates of 2% for gas and 5% for electric measures.

While nearly all participants reported a high level of influence by the program, several indicated some level of intention to pursue efficiency projects had the program not been available, captured as a partial score of non-zero free-ridership, while still recognizing the influence of the program.

Given the program's logic model and market structure, Navigant recognizes that a traditional participant self-report may overstate free-ridership. The program's basic premise is that small businesses are hard to reach through other energy efficiency programs. In this circumstance, participant responses to the counter-factual (*What would you do in the absence of the program?*) are not a very reliable indicator because the market barriers have limited to date, and would continue to limit, small business purchases and installations of qualifying equipment.

Thus, trade allies comprise the best source of information about the market's structure (both before and after the introduction of the program). For this reason, Navigant conducted telephone interviews with participating contractors to determine how the sales to small businesses changed (both in content and quantity) as the program began to serve utility customers in the Chicago area.

Individual trade ally responses to free-ridership questions were weighted by their respective fuel-specific program savings contributions and combined for a fuel-specific overall free-ridership rate. This approach resulted in an evaluation estimate of 2 percent free-ridership for gas measures, and 5 percent free-ridership for electric measures. We used the trade ally estimate as a cap or maximum value for free-ridership, concluding that the trade allies used the program to overcome market barriers to serve a hard-to-reach audience. This is supported by self-reported customer participant free-ridership responses that recognized the program influenced them to act on their indefinite intentions

Finding: The per-unit savings values provided by ComEd and PG/NSG were reasonable first year ex-ante savings estimates, given that participant equipment sizes and operating hours were assumed. Based on better information, we made minor adjustments to the per-unit savings for five electric measures. We adjusted the three water saving electric measures (i.e., aerators, showerheads, and pre-rinse sprayers) to apply usage assumptions and algorithms from the Illinois TRM to match the gas measure savings.[11]

There are three areas of higher uncertainty that require attention in the second program year: lighting hours of use, heating equipment capacities, and programmable thermostat per unit savings. Where lighting measures were installed, survey participants were asked a detailed set of questions to determine lighting schedules and percent of lights that are on during open and closed times. The average annual equivalent full-load hours for 26 ComEd respondents were 2,954 annual hours. This compares with default values in the Illinois TRM of 4,576 annual hours for fixture-based lighting and 3,198 annual hours

[11] The TRM is not required for electric measures in EPY4, however, evaluation considers the TRM to be the best available savings estimate for the water saving measures. The TRM savings for C&I aerators and showerheads were reviewed by the TRM Technical Advisory Committee and found to have an algorithm error that, when fixed, results in an upward revision to per-unit savings. For electric showerheads and aerators, evaluation used the corrected algorithm for evaluated savings. The errata correction had not been approved by the ICC as of the date of this report, however, so alternative gas savings estimates reflecting each of the algorithms were provided.

for screw-based lighting for the "Miscellaneous" building type. In particular, places of worship reported lower-than-average full load operating hours. This finding is of some concern: if the initial lighting assessment over-estimates the expected savings of measures, the actual payback will lengthen and alter cash-flow.

PG/NSG based their boiler measure savings on fixed, assumed equipment sizes in the first year, whereas the Illinois TRM[12] estimates savings using heating equipment gas input size as a measure-level custom input to the algorithms. We did not observe project-specific heating equipment sizes in the tracking system or listed in the project documentation we sampled. Programmable thermostats are a high volume measure in the SBES program not covered by the Illinois TRM, and should be reviewed for addition. Survey research on 25 respondents with programmable thermostats found that 3 reported neither they nor a contractor had programmed the thermostat and another 3 reported programming it but not to different temperature settings for occupied and unoccupied periods.

- **Recommendation:** Reinforce with trade allies that programmable thermostats must be programmed to different temperature settings for occupied and unoccupied periods.
- **Recommendations** for potential updates and revisions to the Illinois TRM are provided in Appendix 5.4.
- **Recommendation:** The Illinois TRM should consider adding one or more new building types for selective use by the Small Business program, such as a "low hours-of-use miscellaneous" building type that may be used for participants with lower lighting operating hours.
- **Recommendation:** Site assessment reports for places of worship and other low-use facilities should check projected savings against usage history to ensure savings estimates provided to customers are reasonable.
- **Recommendation:** The program should collect boiler and furnace heating system capacities to enable the program to claim actual rather than default savings.
- **Recommendation**: Confirm that the tracked savings in EPY5 match the Illinois TRM for water saving measures.

We did not observe that Franklin was tracking building types in GPY1, instead defaulting to a "miscellaneous" building type in per unit savings calculations. We did not adjust for this finding in the verified gross estimate, but project-specific adjustments were made in the research findings gross estimate.

- **Recommendation:** It will be necessary to assign and document a building type in GPY2 to calculate per-unit savings using the TRM.

E.4 Key Process Findings and Recommendations

The key process finding and recommendations are as follows:

Finding: With respect to savings goals, Peoples Gas did not reach their goal of 166,196 net therm savings in the first year, achieving 88,714 verified net therms, which is 53 percent of goal. North Shore Gas exceeded their goal of 31,407 net therm savings in the first year, achieving 43,515 verified net therms,

[12] State of Illinois Energy Efficiency Technical Reference Manual, Final version, September 14, 2012, effective June 1, 2012.

which is 139 percent of goal. ComEd exceeded their energy saving goal of 5,960,000 net kWh during the first year by achieving 9,009,031 verified net kWh, which is 151 percent of goal.

ComEd and North Shore Gas SBES programs exceeded their planning goals during the first year of the program, while Peoples Gas did not.

- **Recommendation:** Peoples Gas should recruit more HVAC contractors and encourage them to market the program aggressively and to work closely with lighting contractors in the city of Chicago. North Shore Gas staff should continue their successful marketing tactics.

Findings: Urban small business customers in Peoples Gas service area were the least trusting, the most likely to question the legitimacy of the program and the partnership between ComEd and Peoples Gas.

- **Recommendation**: ComEd and Peoples Gas should take steps to legitimize the program in the eyes of the target customer group, such as instituting an official ID system for approved trade allies.
- **Recommendation:** ComEd and Peoples Gas/North Shore Gas should consider developing a SBES trade ally brand through enhanced marketing efforts such as radio, TV and print advertising; a social media campaign; and more intensive communication with trade groups and neighborhood associations. Once the brand identity is established, trade allies could place a decal, emblem, slogan or some other form of identification short of an identification card on their vehicles or person after their company reached a minimum participation level. The decal would declare them an approved ComEd/Peoples Gas/North Shore Gas Small Business Energy Services Program trade ally and have an easily recognizable name linked to the program.
- **Recommendation:** ComEd and Peoples Gas should encourage HVAC trade allies to market the SBES program during their annual tune-up call and then arrange for Franklin Energy to visit later to conduct the assessment.

Finding: Higher incentives, some type of financing mechanism, and more aggressive marketing and communication were all mentioned by market players and customers as ways to improve the SBES program. Both customers and trade allies raised the financing issue. Small business customers are shut off from the finance markets and may still be experiencing cash flow issues from the sluggish economy.

- **Recommendation:** ComEd and Peoples Gas should consider implementing an on-bill financing mechanism for SBES participants.

Finding: Over three-fourths of ComEd participant survey respondents and 70 percent of Peoples Gas/North Shore Gas participant survey respondents found the marketing materials either very useful or somewhat useful. Gas company participants were twice as likely as electric company participants to say that they did not see any marketing materials.

- **Recommendation:** Franklin Energy should use a few minutes of their training time with HVAC contractors to review the marketing materials and to encourage them to use the materials in their interactions with customers.

Finding: One of the most preferred methods of contact for customers is via emails; it is the most-preferred communications mode for electric customers, and the second-most preferred method for gas customers. Gas customers were most likely to mention door-to-door contact as their most preferred method of contact. In practice, customers were most frequently contacted by a trade ally or received information in a bill.

- **Recommendation:** ComEd and Peoples Gas/North Shore Gas should investigate ways to expand their use of email for marketing to small business customers. One entryway to a working email list would be to establish an email newsletter for small business owners.

Finding: Trade allies that want to operate in the Nicor Gas and Peoples Gas/North Shore Gas service territories are required to be trained once for each program. Trade allies think that requiring this level of training every year is unnecessary and tedious.

- **Recommendation:** Future trainings could be abbreviated since all the trade allies are experienced and have been thoroughly trained. Nexant and Franklin Energy should consider developing a combined training curriculum that includes information on both programs. While there are some important differences between the programs, the basic program steps are the same. Any new trade allies would require a more detailed training rather than the program update current participants would receive.

Findings: Many small business customers are too busy to pay attention to developments in the energy field and are, therefore, uninformed about the statewide energy efficiency surcharge or the requirement that gas and electric companies develop energy efficiency programs. Some customers remain skeptical that ComEd and Peoples Gas/North Shore Gas are sponsoring a program for small business customers.

- **Recommendation:** These concerns are not uncommon during the first year of programs like this one, and the program can be expected to become better-known over time. However, ComEd and Peoples Gas/North Shore Gas should consider implementing an expanded program of focused marketing to speed this process along.
- **Recommendation:** Peoples Gas/North Shore Gas should be cautious about terminating this program too quickly. Small business customers are 'low information' customers, and it will take time and resources for their knowledge base to catch up with larger customers.

Finding: The database does not always include customer information in the contact fields of the database. For these projects, customers with trade allies for the contact fields were excluded from the list of valid projects. The evaluation team encountered difficulty linking gas and electric measures installed at a given facility.

- **Recommendation:** Franklin Energy should require the trade allies complete the application with the customer's contact information and not his or her own information to increase the accuracy of the sample.
- **Recommendation:** Include a common project ID to link gas and electric measures installed at a facility.

1. Introduction to the Program

1.1 *Program Description*

The SBES Program is designed to achieve energy savings goals by educating ComEd/Nicor and ComEd/Peoples Gas/North Shore Gas non-residential customers about electric and natural gas opportunities through on-site assessments. Energy advisors from Peoples Gas/North Shore Gas implementer Franklin Energy or Nicor implementer Nexant conduct a high-level walk-through assessment of each site. Customers 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 the direct installation of low-flow faucet aerators and showerheads, pre-rinse spray valves, vending machine controls, and compact fluorescent lights. Nexant and Franklin Energy tested offering free installed programmable thermostats to encourage customers to participate in the assessments in GPY1.

In addition, further savings are offered to customers through generous incentives of 30 to 70 percent for select, low-cost natural gas and electric energy efficiency measures that may be installed by a local contractor at a second on-site visit. If the premise is rented, the program implementer coordinates with the landlord/property owners. These low-cost measures installed by the contractor differ by gas utility but may include:

- Lighting measures
- Guest room energy management
- Installation of programmable thermostats
- Steam traps, repair or replacement
- Boiler tune-up
- Boiler reset controls
- Furnaces of at least 92 percent AFUE
- Water heaters of at least 88 percent thermal efficiency
- Furnace tune-ups

Program staff maintains a list of assigned local trade allies and assigns contractors on a rotating schedule unless the contractor recommends the program to the customer.

Participants must be both active Commercial & Industrial (C&I) customers of ComEd with peak monthly demand of less than 100 kW and Nicor Gas or Peoples Gas/North Shore Gas customers who use less than 60,000 therms per year.

1.2 *Evaluation Questions*

The evaluation process for EPY4/GPY1 sought to answer the following researchable questions from a number of key areas. Each set of questions was assessed separately for ComEd, Peoples Gas/North Shore Gas, and Nicor Gas.

The impact evaluation questions focus on the following key areas:

- What are the evaluation-verified gross impacts from this program?
- What are the evaluation-verified net impacts from this program?
- Are the per-unit energy savings values reasonable?
- Did the SBES program meet its energy savings goals by utility? If not, why not?

The process evaluation questions focus on the following key areas:

- Was the implementation of the SBES program effective?
- Was the administration and delivery of the program effective?
- How effective were the program design and processes?
- Were customers and program partners satisfied with the program?
- What are the opportunities for improving the SBES program?
- Are customers sufficiently aware of the SBES program?
- What are the potential market effects of the program?

2. Evaluation Methods

2.1 *Primary Data Collection*

Data collection for the gross impact analysis included:

- Engineering review of default savings assumptions and examination of tracking system calculations of claimed savings.
- Participating customer telephone survey to verify participation and gather site-specific measure data.
- Engineering review of project documentation at the measure level for a sample of projects to verify participation and compliance with claimed default savings.
- On-site verification for a sample of projects to verify the equipment was installed as invoiced.

Free-ridership was calculated using an algorithm based on interview results from participating customers supported by data collected from in-depth trade ally interviews. The existence of spillover was examined using customer participant survey self-report data and trade ally self-report data on customer behavior.

The process analysis was conducted following completion of the telephone surveys of program participants. Process data from trade ally interviews, participant surveys, program manager interviews, and implementer interviews were analyzed to identify the most defensible conclusions and recommendations. The process participant survey and in-depth interview guides are included in Appendix 5.6.

Table 2-1. SBES Program Evaluation Data Collection Research Methodologies

Collection Method	Subject Data	Quantity	Gross Impact	Net Impact	Process
Engineering Review	Sample of Survey Participants	10 ComEd 8 PG/NSG	X		
Onsite Audits	Subset of Engineering Review Sample	7 ComEd 4 PG/NSG	X		
Telephone Survey	NTG Ratios and Process Evaluation Data Including Realization Rates	99 (ComEd Process) 90 (ComEd Impact) 38 (PG/NSG Process) 38 (PG/NSG Impact	X	X	X
In-Depth Interviews	Participating Trade Allies	10		X	X
In-Depth Interviews	Program Staff	1			X
In-Depth Interviews	Utility and Implementer Staff	6			X

2.1.1 Tracking Data

Navigant staff extracted the tracking data for electric measures from a copy of the ComEd online database uploaded to ComEd's evaluation team SharePoint, and the tracking data for PG/NSG measures from Franklin Energy. Telephone numbers were used to link electric and gas measures installed at a specific site represented by a participant contact. The sample for telephone interviews was based on data from a ComEd extract dated July 5, 2012 and PG/NSG data from August 27, 2012.

The final tracking data used to provide program reported ex-ante electric energy savings for this evaluation were uploaded by ComEd on October 29, 2012. The final tracking data used to provide program reported ex-ante gas energy savings for PG/NSG were dated October 23, 2012.

2.1.2 Program and Implementation Staff Interviews

The evaluation team conducted an interview with the ComEd Program Manager and the WECC Program Manager, representing Nicor Gas, for the Small Business Energy Savings Program. These calls covered key changes to the program design and implementation for EPY4/GPY1. The Navigant team also conducted multiple interviews with staff members at Nexant (4) and Franklin Energy (4) who were responsible for program implementation, program delivery, and marketing strategies.

2.1.3 Market Actor (Trade Ally) In-Depth Interviews

The Navigant team interviewed ten trade allies as part of the EPY4/GPY1 evaluation of the ComEd/Nicor Gas/PG/NSG SBES Program. The interviews focused on (1) how the program has affected business practices and market trends, (2) NTG questions, (3) barriers to installation of energy efficient equipment and customer participation in the program, and (4) satisfaction with the program and participation processes. Trade ally participants in the SBES program include lighting contractors, HVAC contractors, and environmental companies that specialize in providing energy efficient products.

2.1.4 Sampling Plan

The sampling strategy for the CATI surveys was designed to produce 90/10 confidence/precision levels for program-level savings estimates for ComEd participants and for PG/NSG participants. The sample was also designed to ensure inclusion of projects with direct-install measures as well as contractor-install measures, and projects with electric measures as well as gas measures.

For GPY1 and EPY4, a statistically significant sample based on 90/10 confidence/precision levels for program-level savings was achieved based on telephone verification interviews. The specific customer projects receiving the engineering reviews or site visits were selected from the telephone interview respondents to represent larger or more complicated SBES projects.

Navigant completed process interviews with 99 ComEd and 38 PG/NSG customer participants. NTG and gross impact interviews were completed with 84 and 90 EPY4 participants, respectively, resulting in a precision level of +/-3 percent for ComEd NTG results and +/-5 percent for ComEd gross impact results at a 90 percent level of confidence. NTG and gross impact interviews were completed with 30 and 38 GPY1 PG/NSG participants, respectively, resulting in a precision level of +/-9 percent for NTG results and +/-3 percent for gross impact results at a 90 percent level of confidence.

2.1.5 Project Application File Review

To support final application file review, the team requested project documentation in electronic form from Franklin for eight PG/NSG projects and ten ComEd projects, with some overlap between ComEd and PG/NSG. Documentation included some or all of the scanned files, which comprised hard copy application forms and supporting documentation from the applicant and trade ally (application, invoices, measure specification sheets), implementer assessment reports, and post-inspection reports (when conducted).

2.1.6 On-Site Visits

The Navigant team conducted on-site surveys for seven ComEd applications sampled; four of the seven also had PG/NSG measures installed. During each on-site visit, the evaluator identified whether the measures were installed and operating, collected equipment nameplate data, and provided a description of site conditions that might contribute to baseline selection.

2.1.7 CATI Telephone Survey of Participating Customers

A Computer-Assisted Telephone Interviewing (CATI) survey was conducted with a sample of ComEd and PG/NSG program participants. The sample was drawn from the set of unique customer contact

names found in the tracking system for EPY4 and GPY1 paid SBES projects. This survey focused on three key areas: (1) questions to estimate net program impacts (i.e., quantitative assessment of free-ridership and spillover), (2) measure data such as installed quantities in support of the gross impact analysis, and (3) questions to support the process evaluation. All interviews were completed in August or September of 2012. The participant survey can be found in Appendix 5.6.

2.1.8 In-Depth Interviews with Utility Program Managers, Program Implementer Staff, and Trade Allies

Interviews with utility program managers, participating trade allies, and staff of the implementation contractor, Franklin, are central to the process evaluation for the SBES Program. The interviews were supplemented with a review of relevant program tracking databases, documents, and other materials to understand how the program was implemented during the first year.

The evaluation team used senior staff members to conduct in-depth qualitative interviews. Senior staff were flexible in their approach to the discussion, allowing the respondent to talk about his/her experience or perspective while still guiding the discussion toward the most important, relevant and necessary information. The team developed interview guides in an open-ended format that allowed for a free-flowing discussion between interviewer and respondent, based on the respondents' knowledge of and experience with the program.

2.2 *Impact Evaluation Methods*

2.2.1 Defining Ex Ante Measure-Level Energy Savings

The ex-ante gross energy savings for most of the electric lighting measures in the EPY4 SBES program are calculated from per-unit savings values defined by the document *Plan Year 4 Deemed Savings Values 31230.pdf*[13]. For the SBES program, the *Plan Year 4* document indicated for "Prescriptive based measures," that "Some measures deemed per Prescriptive program", while for "All other measures" it indicated that "New Program – realization rates not eligible for deeming at this time." The technical basis for ComEd's ex-ante gross savings are contained in the ComEd document *Appendix A – ComEd Work papers 8-5-11.pdf*.[14] These two ComEd sources allowed the evaluation team to review default savings for all lighting measures and inform adjustments if warranted. The electric hot water saving measures (aerators, showerheads, and pre-rinse sprayers) are not included in ComEd's *Plan Year 4 Deemed Values* or *Appendix A*, and were assigned default values by the implementers. Vending and cooling miser devices were assigned default values from the State of Illinois Energy Efficiency Technical Reference Manual (TRM)[15]

The Illinois TRM provides the per-unit savings for gas measures, with some exceptions for measures that were not covered in the current TRM version. For measures not covered by the Illinois TRM, the implementers provided default values and assumptions that were used in program planning.

[13] This document is on the ICC web site for docket 10-0570. (http://www.icc.illinois.gov/docket/Documents.aspx?no=10-0570)
[14] Provided by David Nichols, email August 12, 2011.
[15] Final version, September 14, 2012, effective June 1, 2012.

2.2.2 Verification Method

Data collection for the impact analysis included an engineering review of measure per-unit savings assumptions, an examination of tracking system calculation of claimed savings, participating customer telephone surveys to verify participation and gather site-specific measure data, engineering review of project documentation at the measure level for a sample of projects, and on-site verification for a small sample of projects to verify the equipment was installed as invoiced.

Evaluation verified gross savings for sampled projects were estimated through the following approach, for each sampled measure:

1. In the CATI telephone survey, interviewers described measure type and quantities reported in the tracking system and asked participants to verify whether the measures as described had been installed, and if not, whether they could identify currently installed quantities and measures. Questions were asked for all direct-installed measures reported at a site, and up to three contractor-installed lighting measures and three non-lighting measures. The evaluation then calculated a realization rate as verified quantities divided by ex-ante quantities reported in the tracking system.
2. On measures where an in-service rate is factored into ex-ante savings, quantity reductions were noted but impacts were not adjusted.
3. The evaluation reviewed measures in the survey sample to determine whether per-unit savings were correctly applied in the ex-ante gross savings calculation. If the per-unit savings value was not correct, the evaluation calculated a realization rate adjustment (defined as evaluation estimated per-unit savings divided by ex-ante per-unit savings).
4. For projects that received a file review or an on-site visit, an engineering verification realization rate was applied that adjusted for either verified quantities or measure type as observed in documentation or on-site. Findings from the on-site surveys took precedence over the file reviews and CATI responses when making adjustments for a given site.

A verified gross realization rate was then estimated for the sample and applied to the total program ex-ante gross savings. The result is the evaluation verified gross savings for the Small Business Energy Savings program.

2.2.3 Net Savings Approach

The evaluation calculated free-ridership using an algorithm approach based on interview results from participating customers supported by data collected through in-depth trade ally interviews. The existence of spillover was examined using survey self-report data and trade ally self-report data.

This program has not been evaluated before and so, according to the NTG Framework,[16] the NTG ratio is to be applied retroactively. The program falls under the following condition from the NTG Framework: "*For existing and new programs not yet evaluated, and previously evaluated programs undergoing significant changes — either in the program design or delivery, or changes in the market itself*[17] *— NTG ratios established*

[16] "Proposed Framework for Counting Net Savings in Illinois." Memorandum March 12, 2010 from Philip Mosenthal, OEI, and Susan Hedman, OAG.

[17] An example of a market change might be where baselines have improved significantly and the likely free riders are growing substantially because of it.

through evaluations would be used retroactively, but could also then be used prospectively if the program does not undergo continued significant changes."

3. Evaluation Results

3.1 *Impact Evaluation Results*

3.1.1 Verification and Due Diligence Procedure and Tracking System Review

The evaluation team performed a verification and due diligence review of the quality assurance, program tracking, and savings verification procedures of the joint Peoples Gas/North Shore Gas and ComEd SBES Program during the program's first year. Navigant reviewed application documentation for three projects comprising a mix of selectively chosen no-cost direct-install and capital investment measures.[18] The verification and due diligence recommendations are based on findings from interviews with program staff and implementation contractors, project documentation review, and a comparison of the SBES program activities to national best practices.

To conduct the best practices benchmarking assessment, the evaluation team compared the Implementation Contractor's practices with the Best Practices Self-Benchmarking Tool[19] from the National Energy Efficiency Best Practices Study for C&I programs. The evaluation team found that some of the contractor practices could be improved.

We did not observe that Franklin was tracking building types in GPY1, instead defaulting to a "miscellaneous" building type in per unit savings calculations. We did not adjust for this finding in the verified gross estimate, but project-specific adjustments were made in the research findings gross estimate.

- **Recommendation:** It will be necessary to assign and document a building type in GPY2 to calculate per-unit savings using the TRM.

The complete Verification and Due Diligence and Tracking System Review Memo can be found in its entirety in Appendix 5.5, along with the response from Franklin Energy.

3.1.2 Measure Per-Unit Savings Review

The measure per-unit savings values provided by ComEd and PG/NSG were reviewed and found to be reasonable as first-year ex-ante savings estimates, given that participant equipment sizes and operating hours were assumed, although we made minor adjustments to the per-unit savings for five electric measures. We adjusted the three water-saving electric measures (aerators, showerheads, and pre-rinse sprayers) to apply usage assumptions and algorithms from the Illinois TRM to match the gas measure savings.[20]

---

[18] Projects were not selected randomly, but with an eye toward choosing those that were more complex or those with a higher likelihood of having erroneous entries.

[19] See the Best Practices Self-Benchmarking Tool developed for the Energy Efficiency Best Practices Project: http://www.eebestpractices.com/benchmarking.asp

[20] The TRM is not required for electric measures in EPY4; however, we consider the TRM to be the best available savings estimate for the water-saving measures. The TRM savings for C&I aerators and showerheads were reviewed by the TRM Technical Advisory Committee and found to have an algorithm error that, when fixed, results in an upward revision to per-unit savings. For electric showerheads and aerators, we used the corrected algorithm throughout the report for evaluated savings. The errata correction had not been approved by the ICC as of the date of

There was a minor downward adjustment on gas savings due to miscalculation of the TRM savings for faucet aerators made in the ex-ante basis. The gross ex-ante savings calculated using the ICC-approved TRM should have been 5.14 therms per aerator rather than the 7.2 therms Franklin used. However, after GPY1 ex-ante savings were final, an error was found in the TRM: the corrected value for the TRM is 18.0 therms rather 5.14 therms. The correction from 7.2 to 5.14 gross therms is reflected in the savings reported under the "ICC-Approved TRM" rubric, while the correction of the ex-ante per-unit savings from 7.2 to 18.0 therms is reflected in the savings reported under "Corrected TRM Algorithm." Savings verification adjustments are summarized below:

- **C&I Aerators and Showerheads TRM Errata**. An error was found in the Illinois TRM for Commercial and Industrial aerators and showerheads and was brought to the attention of the TRM Technical Advisory Committee: an adjustment of the "GPM factor" was redundant in the algorithm, resulting in savings that were underestimated for gas and electric water heating. We used the corrected TRM algorithm and assumptions for electric savings throughout the report as the best available engineering estimate of these non-deemed electric measures. However, since the ICC had not approved use of the corrected algorithm as of the date of this report, we have provided gas savings reflecting both the uncorrected and corrected algorithms. We recommend that commercial faucet aerator and showerhead measures in the TRM be updated to base savings on commercial water consumption rather than residential water consumption.
- **Low-flow Aerators**. Ex-ante savings were 123 kWh per unit for bath aerators, and 180 kWh per unit for kitchen aerators. We revised these values using corrected algorithms and assumptions from the Illinois TRM that matched the assumptions used for savings estimates used for aerators by the SBES program when there is gas water heating. The revised values are 360 kWh per unit for bath aerators, and 297 kWh for kitchens.
- **Showerheads and Pre-rinse Sprayers**. Similar to aerators, we adjusted the default savings for these two electric water heating measures to match the corrected algorithms and assumptions from the Illinois TRM, to be consistent with the assumptions used for savings estimated for gas water heating. The showerhead savings were adjusted from 325 kWh to 437 kWh per unit, while pre-rinse sprayers were adjusted from 1,256 kWh to 4,154.4 kWh per unit.

Peoples Gas and North Shore Gas based their boiler measure savings on fixed, assumed equipment sizes in the first year, whereas the Illinois TRM estimates savings using heating equipment gas input size as a measure-level custom input to the algorithms. We did not observe project-specific heating equipment sizes in the tracking system or listed in the project documentation we sampled.

- **Recommendation**: The program should collect boiler and furnace heating system capacities to enable the program to claim actual rather than default savings.

Programmable thermostats are a high volume measure in the SBES program not covered by the Illinois TRM, and should be reviewed for addition.

- **Recommendations** for potential updates and revisions to the Illinois TRM are provided in Appendix 5.4.

---

this report; thus, for gas-saving showerheads and aerators, the savings using the uncorrected and corrected algorithms are provided side-by-side.

3.1.3 Findings from the CATI Survey Impact Research Questions

Where lighting measures were installed, survey participants were asked a detailed set of questions to determine lighting schedules and percent of lights that are on during open and closed times. The average annual equivalent full-load hours for 26 respondents were 2,954 annual hours. This compares with values in the Illinois TRM of 4,576 annual hours for fixture-based lighting and 3,198 annual hours for screw-based lighting for the "Miscellaneous" building type. In particular, places of worship had full load operating hours much lower than average. This finding is of some concern: if the initial lighting assessment over-estimates the expected savings of measures, the actual payback will lengthen and alter cash-flow.

- **Recommendation:** Site assessment reports for places of worship and other low-use facilities should check projected savings against usage history to ensure estimates provided to customers are reasonable.
- **Recommendation:** The Illinois TRM should consider adding one or more new building types for selective use by the Small Business program, such as a "low hours-of-use miscellaneous" building type that may be used for participants with lower lighting operating hours.

A brief set of questions in the CATI survey was asked to support the gas savings verification gross impact evaluation, regarding installed measures, existence of maintenance contracts, removed equipment, and temperature settings for programmable thermostats. Table 3-1 identifies the gas measure-specific survey question or issue that was addressed, the participant responses, and conclusions.

Table 3-1. Participant Reponses to CATI Impact Questions

Survey Question	Participant Responses	EM&V Conclusion
How many hours per day would you estimate the pre-rinse sprayer(s) is (are) used at this site?	3 respondents, one PRSV each: About one half hour (1); 1 to 2 hours (1); Other: "Twelve hours" (1)	The respondent claiming use of a PRSV 12 hours per day may have given hours they are open. If "12 hours" is assumed to be three hours of actual PRSV use, average hours per day are 1 hour for respondents and we calculate TRM gross therms at 122 therms; if 12 hours, then the average is 2.8 hours per day or 342 gross therms per the TRM. PG/NSG's assumption of 169 gross therms is reasonable.
Prior to receiving this tune-up on your heating system through this program, when did you last tune up your heating equipment?	4 respondents: "Within the past 3 years" (1), "More than 3 years ago" (2); "Never" (1).	The Illinois TRM specifies the baseline condition that the facility cannot have had a tune-up within the past 36 months (3 years). The TRM was not final until AFTER the end of GPY1, and this criteria was not applicable for implementation in GPY1. No adjustments made to GPY1 savings.
Prior to receiving an energy assessment through this program, did <COMPANY> have a maintenance contract for the heating system equipment?	4 respondents: "Yes" (0), "No" (4)	No adjustments made to GPY1 savings.
Was the thermostat that you replaced a manual thermostat or a programmable thermostat?	25 respondents: manual thermostats (12), programmable (9), Don't Know or Refused (4)	The manual thermostats are acceptable baselines: no EM&V adjustment. The programmable thermostats received a follow-up question.
Did you program the thermostat you replaced for regular temperature setting changes, did you manually adjust it on occasion, or did you leave it at the same temperature setting always?	For the 9 respondents that had existing programmable thermostats replaced: manually adjust it on occasion (6), leave at same setting (1), Don't know (2)	Manual adjustment on occasion and leave at same setting are acceptable responses to claim savings for this measure in GPY1. Don't know was also acceptable without EM&V adjustment.
Since installing the programmable thermostat, have you or a contractor programmed the temperature settings? Has the thermostat been programmed to maintain a different temperature during unoccupied periods than occupied periods?	25 respondents: programmed to maintain different temperatures (18); don't know if programmed (1), did not program (3), programmed to constant temperature (3)	The 18 thermostats that were programmed correctly and one don't know are acceptable responses for ex-ante savings. The six total responses (24 %) that the thermostat has not been programmed or not programmed to different temperatures are research findings of zero savings.

Source: GPY1 CATI Survey

3.1.4 Gross and Net Program Impact Parameter Estimates

Evaluation research findings for customer participant self-reported free-ridership were 17 percent for ComEd and 18 percent for PG/NSG. While nearly all participants reported a high level of influence by the program, several indicated some level of intention to pursue efficiency projects had the program not been available, captured as a partial score of non-zero free-ridership, while still recognizing the influence of the program. The individual responses showed a substantial amount of inconsistency, giving the program credit for influencing their decision on the one hand, and stating they might have implemented measures on their own on the other. This inconsistency supports a conclusion that in reality the program had an influence but that participants like to think they would have attended to efficiency matters, which is the 'socially-responsible' answer. A small amount of participant spillover was observed and quantified.

Given the program's logic model and market structure, Navigant recognizes that a traditional participant self-report may overstate free-ridership. The program's basic premise is that small businesses are hard to reach through other energy efficiency programs. Put another way, the existing market structure includes barriers that hinder small businesses from implementing energy efficient measures. The rationale for SBES is that if the program can overcome these barriers, only then will participation by these customers increase to a level commensurate with their presence in the market. If this were not the case, small businesses would participate in existing programs at a comparable level to larger businesses and there would be no need for SBES.

In this circumstance, participant responses to the counter-factual (*What would you do in the absence of the program?*) are not a very reliable indicator because the market barriers have limited to date, and would continue to limit, small business purchases and installations of qualifying equipment. Regardless of what choice the participant thought they would have made in the absence of the program, the actual structure of the market defines the upper bound (or "cap") of free-ridership for this program. Free-ridership cannot exist in markets that would not have been served without the program first overcoming the market barriers. Only the remaining portion of the market, that portion served by trade allies that offer qualifying equipment, would be susceptible to free-ridership.

The trade allies comprise the best source of information about the market's structure (both before and after the introduction of the program). For this reason, Navigant conducted telephone interviews with participating contractors to determine how the sales to small businesses changed (both in content and quantity) as program began to serve utility customers in the Chicago area.

Individual trade ally responses to free-ridership questions were weighted by their respective fuel-specific program savings contributions and combined for a fuel-specific overall free-ridership rate. This approach resulted in an evaluation estimate of 2 percent free-ridership for gas measures, and 5 percent free-ridership for electric measures. The primary driver of the trade ally results is the consistent response, from a small number of trade allies that installed the vast majority of measures, that SBES strongly influenced their 2011 sales to small businesses to which they had not sold energy efficient products in the past. We used the trade ally estimate as a cap on or maximum value for free-ridership, concluding that the trade allies used the program to overcome market barriers to serve a hard-to-reach audience. This is supported by self-reported customer participant free-ridership responses that recognized the program influenced them to act on their indefinite intentions and the program theory that the program was designed to serve an under-served market.

The program parameters used for estimating evaluation verified gross and net savings for the ComEd EPY4 SBES program are summarized in Table 3-2.

Table 3-2. Program Parameters for the ComEd EPY4 SBES Program

Parameter	Value	Deemed or Evaluated?	Source Notes
Free-ridership Rate from Customer Participant Data	0.17	Evaluated	Evaluation of EPY4 participants with electric saving projects
Free-ridership Rate from Trade Ally Data	0.05	Evaluated	Interviews with EPY4 trade allies
Program Free-ridership Rate	0.05	Evaluated	Evaluation analysis
Participant Spillover Rate	0.00	Evaluated	Evaluation of EPY4 participant responses. Participant spillover rate was 0.003 and rounded to zero.
Non-Participant Spillover Rate	0.00	Evaluated	Interviews with EPY4 trade allies
Evaluation Research Findings NTG Ratio	0.95	Calculated	NTGR = 1- Program Free Rider rate + Participant Spillover rate + Non-Participant Spillover Rate
Quantity	Varies	Evaluated	Ex-ante quantities for the primary sample were verified by CATI survey, and by file review and on-site verification for a subset of the CATI respondents.
Ex Ante Gross Savings per Unit	Varies		*PY4 Deemed Values*, *Appendix A*, implementer calculations for water saving measures and vending/cooler misers
Verified Gross Savings per Unit	Varies	Evaluated	Evaluation analysis, using *PY4 Deemed Values*, *Appendix A*, and implementer calculations except where noted.
Research Findings Gross Savings per-Unit	Varies	Evaluated	Evaluation analysis, using CATI lighting hours of use, CATI reported quantities, and *PY4 Deemed Values*, *Appendix A*, and implementer calculations except where noted.
Verified Realization Rate on Ex-Ante Gross Savings	1.03	Calculated	Calculated from sampled EPY4 measures.
Research Findings Realization Rate on Ex-Ante Gross Savings[21]	0.86	Calculated	Calculated from sampled EPY4 measures.

The program parameters used for estimating evaluation research findings gross and net savings for the Peoples Gas and North Shore Gas GPY1 SBES program are summarized in Table 3-3.

[21] Details on the research findings for gross realization are provided in Appendix 5.2.3.

Table 3-3. Program Parameters for the PG/NSG GPY1 SBES Program

Parameter	Value	Deemed or Evaluated?	Source Notes
Free-ridership Rate from Customer Participant Data	0.18	Evaluated	Evaluation of GPY1 participants with gas saving projects
Free-ridership Rate from Trade Ally Data	0.02	Evaluated	Interviews with GPY1 trade allies
Program Free-ridership Rate	0.02	Evaluated	Evaluation analysis
Participant Spillover Rate	0.01	Evaluated	Evaluation of GPY1 participant responses.
Non-Participant Spillover Rate	0.00	Evaluated	Interviews with GPY1 trade allies
Evaluation Research Findings NTG Ratio	0.99	Calculated	NTGR = 1- Program Free Rider rate + Participant Spillover rate + Non-Participant Spillover Rate
Quantity	Varies	Evaluated	Ex-ante quantities for the primary sample were verified by CATI survey, and by file review and on-site verification for a subset of the CATI respondents.
Ex Ante Gross Savings per Unit	Varies		*Illinois TRM,* implementer calculations for measures not in the TRM (programmable thermostats, hot water turn-down and furnace tune-ups)
Verified Gross Savings per Unit	Varies	Evaluated	Evaluation analysis, using the Illinois and implementer calculations except where noted.
Research Findings Gross Savings per-Unit	Varies	Evaluated	Evaluation analysis, using CATI responses, and the Illinois TRM and implementer calculations except where noted.
Verified Realization Rate on Ex-Ante Gross Savings	0.99	Calculated	Calculated from sampled GPY1 measures.
Research Findings Realization Rate on Ex-Ante Gross Savings	0.87	Calculated	Calculated from sampled GPY1 measures.

3.1.5 Gross and Net Program Impact Results

The verified gross and research findings net energy savings for ComEd's electric energy savings in the SBES program are provided in Table 3-4.

Table 3-4. Gross and Net Energy Savings, ComEd EPY4 SBES Program

Ex-Ante Gross Energy Savings, kWh	Evaluation Verified Gross Realization Rate on Ex-Ante Gross kWh Savings	Evaluation Verified Gross Energy Savings, kWh	Evaluation Research Findings Net-to-Gross Ratio	Evaluation Research Findings Net Energy Savings, kWh
9,206,981	1.03	9,483,190	0.95	9,009,031

Source: Savings verification and analysis of ex-ante gross savings from ComEd online tracking system, October 29, 2012 extract.

The relative precision at a 90 percent confidence level for the electric gross impact savings verification sample is ±5 percent, and ±3 percent for the NTG sample.

The peak demand impacts were not recorded in the ComEd tracking system, but evaluation was able to estimate ex ante gross peak demand reduction by multiplying claimed installed quantities times per unit peak demand values that we derived from deemed and non-deemed measure assumptions. With an evaluation estimate of ex ante gross kW, we applied evaluation research findings for gross and net energy savings adjustments to estimate an ex post net peak demand reduction for the program. The gross and net research findings for ComEd's electric peak demand reduction in the EPY4 SBES program are provided in Table 3-5.

Table 3-5. Evaluation Estimated Gross and Net Peak Demand Reduction, ComEd EPY4 SBES Program

Evaluation Estimated Ex-Ante Gross Peak Demand Reduction, kW	Evaluation Verified Gross Realization Rate on Ex-Ante Gross kWh Savings	Evaluation Research Findings Gross Peak Demand Reduction, kW	Evaluation Research Findings Net-to-Gross Ratio	Evaluation Research Findings Net Peak Demand Reduction, kW
1,704	1.03	1,755	0.95	1,677

Source: Evaluation analysis of ComEd online tracking system data, October 29, 2012 extract. Evaluation assumes that the gross realization rate and net-to-gross ratio for energy savings are reasonable estimates for peak demand.

The evaluation verified gross and research findings net energy savings for Peoples Gas and North Shore Gas energy savings in the SBES program are provided in Table 3-6. Alternative savings estimates are shown reflecting the ICC-approved and corrected TRM algorithms for faucet aerators and showerheads.

Table 3-6. Gross and Net Energy Savings, PG/NSG GPY1 SBES Program

Aerator/Shower-head Algorithm	Ex-Ante Gross Energy Savings, Therms	Evaluation Verified Realization Rate on Ex-Ante Gross Therm Savings	Evaluation Verified Gross Energy Savings, Therms	Evaluation Research Findings Net-to-Gross Ratio	Verified Net Energy Savings, Therms
	Peoples Gas				
ICC-Approved TRM Algorithm	90,515	0.99	89,610	0.99	88,714
Corrected TRM Algorithm	98,583		97,597		96,621
	North Shore Gas				
ICC-Approved TRM Algorithm	44,399	0.99	43,955	0.99	43,515
Corrected TRM Algorithm	48,347		47,864		47,385
	Combined				
ICC-Approved TRM Algorithm	134,914	0.99	133,565	0.99	132,229
Corrected TRM Algorithm	146,930		145,461		144,006

Source: Savings verification and analysis of ex-ante gross savings from Franklin tracking data October23, 2012.

The relative precision at a 90 percent confidence level for the gas gross impact savings verification sample is ±3 percent, and ±9 percent for the net-to-gross sample.

3.1.3 TRM and Errata Details

As was described in section 3.1.2, during the EPY4/GPY1 SBES program evaluation an error was discovered in the Illinois TRM for Commercial and Industrial faucet aerators and showerheads which was brought to the attention of the TRM Technical Advisory Committee. An adjustment of the "GPM factor" in the algorithm was found to be redundant, resulting understatement of savings for gas and electric water heating. We used the corrected TRM algorithm and assumptions for electric savings throughout this report as the best available engineering estimate of these non-deemed electric measures. However, since the ICC had not approved use of the corrected algorithm as of the date of this report, we have provided gas savings estimates reflecting both the uncorrected and corrected algorithms. The detailed impacts of the

algorithm corrections for calculating aerator and showerhead per-unit savings are shown in . The affected measures are highlighted.

Table 3-7. TRM Aerator and Showerhead Algorithm Errata Details

Installed Gas Measure Type	Ex-Ante Quantity Installed	Approved TRM Unit Savings, Therms	Approved TRM Ex-ante Gross Savings	Corrected Algorithm Unit Savings	Corrected Algorithm Gross Savings
	Peoples Gas				
[DI] Pre-rinse Spray Valve	68.0	183.4	12,470	183.4	12,470
[DI] Aerator	652	7.2	4,694	18.0	11,736
[DI] Showerhead	125	13.5	1,691	21.7	2,713
[CI] Thermostat	378	178.0	67,284	178.0	67,284
[CI] Furnace Tune-up	67	62.7	4,201	62.7	4,201
[CI] Boiler Tune-up	5	34.9	174	34.9	174
All Gas Measure Savings			90,515		98,578
	North Shore Gas				
[DI] Pre-rinse Spray Valve	18	183.4	3,301	183.4	3,301
[DI] Aerator	253	7.2	1,822	18.0	4,554
[DI] Showerhead	148	13.5	2,002	21.7	3,212
[CI] Thermostat	208	178.0	37,024	178.0	37,024
[CI] Furnace Tune-up	4	62.7	251	62.7	251
[CI] Boiler Tune-up	0	34.9	0	34.9	0
All Gas Measure Savings			44,399		48,341

3.2 *Process Evaluation Results*

The process component of the Small Business Energy Savings Program evaluation focused on:

- Program Goals
- Customer and Trade Ally Satisfaction
- Program Awareness Marketing, Implementation, and Delivery
- Program Improvements

The process evaluation results are organized by the process research questions and are grouped by process themes. The primary data sources for the process evaluation included the telephone survey with 99 ComEd SBES survey participants, 47 Peoples Gas/North Shore Gas survey participants, and the in-depth interviews with market actors, utility Program Managers, and Nexant implementation staff.

3.2.1 **Meeting Program Goals**

The first goal of the SBES Program evaluation was to quantify gross and net savings impacts for the program. With respect to savings goals, Peoples Gas did not reach their goal of 166,196 net therm savings in the first year, achieving 88,714 verified net therms, which is 53 percent of goal. North Shore Gas exceeded their goal of 31,407 net therm savings in the first year, achieving 43,515 verified net therms, which is 139 percent of goal. ComEd exceeded their energy saving goal of 5,960,000 net kWh goals during the first year by achieving 9,009,031 verified net kWh, which is 151 percent of goal.

The second program evaluation goal was to determine key process-related program strengths and weaknesses. The third program evaluation goal was to identify program improvements. The rest of this chapter presents these results.

3.2.2 **Customer and Trade Ally Satisfaction with the SBES Program**

This section focuses on customer and trade ally satisfaction from the perspectives of all the market actors.

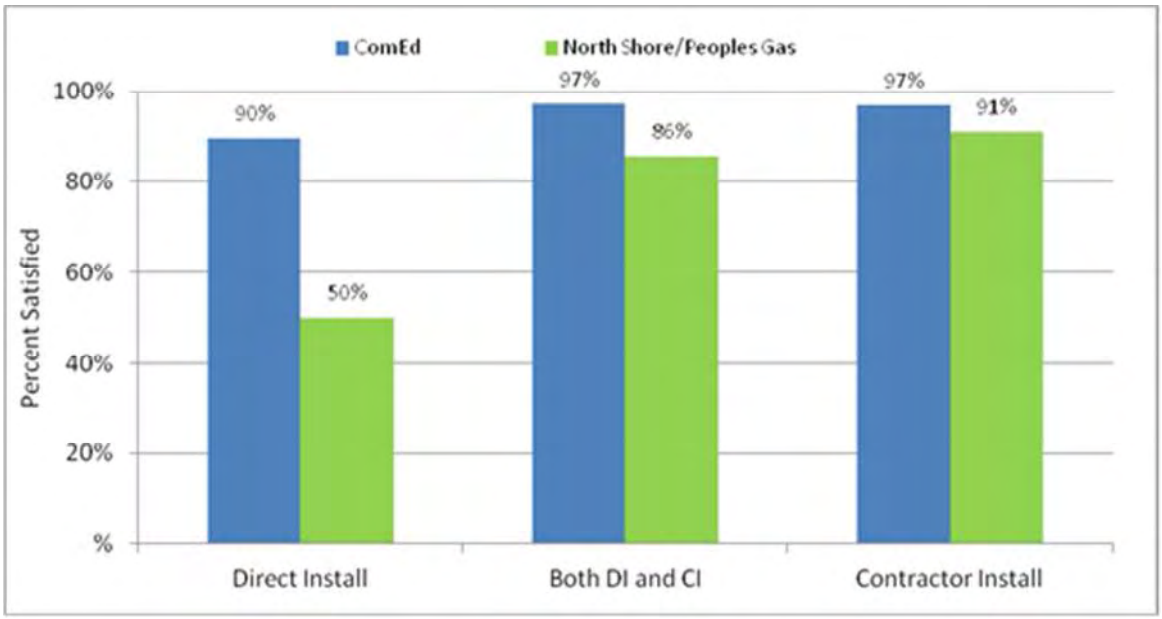
3.2.2.1 Customer Satisfaction

One goal of the process evaluation is to determine if customers tend to be more satisfied with one installation type than with the others. Customers have three participation options: direct install only, both direct and contractor install, and contractor install only. Navigant looked at the relationship between installation type and satisfaction with the ComEd and North Shore/Peoples SBES program.

Survey respondents whose participation was limited to the direct install program option were less satisfied with the program than those who were able to invest in measures that were installed by a contractor or trade ally. This relationship is particularly strong for Peoples Gas/North Shore Gas survey respondents, where fifty percent of survey respondents who installed equipment solely through the direct install option said they were satisfied with the SBES program, compared to 91 percent of CI-only respondents and 86 percent who installed equipment through both install options. The differences were not statistically significant because of the small number of respondents in the direct install only segment.

Figure 3-1 shows satisfaction levels with the SBES Program by installation type for ComEd and Peoples Gas/North Shore Gas participants.[22] Satisfaction data was collected using a 0 to 10 point scale and recoded into three analysis categories: dissatisfied (0-3), neutral (4-6) and satisfied (7-10). Only the percent satisfied is presented in Figure 3-1.

Figure 3-1. ComEd and Peoples Gas/North Shore Gas Participant Satisfaction with SBES Program by Installation Type



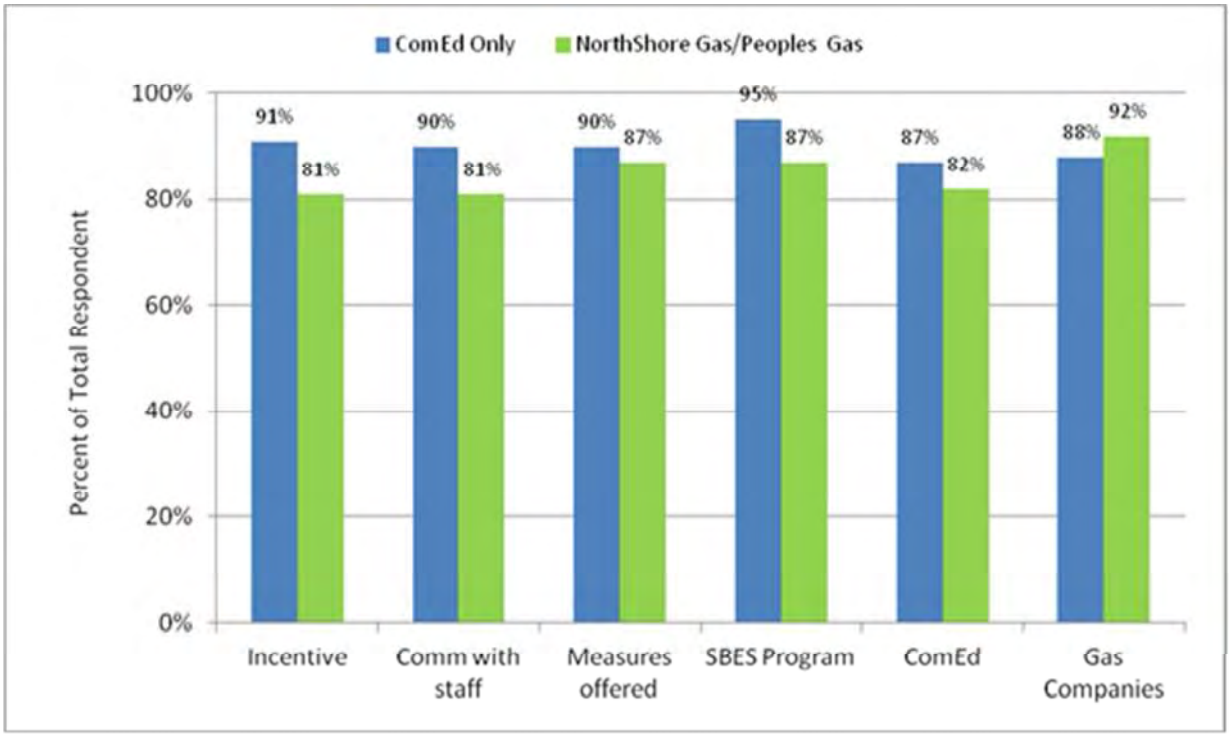
Source: EPY4 ComEd and GPY1 Peoples Gas and North Shore Gas Small Business Energy Evaluation Survey, 2012

ComEd survey respondents expressed high levels of satisfaction with the SBES Program, the program incentive, communication with program staff and the measures offered. Ninety percent or more of ComEd survey respondents said that they were satisfied with these program attributes (answered 7-10 on the satisfaction scale). Survey respondents were also very satisfied with their gas company (88 percent) and with ComEd (87 percent). Peoples Gas/North Shore Gas survey respondents were somewhat less satisfied with all program attributes than ComEd respondents, although satisfaction was still high, ranging from 81 to 88 percent. Figure 3-2 shows the high level of customer satisfaction with program attributes and with ComEd and Peoples Gas/North Shore Gas.

Using a chi-square test, the Navigant team found that ComEd customers were significantly more likely than combined gas customers to be satisfied with the incentive (91 percent versus 81 percent) and with the SBES program overall (95 percent versus 87 percent), with a better-than-95 percent level of confidence.

[22] Survey participants may or may not have installed both electric and gas measures in both the direct install and the contractor installed program options. Satisfaction with the SBES program was only asked once.

Figure 3-2. Satisfaction with Program Attributes by Utility



Source: EPY4 ComEd and GPY1 Peoples Gas and North Shore Gas Small Business Energy Evaluation Survey, 2012

In addition, ComEd hired a market research company to regularly survey program participants to track customer satisfaction. Customers were surveyed shortly after participating in the program. The feedback from this process was that customers were very happy with the SBES program.

3.2.2.2 Trade Ally Satisfaction

Most trade allies are satisfied with the SBES Program; they believe that customer satisfaction with the program is also high. For instance, of the four trade allies that provided feedback on this program, three said they were satisfied with the program and one was not. One said he was satisfied because he made money and another said he was satisfied with the idea of the program but would like to see more marketing so the program would be easier to deliver. The unhappy trade ally indicated that he was not very satisfied because "he has put effort into marketing the program and for everyone he has talked to the incentive isn't enough [to induce] them to participate."

Trade allies also reported that customers were very satisfied with the program. One commented that customers "are happy to know that there are utilities … that actually care about small businesses and how they can reduce energy bills and save money" and "they are getting something that doesn't cost them nearly anything (thermostats) and will help save them money." Trade allies also reported that customers appreciated the service they received with the program. Trade allies find that the program helps them provide a higher level of customer service that their customers and tenants appreciate.

3.2.2.3 Franklin Energy Program Satisfaction

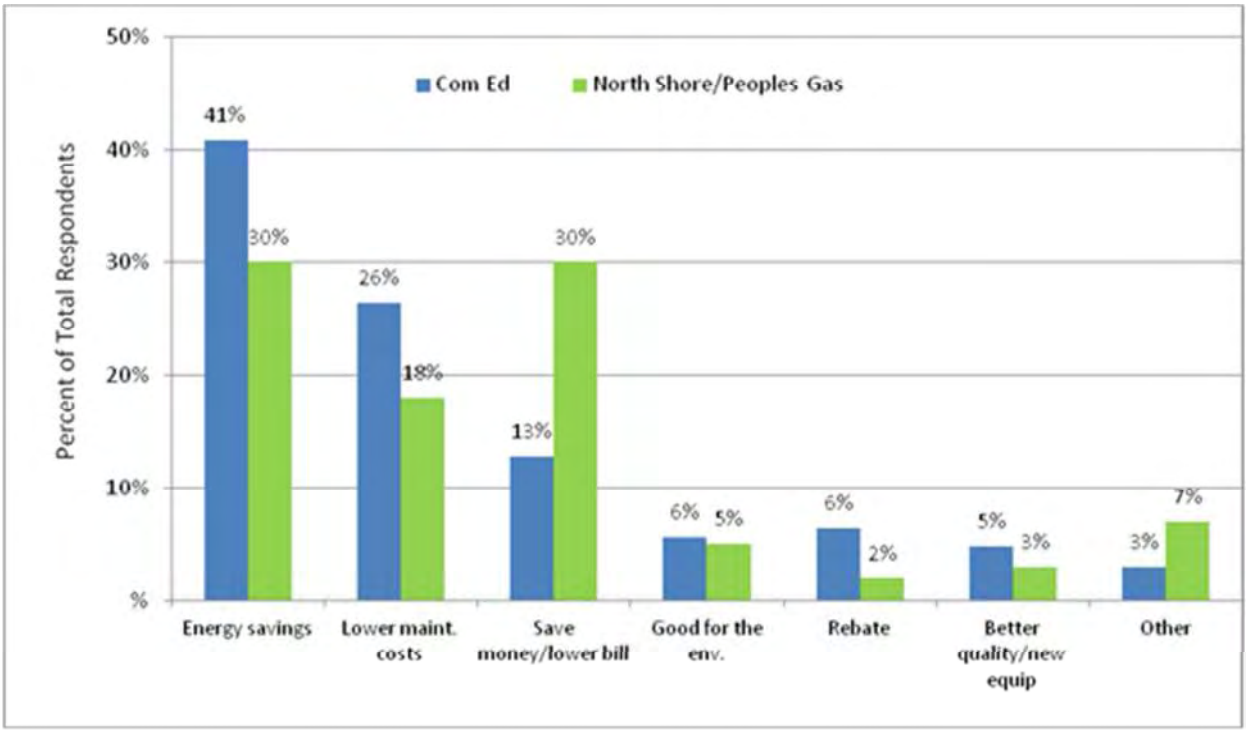
Franklin Energy advisors believe that the majority of trade allies who participate in the program were satisfied with it, suggesting that trade allies who were unhappy have dropped out of the program. Franklin reported that despite being generally satisfied with the program, trade allies become frustrated at times with customers who refuse the assessment because they are "leery" of the program. To help build the program's legitimacy in the eyes of small business customers, they recommend devising a way of branding the trade allies so that customers recognize that they are affiliated with the utilities. The utilities have begun to recognize the validity of this point. For example, ComEd recently began allowing cooperative advertising, although does not permit the corporate name or logo on any car signs or badges.

Franklin Energy advisors identified lack of trade ally engagement as a problem that should be addressed. Franklin evaluated the list of approved trade allies to assess their level of program engagement. They reported that of the 26 trade allies approved to work in the program in 2012, only five or six were actively engaged. Franklin's program manager stated that if all approved trade allies committed to the program, Peoples Gas/North Shore Gas would easily meet their therm goals. (Note: North Shore did meet their therm goals but Peoples Gas did not).

3.2.2.4 ComEd and Peoples Gas/North Shore Gas Customers Awareness of the Program Benefits

ComEd survey participants were more likely to mention energy savings and lower maintenance costs and less likely to mention saving money as a major program benefit compared to Peoples Gas/North Shore Gas survey participants. Taken together, however, 54 percent of ComEd survey participants and 60 percent of Peoples Gas/North Shore Gas survey participants reported that saving energy or saving money was a major program benefit. Fewer survey participants said the benefits of the SBES Program were the environment, the rebate or better quality equipment. Figure 3-3 presents these results on customer awareness of the benefits of the SBES Program.

Figure 3-3. ComEd and Peoples Gas/North Shore Gas Customers Awareness of Program Benefits



Source: EPY4 ComEd and GPY1 Peoples Gas and North Shore Gas Small Business Energy Evaluation Survey, 2012

3.2.3 Program Awareness

This section focuses on customer and trade ally awareness and knowledge of the SBES program. The Operations Plan recognizes the importance of education and awareness in successfully delivering energy efficiency measures to the target audience. A secondary goal of the program is educating small business customers about the benefits of energy efficiency. Small business customers often lack the time or resources to research and understand energy issues on their own. One of the biggest benefits of the program, according to the marketing managers, is the opportunity it provides to reach out to a previously-underserved, often low-information customer segment and informing them about the program. In the following sections, Navigant explores customers' information sources and preferred methods of contact, and trade allies on program awareness.

The implementer relies on ComEd and Franklin Energy to do the branding. ComEd has radio and billboards that promote the program. Trade Ally Views on Program Awareness
According to trade allies, most SBES program participants first hear about the program from them. Thus, trade allies both are heavily reliant on the marketing support provided by the utilities and implementer, and themselves perform an important marketing function for the program.

Trade allies said they receive some marketing support in the form of ComEd radio ads, bill inserts and billboards, as well as program flyers and brochures. On the other hand, most indicated that they did most of their marketing themselves. All but two trade allies reported that they did not currently have any program materials on hand to share with interested customers. The two that did report having marketing material used the bi-fold brochure. There was some disagreement among trade allies as to whether ComEd and Peoples Gas/North Shore Gas were reaching the small business customer with their overall marketing

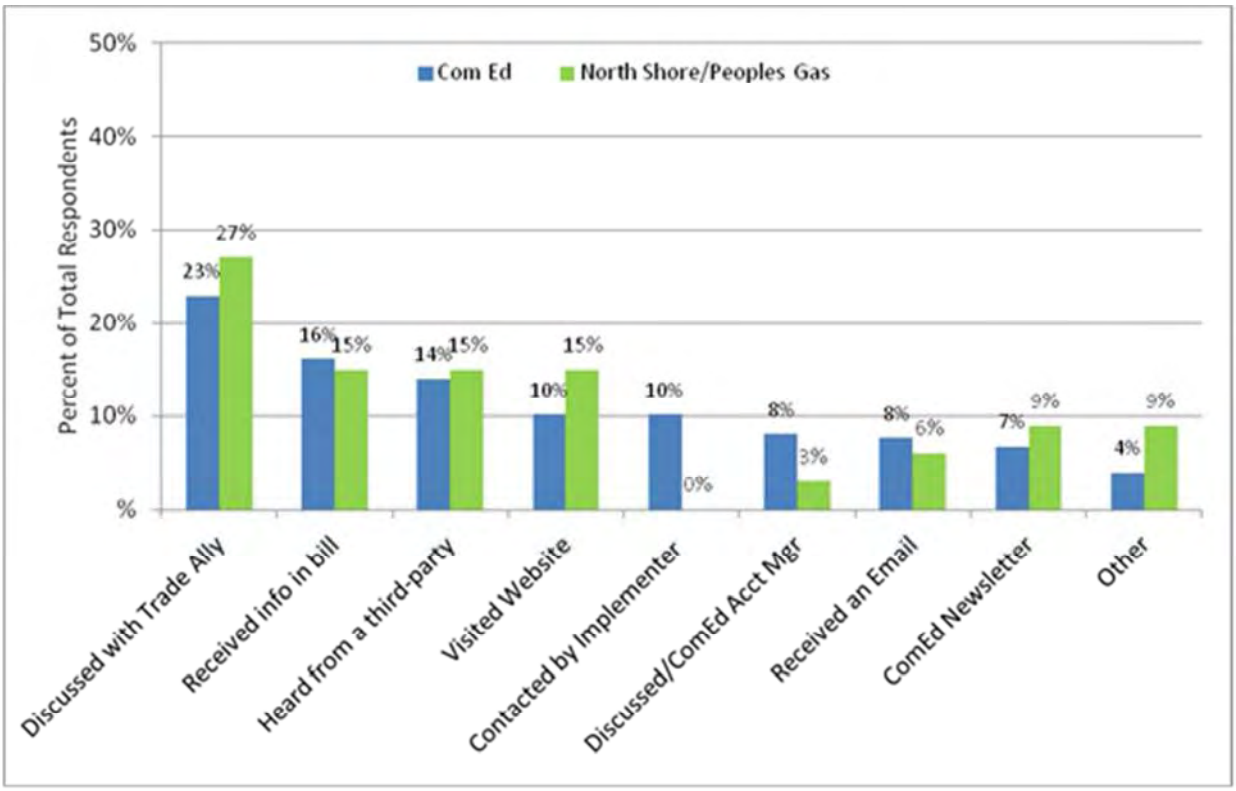
campaign. A few trade allies thought that the utilities and the implementers should promote the SBES program more aggressively to small businesses, for example via advertising on the radio and in mailers and bill stuffers.

All but one of the trade allies are aware of other ComEd and Peoples Gas/North Shore Gas energy efficiency programs and referred customers to them when appropriate, but believed that most of their small business customers do not have the resources to participate in such programs.

3.2.3.5 Customer Information Sources

With overall customer program awareness expected to be very low, information on how current participants found out about the program, and their preferred modes for hearing about the program, is central to generating increased program awareness in GPY2. The most common ways ComEd and Peoples Gas/North Shore Gas survey respondents heard about the program include marketing by trade allies (23 percent for ComEd customers, 27 percent for PG/NSG customers), bill stuffers (16 percent and 15 percent), and hearing about it from other parties, such as a neighbor, relative, or friend (14 percent and 15 percent). Figure 3-4 shows the distribution of sources of information among ComEd and Peoples Gas/North Shore Gas survey respondents.

Figure 3-4. ComEd Participants and Peoples Gas/North Shore Gas Participants – Source of SBES Program Information



Source: EPY4 ComEd and GPY1 Peoples Gas and North Shore Gas Small Business Energy Evaluation Survey, 2012; Multiple responses were accepted.

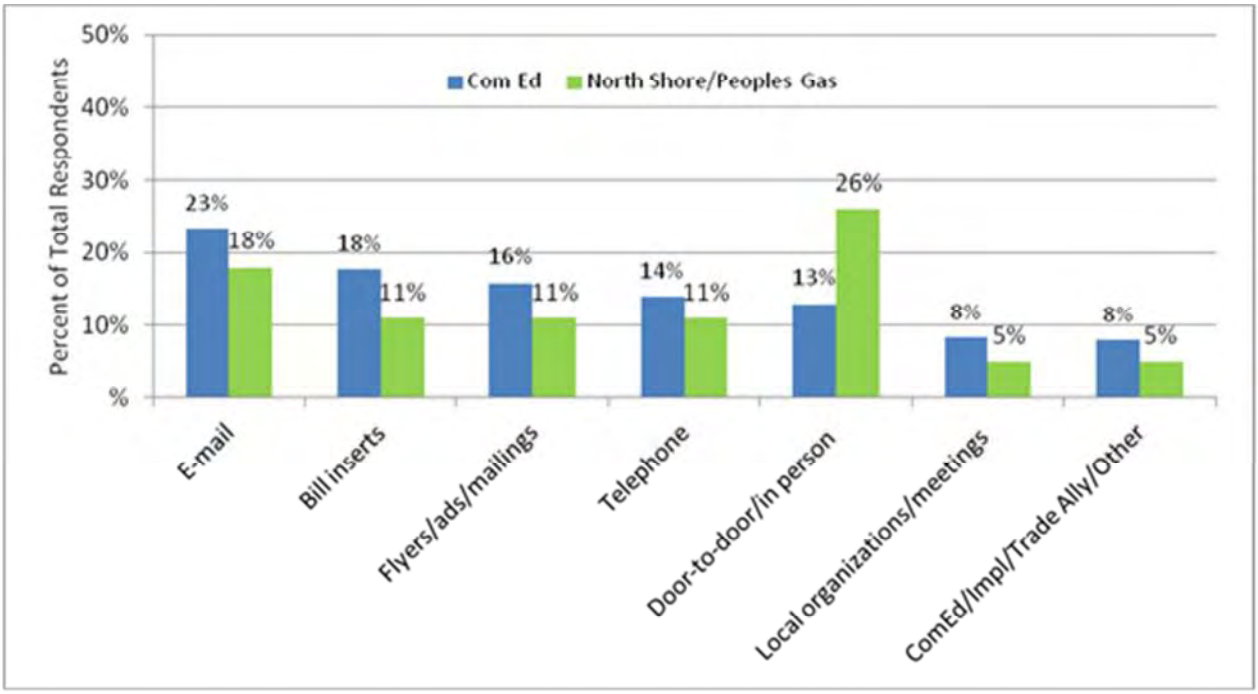
Trade allies heard about the program from a variety of sources also. One trade ally discovered the program by reaching out to a number of utilities, including ComEd, to inquire about marketing

opportunities. Another had contacts with Franklin Energy who informed him about available opportunities in Illinois. Another heard about the SBES program through the Internet and emails.

Customers' Preferred Method of Contacting

ComEd and North Shore/Peoples differed slightly on their preferred method of contact. Gas survey respondents mentioned an in-person visit (26 percent) as their most preferred method of contact; this was twice as frequent as ComEd survey respondents (13 percent). ComEd survey participants were more likely to list email as their preferred contact method than Peoples Gas/North Shore Gas survey participants (23 percent versus 18 percent). Interestingly, email was the one communication method not mentioned by program staff as a way to contact customers about the program. The two least-preferred methods of communication from the customers' point of view – organizations/meetings (8 percent of ComEd respondents, 5 percent of PG/NSG respondents) and implementer/trade ally (8 percent ComEd, 5 percent PG/NSG) – were frequently mentioned as marketing techniques by the utilities, implementers, and trade allies. Figure 3-5 shows these relationships graphically.

Figure 3-5. ComEd and Peoples Gas/North Shore Gas Participants – Preferred Method of Contact



Source: EPY4 ComEd and GPY1 Peoples Gas and North Shore Gas Small Business Energy Evaluation Survey, 2012

3.2.4 Marketing, Implementation, and Delivery

The SBES program involved multiple marketing efforts – direct mail, trade allies reaching out to customers, and a media awareness campaign. ComEd had radio spots and billboards that supported the awareness campaign. Franklin Energy delivered the SBES Program to customers, administered and tracked the program paperwork, and jointly marketed the program with the utilities. In this section, we review how customers and other market actors evaluated the SBES program's marketing materials, implementation and delivery.

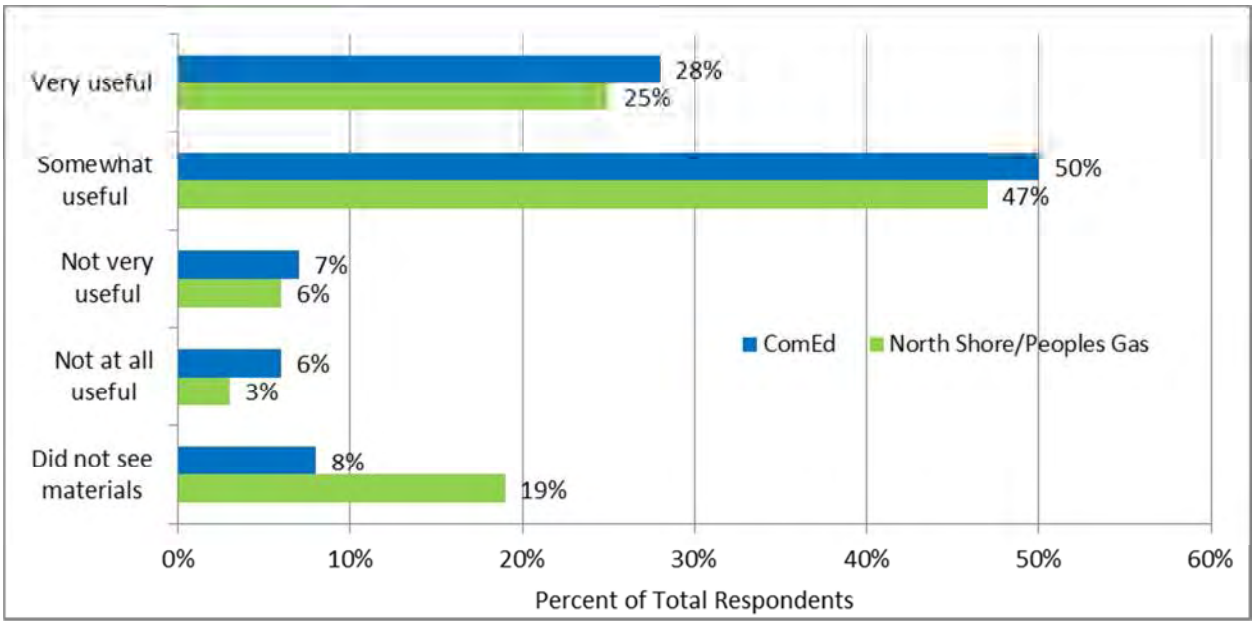
3.2.4.1 *Marketing Materials*

The marketing of the SBES Program was a collaborative effort between the Peoples Gas and North Shore Gas and Franklin Energy, the implementer. The SBES implementation contractors, Nexant and Franklin Energy, worked collaboratively on customer outreach events and on outreach to trade allies.

Usefulness of Marketing Materials

Over 70 percent of ComEd and Peoples Gas/North Shore Gas participant survey respondents found the marketing materials either very useful or somewhat useful. However, a significant minority either did not find these materials useful (13 percent of ComEd respondents, 9 percent of PG/NSG respondents) or couldn't remember seeing them at all (8 percent of ComEd respondents, 19 percent of PG/NSG respondents). Figure 3-6 shows how ComEd and Peoples Gas/North Shore Gas survey respondents evaluate the usefulness of marketing materials.

Figure 3-6. ComEd and Peoples Gas/North Shore Gas Participants - Usefulness of Marketing Materials



Source: EPY4 ComEd and GPY1 Peoples Gas and North Shore Gas Small Business Energy Evaluation Survey, 2012

The implementation contractors, Nexant and Franklin Energy, developed a number of collateral marketing pieces, such as a bi-fold brochure, fact sheets, referral cards, postcards, and text sheets explaining how to use equipment such as the programmable thermostats. Franklin Energy staff distributed the bi-fold brochure and fact sheets to customers during presentations, Chamber of Commerce meetings, festivals, fairs and other events. Cooperative marketing was offered to trade allies.

Franklin program managers reported that Integrys does not market as aggressively as ComEd, which runs ads on the radio, in bill inserts and on billboards. The implementers want Integrys to pursue a similar awareness campaign so they are less likely to be mistaken for retail energy suppliers. Franklin's energy advisors, who conduct the energy assessments, would like Franklin Energy to market the program more actively using the radio, billboards or a bill insert. Some customers were curious as to the reasoning behind

the program and others were bewildered by the program offer. Trade allies reported that word-of-mouth marketing was occurring but was difficult for them to quantify during the first year of the program.

The utilities (ComEd, Nicor, Peoples Gas and North Shore Gas) and the program implementers (Franklin Energy and Nexant) should coordinate their roles in marketing the program and work together to create a more effective marketing plan that meets the needs of all the parties.

3.2.4.2 Program Delivery

In this section, Navigant looks at program implementation and delivery issues of the SBES Program in 2011-2012.

The basic elements of the SBES program remained unchanged during the first year of implementation. Franklin Energy successfully used the first program year to create the necessary implementation structure to deliver the SBES program. The major change was hiring KEMA to conduct the post-installation inspections.

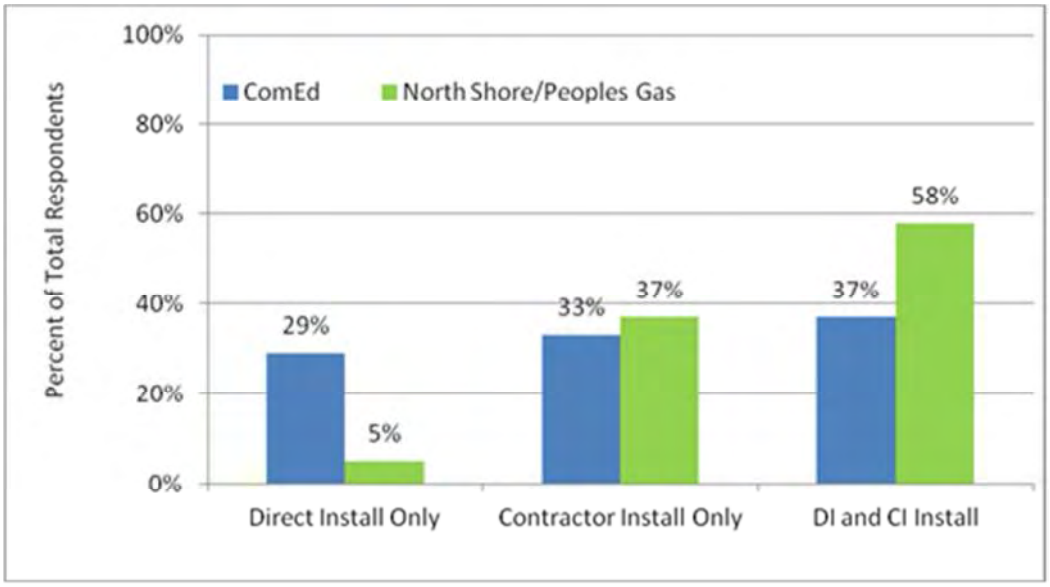
Franklin energy advisors claimed that about 85 percent of the time they were able to place a direct install measure after customers received an assessment. Most surveyed customers (70 percent of ComEd respondents, 95 percent of PG/NSG respondents) were not content with only the direct install measures and went on to invest in additional energy efficient equipment for their businesses. Program-wide, about 40 percent of those who installed at least one direct install measure went on to install measures with a contractor.

Evidence from the implementer and customers suggested that trade allies installed the capital investment measures in a timely manner. The post installation verification process was conducted by the contractor KEMA on at least 2 percent of the sites. Most customers accepted the verification process and saw it as a positive confirmation of the quality of the installation of the measures. According to the Program Managers, the process may be delayed because of an unsigned or an incomplete application. One trade ally, however, reported other problems with the verification process. He complained that KEMA took too long to conduct the inspections, and did not always deliver the level of customer service that he wants for his customers, such as keeping all appointments and allowing him to attend the verification inspection.

The Navigant team is concerned about one program delivery procedure. It is not clear that customers always sign the invoice to indicate that they approved changes in the scope of the projects. We are also not certain that these changes in scope were recorded in the database.

ComEd customers responding to the survey were equally likely to participate in the direct install program option (29 percent), the contractor install option (33 percent) and the direct and contractor install option (37 percent). Peoples Gas/North Shore Gas survey respondents, however, were more likely to participate in the Direct and Contractor Installed program option (58 percent) and less likely to participate in the Direct Install only option (5 percent). Figure 3-7 shows the distribution of the type of installation for both ComEd and Peoples Gas/North Shore Gas survey respondents. These results were not statistically different because of the small number of Peoples Gas/North Shore Gas survey respondents.

Figure 3-7. ComEd and Peoples Gas/North Shore Gas Survey Respondents – Type of Installation



Source: EPY4 ComEd and GPY1 Peoples Gas and North Shore Gas Small Business Energy Evaluation Survey, 2012

Customers were asked to evaluate the contractor that installed their equipment if they had more than one contractor. Of those who appeared in the database to have had more than one contractor install their equipment (N=11), 45 percent agreed that they had more than one contractor. Most of the survey participants in this segment (73 percent) indicated that the lighting contractor did most of the work. One of the non-lighting contractors was identified as an HVAC contactor, but most respondents said they did not know. Overall satisfaction was the same for lighting contractors (mean =9.1) and non-lighting contractors (mean=9.0). Seventy five percent of both lighting contractors (8) and non-lighting contractors (4) said they would recommend the contractor. However, the number of survey participants in these groups is very small so the differences are not statistically significant.

Franklin Energy was the implementer for 41 percent of the ComEd survey respondents. This closely matched the population, where Franklin Energy contributed 43 percent of the population of electric projects (299 out of 690 projects for ComEd).

According to the Peoples Gas/North Shore Gas energy advisors, the average time for installation after the assessment was a few days to twenty days. When the process was delayed it was generally because of an unsigned application or an incomplete application. The post inspection, conducted by KEMA, also delayed the payment process, sometimes frustrating the trade ally. For instance, one of the trade allies said that Nexant provided payment within a week to three weeks after project completion, while Franklin Energy paid within 3 weeks to 3 months. At least one trade ally avoided the Peoples Gas/North Shore Gas service area for this reason.

Franklin Energy's energy advisors inspected the first three projects of newly approved trade allies during and after installation. After that, about 10 percent of all projects were inspected by KEMA to confirm that the measures were installed per the installation agreement.

3.2.5 Program Improvements

This section discusses how the various market actors would like to see the program improved. It should be noted at the outset that a plurality of customers had no suggestions for improving the program, and a majority could not name any drawbacks to the program. The suggestions from customers were the usual ones: higher incentives, better communication and more publicity.

One of the most difficult problems facing the SBES program is how to effectively inform low-information customers who are often naïve about energy issues, energy efficiency programs, and the surcharge. This problem is underlined by the fact that some customers express skepticism at the notion that ComEd and Peoples Gas/North Shore Gas are sponsoring a program for small business customers at all, something they have not done in the past.

Program managers, trade allies and customers offered various suggestions for improving the SBES program. One program manager wants to see improvements to the tracking system, saying the database is "bulky". ComEd and Integrys had to develop their own databases and are still working out what data are necessary.

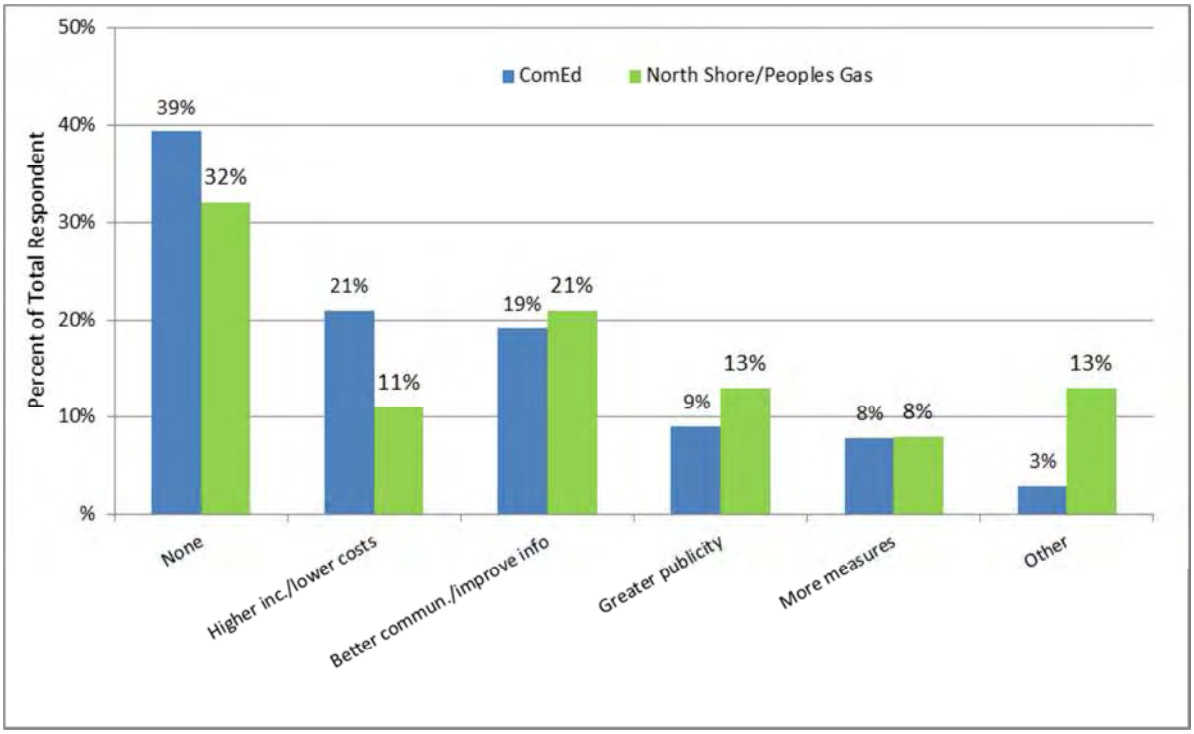
One trade ally wants to give mechanical contractors more control over the delivery of the program. In this trade ally's view, mechanical contractors should be allowed to offer the rebates during a repair call. They would coordinate the program with their repair calls and pass the contact data to Franklin Energy, who would use the repair as a foot in the door to conduct the assessment.

Some trade allies want to see more measures added to the program, although others have reservations. For instance, one would like to see re-venting and rebalancing for steam boilers and barometric dampers included. Another felt that there is not enough time or money in the program currently for doing furnace tune-ups correctly, and that adding new capital investment measures would only increase participation if the incentives were sufficiently large to make them affordable.

Trade allies also urged higher incentive levels and improved marketing of the program. Two said they would like to see the SBES program marketed as aggressively as the other ComEd Smart Grid programs, with more targeted messaging and more generous incentive levels.

Customers voiced similar ideas for improving the SBES program. As shown in Figure 3-8, the top two improvements mentioned are higher incentives/lower costs (21 percent of ComEd respondents, 11 percent of PG/NSG respondents) and better communication/improved information (19 percent and 21 percent, respectively).

Figure 3-8. SBES Program Improvements Mentioned by ComEd and Peoples Gas/North Shore Gas Customers



Source: EPY4 ComEd and GPY1 Peoples Gas and North Shore Gas Small Business Energy Evaluation Survey, 2012. Multiple responses were accepted.

3.2.5.1 Barriers and Drawbacks to the Program

This section examines the views of various market actors on barriers and drawbacks to the SBES program. Program managers see two major barriers to program participation:

- The biggest barrier is affordability: most customers wait for equipment to break before they fix it.
- The other barrier is lack of awareness of the SBES Program—and finding the best ways to educate customers about the Program and overcome their skepticism. The SBES Program is easy to participate in. Greater customer awareness and acceptance of the program would help sell the program.

They see more barriers on the gas side than on the electric side, and think the program needs to offer more, and possibly higher, gas incentives. Some also want to see the number of HVAC contractor trade allies expanded on the theory that small customers often have their own HVAC contractor for tune-ups.

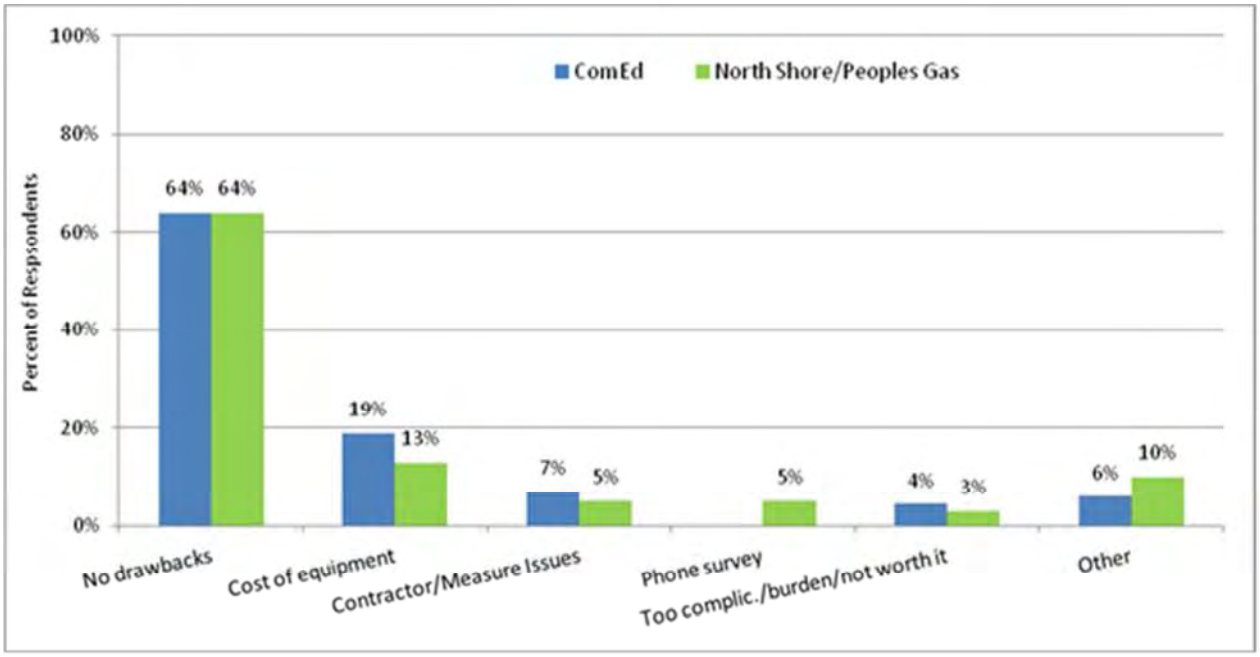
Energy advisors found other major program barriers:

- One energy advisor agreed with Program Managers that money was the largest barrier for many customers, suggesting that the utilities should provide a funding mechanism for viable small businesses.
- Lack of awareness of the program and knowledge about the benefits of the program was another huge barrier for customers.
- Customers experienced some confusion because ComEd and Peoples Gas/North Shore Gas were working together and customers had never seen this before. Customer skepticism about the legitimacy of the program was higher when the trade ally was the first program contact and the customer was unaware of the program. ComEd and Peoples Gas/North Shore Gas should consider ways of identifying approved trade allies in a way that assures small business customers that they are legitimate, while still protecting the utility brands.
- Many small business customers do not know about the ratepayer bill surcharge.

Customers' drawbacks were predictable for a first year program: equipment costs, a few issues with the equipment or the contractor, and the complicated nature of the program. Program changes were made in GPY2 to reduce the cost of the equipment; this program change and others made in GPY2 will be evaluated during the next evaluation cycle.

Almost two-thirds of both the ComEd survey participants and the Peoples Gas/North Shore Gas survey respondents could not find any drawbacks to the program (64 percent, 64 percent). About one in five ComEd survey participants (19 percent) and about one in eight Peoples Gas/North Shore Gas survey respondents (13 percent) indicated that the cost of the equipment was a problem even with the program incentives. Similar small proportions of ComEd and Peoples Gas/North Shore Gas customers had issues with the contractor (7 percent, 5 percent). Two Peoples Gas/North Shore Gas customers (5 percent) said the phone survey was a program drawback. Figure 3-9 shows these differences in perceived drawbacks between ComEd and Peoples Gas/North Shore Gas survey participants.

Figure 3-9. Drawbacks to the SBES Program ComEd Participants



Source: EPY4 ComEd and GPY1 Peoples Gas and North Shore Gas Small Business Energy Evaluation Survey, 2012.

A major barrier to the energy assessment is that customers frequently misidentify implementers and the contractors as power salesmen. Since the state of Illinois is deregulated, power salesmen have targeted small businesses in an effort to sell their distribution services.

The Economy

Nexant's trade allies said that the slow growth of the economy has made the SBES program harder to sell and reduced interest in the program. Some trade allies believed the economy was slowly improving during the program year, but not all agree. Either way, many customers do not have the cash or the willingness to spend it. Trade allies report that some customers would not accept a favorable return on investment of nine to eighteen months because of lack of cash flow.

The Nexant Program Manager agreed that the poor economy was the major barrier for small business owners. The two year or less payback makes the program attractive to small business customers, but they are only able to take advantage if they have the money to invest.

Nexant staff also said that the economy was having an impact on the program. One implementer said that "some customers could not do anything without the program. Others are depending on the trade ally to offer payment plans."

4. Findings and Recommendations

4.1 *Key Impact Findings and Recommendations*

The primary impact findings and recommendations are as follows:

Finding: For electric measures claimed by ComEd, the telephone survey responses from 89 of 90 participants confirmed measure installations. On one project, the respondent reported that only 12 of 18 claimed direct installed CFLs were installed. Invoices supplied for file reviews confirmed claimed measure counts, but two of the on-site verification visits found some differences between claimed quantities and observed lighting fixture types and quantities. Adjustments to these three individual projects resulted in realization rates higher and lower than 1.0, but in aggregate the resulting savings for sampled projects was very close to 1.0. Rounded to two digits, the final evaluation verified gross realization rate was equal to 1.03.

There were no adjustments to quantities or measure types for gas measures claimed by PG/NSG based on the CATI survey, the file reviews, or the on-site visits, but there was a minor downward adjustment due to miscalculation of the TRM savings for faucet aerators made in the ex-ante basis. The TRM gross ex-ante savings should have been calculated as 5.14 therms per aerator rather than the 7.2 therms Franklin used. However, after GPY1 ex-ante savings were final, an error was found in the TRM: the corrected value for the TRM is 18.0 therms rather 5.14 therms. The correction of the ex-ante per-unit savings from 7.2 to 5.14 gross therms is reflected in the savings reported under the rubric "ICC-Approved TRM", while the correction of the ex-ante per-unit savings from 7.2 to 18.0 therms is reflected in the savings reported under "Corrected TRM Algorithm.".

- **Recommendation:** Implementers should reinforce with trade allies the importance of accurate invoicing that reflects final customer decisions regarding installed measures. On those lighting projects where differences were found between verified and claimed savings, it appeared customers and trade allies had altered the scope on one or two measures after the initial assessment but did not update the invoice. The changes we observed led us to believe these were reasonable modifications to accommodate facilities with a mix of spaces and fixtures, and did not result in significant deviations from claimed project savings or cost. The basic issue is ensuring that the type and quantity of energy efficient equipment installed was correctly invoiced and the database updated.
- **Recommendation:** Franklin has incorrectly applied the "GPM factor" in their bath aerator per unit savings, and should update their tracking system with approved TRM savings.

Finding: On five of 90 telephone interviews, participants had indicated they had added some lighting, roughly 1 percent to 2 percent of their installed quantities, to the same spaces after completing the project to increase light levels. This resulted in minor adjustments to reduce savings for those projects.

- **Recommendation:** While some level of post-installation adjustment to quantities is to be expected, implementers should monitor participant satisfaction regarding lighting levels.

Finding: Evaluation research findings for customer participant self-reported free-ridership were 17 percent for ComEd and 18 percent for PG/NSG. Individual trade ally responses to free-ridership questions were weighted by their respective fuel-specific program savings contributions and combined for a fuel-specific overall free-ridership rate. This approach resulted in an evaluation estimate of 2 percent free-ridership for gas measures, and 5 percent free-ridership for electric measures.

Finding: The per-unit savings values provided by ComEd and PG/NSG were reasonable first year ex-ante savings estimates, given that participant equipment sizes and operating hours were assumed. Based on better information, we made minor adjustments to the per-unit savings for five electric measures. We adjusted the three water saving electric measures (e.g., aerators, showerheads, and pre-rinse sprayers) to apply usage assumptions and algorithms from the Illinois TRM to match the gas measure savings.[23]

There are three areas of higher uncertainty that require attention in the second program year: lighting hours of use, heating equipment capacities, and programmable thermostat per unit savings. Where lighting measures were installed, survey participants were asked a detailed set of questions to determine lighting schedules and percent of lights that are on during open and closed times. The average annual equivalent full-load hours for 26 ComEd respondents were 2,954 annual hours. This compares with default values in the Illinois TRM of 4,576 annual hours for fixture-based lighting and 3,198 annual hours for screw-based lighting for the "Miscellaneous" building type. In particular, places of worship reported lower-than-average full load operating hours. This finding is of some concern: if the initial lighting assessment over-estimates the expected savings of measures, the actual payback will lengthen and alter cash-flow.

PG/NSG based their boiler measure savings on fixed, assumed equipment sizes in the first year, whereas the Illinois TRM[24] estimates savings using heating equipment gas input size as a measure-level custom input to the algorithms. We did not observe project-specific heating equipment sizes in the tracking system or listed in the project documentation we sampled. Programmable thermostats are a high volume measure in the SBES program not covered by the Illinois TRM, and should be reviewed for addition. Survey research on 25 respondents with programmable thermostats found that 3 reported neither they nor a contractor had programmed the thermostat and another 3 reported programming it but not to different temperature settings for occupied and unoccupied periods.

- **Recommendation:** Reinforce with trade allies that programmable thermostats must be programmed to different temperature settings for occupied and unoccupied periods.
- **Recommendations** for potential updates and revisions to the Illinois TRM are provided in Appendix 5.4.
- **Recommendation:** The Illinois TRM should consider adding one or more new building types for selective use by the Small Business program, such as a "low hours-of-use

[23] See the discussion in sections 3.1.2 and 3.1.3.

[24] State of Illinois Energy Efficiency Technical Reference Manual, Final version, September 14, 2012, effective June 1, 2012

miscellaneous" building type that may be used for participants with lower lighting operating hours.

- **Recommendation:** Site assessment reports for places of worship and other low-use facilities should check projected savings against usage history to ensure savings estimates provided to customers are reasonable.
- **Recommendation:** The program should collect boiler and furnace heating system capacities to enable the program to claim actual rather than default savings.
- **Recommendation**: Confirm that the tracked savings in EPY5 match the Illinois TRM for water saving measures.

We did not observe that Franklin was tracking building types in GPY1, instead defaulting to a "miscellaneous" building type in per unit savings calculations. We did not adjust for this finding in the verified gross estimate, but project-specific adjustments were made in the research findings gross estimate.

- **Recommendation:** It will be necessary to assign and document a building type in GPY2 to calculate per-unit savings using the TRM.

4.2 *Key Process Findings and Recommendations*

The key process finding and recommendations are as follows:

Finding: With respect to savings goals, Peoples Gas did not reach their goal of 166,196 net therm savings in the first year, achieving 88,714 verified net therms, which is 53 percent of goal. North Shore Gas exceeded their goal of 31,407 net therm savings in the first year, achieving 43,515 verified net therms, which is 139 percent of goal. ComEd exceeded their energy saving goal of 5,960,000 net kWh goals during the first year by achieving 9,009,031 verified net kWh, which is 151 percent of goal.

ComEd and North Shore Gas SBES programs exceeded their planning goals during the first year of the program, while Peoples Gas did not.

- **Recommendation:** Peoples Gas should recruit more HVAC contractors and encourage them to market the program aggressively and to work closely with lighting contractors in the city of Chicago. North Shore Gas staff should continue their successful marketing tactics.

Finding: Urban small business customers in Peoples Gas service area were the least trusting, the most likely to question the legitimacy of the program and the partnership between ComEd and Peoples Gas.

- **Recommendation**: ComEd and Peoples Gas should take steps to legitimize the program in the eyes of the target customer group, such as instituting an official ID system for approved trade allies.
- **Recommendation:** ComEd and Peoples Gas/North Shore Gas should consider developing a SBES trade ally brand through enhanced marketing efforts such as radio, TV and print advertising; a social media campaign; and more intensive communication with trade groups and neighborhood associations. Once the

brand identity is established, trade allies could place a decal, emblem, slogan or some other form of identification short of an identification card on their vehicles or person after their company reached a minimum participation level. The decal would declare them an approved ComEd/Peoples Gas/North Shore Gas Small Business Energy Services Program trade ally and have an easily recognizable name linked to the program.

- **Recommendation:** ComEd and Peoples Gas should encourage HVAC trade allies to market the SBES program during their annual tune-up call and then arrange for Franklin Energy to visit later to conduct the assessment.

Finding: Higher incentives, some type of financing mechanism, and more aggressive marketing and communication were all mentioned by market players and customers as ways to improve the SBES program. Both customers and trade allies raised the financing issue. Small business customers are shut off from the finance markets and may still be experiencing cash flow issues from the sluggish economy.

- **Recommendation:** ComEd and Peoples Gas should consider implementing an on-bill financing mechanism for SBES participants.

Finding: Over three-fourths of ComEd participant survey respondents and 70 percent of Peoples Gas/North Shore Gas participant survey respondents found the marketing materials either very useful or somewhat useful. Gas company participants were twice as likely as electric company participants to say that they did not see any marketing materials.

- **Recommendation:** Franklin Energy should use a few minutes of their training time with HVAC contractors to review the marketing materials and to encourage them to use the materials in their interactions with customers.

Finding: One of the most preferred methods of contact for customers is via emails; it is the most-preferred communications mode for electric customers, and the second-most preferred method for gas customers. Gas customers were most likely to mention door-to-door contact as their most preferred method of contact. In practice, customers were most frequently contacted by a trade ally or received information in a bill.

- **Recommendation:** ComEd and Peoples Gas/North Shore Gas should investigate ways to expand their use of email for marketing to small business customers. One entryway to a working email list would be to establish an email newsletter for small business owners.

Finding: Trade allies that want to operate in the Nicor Gas and Peoples Gas/North Shore Gas service territories are required to be trained once for each program. Trade allies think that requiring this level of training every year is unnecessary and tedious.

- **Recommendation:** Future trainings could be abbreviated since all the trade allies are experienced and have been thoroughly trained. Nexant and Franklin Energy should consider developing a combined training curriculum that includes information on both

programs. While there are some important differences between the programs, the basic program steps are the same. Any new trade allies would require a more detailed training rather than the program update current participants would receive.

Finding: Many small business customers are too busy to pay attention to developments in the energy field and are, therefore, uninformed about the statewide energy efficiency surcharge or the requirement that gas and electric companies develop energy efficiency programs. Some customers remain skeptical that ComEd and Peoples Gas/North Shore Gas are sponsoring a program for small business customers.

- **Recommendation:** These concerns are not uncommon during the first year of programs like this one, and the program can be expected to become better-known over time. However, ComEd and Peoples Gas/North Shore Gas should consider implementing an expanded program of focused marketing to speed this process along.
- **Recommendation:** Peoples Gas/North Shore Gas should be cautious about terminating this program too quickly. Small business customers are 'low information' customers, and it will take time and resources for their knowledge base to catch up with larger customers.

Finding: The database does not always include customer information in the contact fields of the database. For these projects, customers with trade allies for the contact fields were excluded from the list of valid projects. The evaluation team encountered difficulty linking gas and electric measures installed at a given facility.

- **Recommendation:** Franklin Energy should require the trade allies complete the application with the customer's contact information and not his or her own information to increase the accuracy of the sample.
- **Recommendation:** Include a common project ID to link gas and electric measures installed at a facility.

5. Appendix

5.1 *Glossary*

High Level Concepts

Program Year

- EPY1, EPY2, etc. Electric Program Year where EPY1 is June 1, 2008 to May 31, 2009, EPY2 is June 1, 2009 to May 31, 2010, etc.
- GPY1, GPY2, etc. Gas Program Year where GPY1 is June 1, 2011 to May 31, 2012, GPY2 is June 1, 2012 to 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 EPY4/GPY1 ComEd's deemed parameters were defined in its filing with the ICC. The Gas utilities agreed to use the parameters defined in the TRM, which came into official force for EPY5/GPY2.

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 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, 2012[25].

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.

[25] IL-TRM_Policy_Document_10-31-12_Final.docx

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 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.

5.2 *Detailed impact evaluation methods*

This section describes the methods used to evaluate the gross and net savings estimates of the Small Business Energy Savings program in greater detail.

The evaluation methods used to produce estimates of the gross and net impacts of the EPY4/GPY1 SBES program include:

- Engineering review of measure per-unit savings assumptions
- Examination of tracking system calculations of claimed savings
- CATI telephone survey of sampled program participants to verify participation and gather site-specific measure data
- Engineering review of project documentation at the measure level for a subsample of survey participants
- On-site verification of a subsample of projects selected from among the survey participants to verify equipment installation
- In-depth trade ally interviews

5.2.1 **Measure-level per-unit savings**

The ex-ante gross energy savings for most of the electric lighting measures in the EPY4 SBES program are calculated from per-unit savings values defined by the document *Plan Year 4 Deemed Savings Values 31230.pdf*[26]. For the SBES program, the *Plan Year 4* document indicated for "Prescriptive based measures," that "Some measures deemed per Prescriptive program", while for "All other measures" it indicated that "New Program – realization rates not eligible for deeming at this time." The technical basis for ComEd's ex-ante gross savings are contained in the ComEd document *Appendix A – ComEd Work papers 8-5-11.pdf*.[27] These two ComEd sources allowed the evaluation team to review default savings for all lighting measures and inform adjustments if warranted. The electric hot water saving measures (aerators, showerheads, and pre-rinse sprayers) are not included in ComEd's *Plan Year 4 Deemed Values* or *Appendix A*, and were assigned default values by the implementers. Vending and cooling miser devices were assigned default values from the State of Illinois Energy Efficiency Technical Reference Manual (TRM)[28]

The Illinois TRM provides the per-unit savings for gas measures, with some exceptions for measures that were not covered in the current TRM version. For measures not covered by the Illinois TRM, the implementers provided default values and assumptions that were used in program planning.

5.2.2 **CATI telephone surveys**

Computer-Assisted Telephone Interviewing (CATI) surveys were conducted with a sample of ComEd, Nicor and Peoples Gas and North Shore Gas program participants. The survey was directed toward unique customer contact names drawn from the tracking system for EPY4 and GPY1 paid SBES projects. The survey asked questions that were used to estimate net program impacts (quantitative assessment of free-ridership and spillover) and questions related to specific measures, such installed quantities, in support of the gross

[26] This document is on the ICC web site for docket 10-0570. (http://www.icc.illinois.gov/docket/Documents.aspx?no=10-0570)
[27] Provided by David Nichols, email August 12, 2011.
[28] Final version, September 14, 2012, effective June 1, 2012.

impact analysis, as well as process-related questions. The participant survey can be found later in this Appendix.

5.2.2.2 *CATI survey sample design*

The sampling strategy for the CATI surveys was designed to produce 90/10 confidence/precision levels for program-level savings estimates for ComEd participants and for PG/NSG participants. The sample was also designed to ensure inclusion of projects with direct-install measures as well as contractor-install measures, and projects with electric measures as well as gas measures. Table 5-1, Table 5-2, and Table 5-3 provide a breakdown of installed electric and gas measures.

Table 5-1. Installed Electric Measures for ComEd

Installed Electric Measure Type	ComEd		
	Ex-Ante Quantity Installed	Ex-ante Gross Savings, kWh	kWh Percent
[DI] CFL	1,031	243,698	3 %
[DI] Vending Miser/Cooling Miser	205	291,759	3 %
[DI] Showerheads	17	5,525	~ 0 %
[DI] Pre-Rinse Sprayers	8	10,048	~ 0 %
[DI] Aerators	213	26,541	~ 0 %
[CI] 4 ft HPT8 Fixture	3,395	582,971	6 %
[CI] 4' HPT8/LWT8 Lamp & Bal.	4,686	671,873	7 %
[CI] Delamping: T12 to 4' HPT8	7,381	3,497,999	38 %
[CI] HID to High Bay HPT8	1,217	1,321,447	14 %
[CI] U-Tube 2-Lamp	122	15,187	~ 0 %
[CI] LED Exit Sign Retrofit	1,415	421,370	5 %
[CI] CFL	2,812	1,054,994	11 %
[CI] Cold Cathode Lamps	5,340	1,063,569	12 %
All Electric Measure Savings		9,206,981	100 %

Source: Savings verification and analysis of ex-ante savings from ComEd online tracking system, October 29, 2012.
[DI] refers to direct-installed measures. [CI] refers to contractor-installed measures.

Table 5-2. Installed Gas Measures for Peoples Gas

Installed Gas Measure Type	Peoples Gas		
	Ex-Ante Quantity Installed	Ex-ante Gross Savings, Therms	Therms percent
[DI] Pre-rinse Spray Valve	68	12,470	14 %
[DI] Aerator	652	4,694	5 %
[DI] Showerhead	125	1,691	2 %
[CI] Thermostat	378	67,284	74 %
[CI] Furnace Tune-up	67	4,201	5 %
[CI] Boiler Tune-up	5	174	~ 0 %
All Gas Measure Savings		90,515	100 %

Source: Savings verification and analysis of ex-ante savings from Franklin data, October23, 2012. [DI] refers to direct-installed measures. [CI] refers to contractor-installed measures.

Table 5-3. Installed Gas Measures for North Shore Gas

Installed Gas Measure Type	North Shore Gas		
	Ex-Ante Quantity Installed	Ex-ante Gross Savings, Therms	Therms percent
[DI] Pre-rinse Spray Valve	18	3,301	7 %
[DI] Aerator	253	1,822	4 %
[DI] Showerhead	148	2,002	5 %
[CI] Thermostat	208	37,024	83 %
[CI] Furnace Tune-up	4	251	1 %
[CI] Boiler Tune-up	0	-	~ 0 %
All Gas Measure Savings		44,399	100 %

Source: Savings verification and analysis of ex-ante savings from Franklin data, October23, 2012. [DI] refers to direct-installed measures. [CI] refers to contractor-installed measures.

For GPY1 and EPY4, a statistically significant sample based on 90/10 confidence/precision levels for program-level savings was achieved based on telephone verification interviews. The specific customer projects receiving the engineering reviews or site visits were selectively chosen from the telephone interview respondents to represent larger or more complicated SBES projects.

Program planners anticipated that many customers would install both gas and electric saving measures. The goal of the sampling task was to create a list of customers with unique contact names attached to unique site addresses. Most customers installed more than one measure and some of them installed multiple measures at more than one site. To create the customer list, the Navigant team conducted the following tasks:

- Customers with gas and electric measures at one site were combined.
- For customers with one site and more than one set of gas or electric measures, Navigant choose the measures with the largest savings.
- For customers with more than one site, Navigant choose the site with the largest savings.
- Customers with no valid telephone numbers were excluded from the list.
- Customers with trade allies for the contact were excluded from the list.

Project sites were randomly sampled from tracking data listing program participants provided by Nexant and Franklin Energy. No customer was allowed in the sample more than once, but some participants appear in gas and electric samples because they were interviewed once for the mix of measure types installed (direct-installed, contractor-install, gas measures, and electric measures).

Table 5-4 below shows the final disposition of the 443 unique contacts included in the original sample frame for the ComEd/PG/NSG participant survey.

Table 5-4. Sample Disposition for Gross Impact, NTG and Process Analysis

PG/NSG Disposition Report	Customers	Percent
Population of Unique Customers	443	100 %
Initial refusal	129	29 %
Non- specific callback	113	26 %
Complete	58	13 %
Disconnected phone	24	5 %
Wrong Number	24	5 %
Answering machine	22	5 %
No Answer	18	4 %
Could not confirm part.	10	2 %
Not called	9	2 %
Scheduled appt.	7	2 %
Called already	5	1 %
Mid-Interview Term	5	1 %
Computer tone	4	1 %
Callback to complete	4	1 %
Hard Refusal	3	1 %
Language problems	2	0 %
Residential Phone	2	0 %
Busy	1	0 %
Response Rate	*12 %*	

Source: Evaluation team

Table 5-5 provides a profile of the gross savings evaluation sample for the ComEd EPY4 SBES program in comparison with the SBES program population. The resulting sample consisted of 90 projects,[29] responsible for 1.2 million kWh of ex-ante gross energy savings and representing 13 percent of the energy savings for the program population. Of the 90 sampled projects, some contain DI measures only, some contain CI measures only, and some contain both types of measures.

Table 5-5. Profile of the ComEd EPY4 SBES Population and Gross Savings Evaluation Sample

Population Summary				Gross Impact Sample		
Installed Electric Measure Type	Number of Projects (N)	Ex-ante Gross Savings, kWh	kWh percent	n	Ex-ante Gross Savings kWh	Sampled percent of Pop.
Direct-Installed (DI)	478	577,571	6 %	55	74,748	13 %
Contractor-Installed (CI)	401	8,629,410	94 %	55	1,146,039	13 %
All Projects*	690	9,206,981	100 %	90	1,220,787	13 %

Source: Savings verification and analysis of ex-ante savings from ComEd online tracking system, October 29, 2012.
** Some projects contain both DI and CI measures, so the total number for "All Projects" is less than the sum of projects that contain DI measures plus the number of projects that contain CI measures.*

Table 5-6 provides a profile of the gross savings evaluation sample for the PG/NSG GPY1 SBES program in comparison with the SBES program population. The resulting sample consisted of 38 projects, responsible for 17,982 therms of ex-ante gross energy savings and representing 13 percent of the ex-ante gross energy savings for the program population. Of the 38 sampled projects, some contain DI measures only, some contain CI measures only, and some contain both types.

Table 5-6. Profile of the PG/NSG GPY1 SBES Population and Gross Savings Evaluation Sample

Population Summary				Gross Impact Sample		
Installed Gas Measure Type	Number of Projects (N)	Ex-ante Gross Savings, Therms	kWh percent	n	Ex-ante Gross Savings Therms	Sampled percent of Pop.
Direct-Installed (DI)	299	25,979	19 %	13	1,177	5 %
Contractor-Installed (CI)	222	108,935	81 %	26	16,805	15 %
All Projects*	396	134,914	100 %	38	17,982	13 %

Source: Savings verification and analysis of ex-ante savings from Franklin data, October23, 2012.
**Some projects contain both DI and CI measures, so the total number of "All Projects" is less than the sum of projects that contain DI measures plus the number of projects that contain CI measures.*

[29] Includes ComEd joint projects with Nicor Gas.

For the NTG interviews, the population was stratified into two groups: projects that consisted of direct-installed measures only (DI Only) and projects that contained contractor-installed measures either with or without also having direct-installed measures (CI or CI+DI). The DI-only stratum received a slightly modified NTG battery of questions than were given to participants with CI measures. If a participant had CI and DI measures installed, the NTG battery asked only the CI battery. The number of sample points for the NTG estimate will be greater than the number of interviews if a respondent indicated that multiple sites they represent (e.g., retail chains) had gone through a single energy efficiency upgrade decision making process. Table 5-7 provides the sample for projects with electric measures installed for ComEd EPY4 SBES. Table 5-8 provides the sample for projects with gas measures installed for PG/NSG GPY1 SBES.

Table 5-7. Participant Net-to-Gross Sample for ComEd EPY4

Sample Strata	Project Population (N=690)	NTG Interviews (n=84)	NTG Sample (n=85)	Sample kWh Weights
DI Only	289	29	29	0.036
CI or CI+DI	401	55	56	0.964
Total	690	84	85	1.000

Source: Telephone interviews.

Table 5-8. Participant Net-to-Gross Sample for PG/NSG GPY1

Sample Strata	Project Population (N=396)	NTG Interviews (n=30)	NTG Sample (n=31)	Sample Therm Weights
DI Only	194	4	5	0.171
CI or CI+DI	202	26	26	0.829
Total	396	30	31	1.000

Source: Telephone interviews.

Navigant completed process interviews with 99 ComEd customer participants. NTG and gross impact interviews were completed with 84 and 90 PY4 ComEd participants, respectively, resulting in a precision level of +/-3 percent for net to gross results and +/-5 percent for gross impact results at 90 percent level of confidence.

Navigant completed process interviews with 38 PG/NSG customer participants. NTG and gross impact interviews were completed with 30 and 38 GPY1 PG/NSG participants, respectively, resulting in a precision level of +/-9 percent for net to gross results and +/-3 percent for gross impact results at 90 percent level of confidence.

5.2.3 Gross Savings Evaluation Research Findings

Research findings gross savings for sampled projects were estimated using the following approach, which was applied to the measures found in the CATI sample. The CATI telephone survey described the measure types and quantities reported in the tracking system to each participant, then asked the participant to verify whether the measures as described had been installed and, if not, whether the participant could identify the currently installed quantities and measures. These questions were asked for all direct-install measures reported at a site, and for up to three contractor-installed lighting measures and three contractor-installed non-lighting measures. A measure-level adjustment factor was then calculated as the verified quantity divided by the ex-ante quantity reported in the tracking system.

On measures where an in-service rate is factored into ex-ante savings, the customer in-service rate was adjusted to reflect customer responses, where provided. For electric lighting measures, participants were asked a detailed set of questions on lighting schedules and percent of lights operating to support an estimate of equivalent annual full load hours of operation. Research findings gross impacts reflect lighting hours of use adjustment where estimated.

Measures in the CATI sample were also reviewed to determine whether per-unit savings were correctly applied in the ex-ante gross savings calculations in the tracking file. If the default value for a given measure was not applied correctly, a realization rate adjustment, defined as the evaluation estimated per-unit savings divided by the ex-ante per-unit savings, was applied.

For projects that received a file review or an on-site visit, an engineering verification realization rate was applied that adjusted for either verified quantities or measure type as observed in documentation or on-site.

A research findings gross realization rate (which is the ratio of the research findings gross savings to ex-ante gross savings as reported in the tracking system) was then estimated for the sample and applied to the total program ex-ante gross savings. The result is an evaluation research findings gross savings for the SBES program as a whole.

Evaluation research findings for gross savings are provided in Table 5-9.

Table 5-9. Research Findings Savings of the Small Business Energy Savings Program

Savings Estimates	EPY4 ComEd Electric Energy Savings (kWh)	GPY1 Peoples Gas Natural Gas Energy Savings (Therms)	GPY1 North Shore Gas Natural Gas Energy Savings (Therms)
Ex-Ante Gross*	9,206,981	90,515	44,399
Ex-Ante Net**	7,365,585	85,989	42,179
Research Findings Gross	7,891,179	79,041	38,771
Research Findings Net	7,496,620	78,251	38,383

** Source: Electric ex-ante gross savings from ComEd online tracking system, October 29, 2012. Peoples Gas and North Shore Gas ex-ante savings from an extract dated October 23, 2012.*
*** ComEd ex-ante net savings shown here is an evaluation estimate that applied a NTGR of 0.80 to the ex-ante gross savings. PG/NSG Gas ex-ante net savings includes a NTG ratio of 0.95.*

The EPY4 ComEd electric savings have a research findings gross realization rate of 0.86, compared with the verified gross realization rate of 1.03. The relative precision at a 90 percent confidence level is ±8 percent for the electric gross impact research findings savings. The substantial drop is mainly due to the lower lighting hours of use. The PG/NSG research findings realization was 0.87, which is lower than the 0.99 verified gross realization rate, due mainly to zero savings assigned to programmable thermostats in the sample that had not been programmed to different temperature settings. The relative precision at a 90 percent confidence level is ±10 percent for the natural gas gross impact research findings savings.

5.2.4 Verified Gross Savings with Aerator and Showerhead Errata Fixed

An error was found in the Illinois TRM for Commercial and Industrial aerators and showerheads and was brought to the attention of the TRM Technical Advisory Committee: an adjustment of the "GPM factor" was redundant in the algorithm, resulting in savings that are underestimated for gas and electric water heating. We did not adjust our evaluation verified savings to fix these errors in the main report for gas savings, but provide a revised calculation result below if it is determined that this error adjustment should be applied retroactively to GPY1 savings. The revised verified gross and research findings net savings are provided in Table 5-10. For PG/NSG, we revised the ex-ante basis to adjust for the error, since the gas utilities had intended to base ex-ante impacts on the TRM. Since the TRM was not required for electric water saving measures in EPY4, the gross electric savings for aerators and showerheads shown in the main report already reflect the corrected algorithm applied by evaluation.

Table 5-10. Verified Savings of the SBES with Aerator and Showerhead Errata Fixed

Savings Estimates	GPY1 Peoples Gas Natural Gas Energy Savings (Therms)	GPY1 North Shore Gas Natural Gas Energy Savings (Therms)
Ex-Ante Gross*	98,583	48,347
Ex-Ante Net**	93,654	45,930
Research Findings Gross	98,583	48,347
Research Findings Net	97,597	47,864

** Source: Peoples Gas and North Shore Gas ex-ante savings from an extract dated October 23, 2012, adjusted to correct for the aerator and showerhead TRM errata.*
*** PG/NSG Gas ex-ante net savings includes a NTG ratio of 0.95.*

The adjustment to fix the errata increases the gas savings increase substantially due to the 9 percent higher ex-ante gross savings.

5.2.5 Net-to-gross analysis

The primary objective of the net savings analysis for the SBES program was to determine the program's net effect on customers' energy usage. After gross program impacts have been assessed, net program impacts are derived by estimating a NTG ratio that quantifies the percentage of the gross program impacts that can be reliably attributed to the program.

For EPY4/GPY1, the net program impacts were quantified from the estimated level of free-ridership and participant spillover. Quantifying free-ridership requires estimating what would have happened in the absence of the program. Free-ridership was calculated using an algorithm based on interview results from participating customers supported by data collected from in-depth trade ally interviews. The existence of

participant spillover was quantitatively examined by identifying spillover candidates through questions asked in the participant telephone interviews.

Once free-ridership and spillover have been estimated, the NTG ratio is calculated as follows:

NTG Ratio = 1 – Free-ridership Rate + Participant Spillover + Non-Participant Spillover

5.2.6 Basic Rigor Free-Ridership Assessment

Free-ridership was assessed using a customer self-report approach following a framework that was developed for evaluating net savings of California's 2006-2008 nonresidential energy efficiency programs. This method calculates free-ridership using data collected during participant telephone interviews concerning three items:

- A **Timing and Selection** score that reflects the influence of the most important of various program and program-related elements in the customer's decision to select the specific program measure at this time.
- A **Program Influence** score that captures the perceived importance of the program (whether rebate, recommendation, or other program intervention) relative to non-program factors in the decision to implement the specific measure that was eventually adopted or installed. This score is cut in half if the participant learned about the program after having already decided to implement the measures.
- A **No-Program** score that captures the likelihood of various actions the customer might have taken at this time and in the future if the program had not been available. This score accounts for deferred free-ridership by incorporating the likelihood that the customer would have installed program-qualifying measures at a later date if the program had not been available.

Each of these scores represents the highest response or the average of several responses given to one or more questions about the decision to install a program measure. The rationale for using the maximum value is to capture the most important element in the participant's decision making. This approach and scoring algorithm were developed from that used for the ComEd and Ameren Illinois C&I prescriptive rebate programs.

5.2.7 Participant Spillover

For the EPY4/GPY1 SBES program evaluation, a battery of questions was asked to identify spillover candidates. Below are paraphrased versions of the spillover questions that were asked:

1. Since your participation in the SBES Program, did you implement any ADDITIONAL energy efficiency measures at this facility or at your other facilities within <ComEd/Peoples Gas/North Shore Gas> service territory that did NOT receive incentives through any utility or government program?
2. On a scale of 0-10, where 0 means "no influence" and 10 means "greatly influenced," how much did your experience with the SBES Program influence your decision to install high efficiency equipment on your own?
3. Why do you give the SBES Program this influence rating?

If the response to question 2 was given a score of 7 or higher, we judged the respondent to be a spillover candidate, and an attempt was made to quantify the savings.

5.2.8 NTG Scoring for Customer Participant Data

The NTG scoring approach for customer participants is summarized in Table 5-11.

Table 5-11. Net-to-Gross Scoring Algorithm for Customer Participant Data

Scoring Element	Calculation
Timing and Selection score. The maximum score (scale of 0 to 10 where 0 equals not at all influential and 10 equals very influential) among the self-reported influence level the program had for: A. Availability of the program incentive B. Recommendation from utility program staff person C. Information from utility or program marketing materials D. Endorsement or recommendation by utility account manager E. Other factors (recorded verbatim)	Basic Rigor: Maximum of A, B, C, D, and E
Program Influence score. "If you were given a TOTAL of 100 points that reflect the importance in your decision to implement the <ENDUSE>, and you had to divide those 100 points between: 1) the program and 2) other factors, how many points would you give to the importance of the PROGRAM?"	Points awarded to the program (divided by 10). Divide by 2 if the customer learned about the program AFTER deciding to implement the measure that was installed
No-Program score. "Using a likelihood scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely," if the utility program had not been available, what is the likelihood that you would have installed exactly the same equipment?" The NTG algorithm computes the Likelihood Score as 10 minus the respondent's answer (e.g., the likelihood score will be 0 if extremely likely to install exactly the same equipment if the program had not been available). Adjustments to "Likelihood score" are made for timing: "Without the program, when do you think you would have installed this equipment?" Free-ridership diminishes as the timing of the installation without the program moves further into the future.	Interpolate between Likelihood Score and 10 to obtain the No-Program score, where If "At the same time" or within 6 months then the No Program score equals the Likelihood Score, and if 48 months later then the No Program Score equals 10 (no free-ridership)
Project-level Free-ridership (ranges from 0.00 to 1.00)	1 – Sum of scores (Timing & Selection, Program Influence, No-Program)/30
"Our records show that <COMPANY> also received an incentive from <UTILITY> for a <different end use> project at <same ADDRESS>. Was the decision making process for the <different end use> project the same as for the <ENDUSE> project we have been talking about?"	If participant responds "same decision," assign free-ridership score to other end-uses of the same project
"Our records show that <COMPANY> also received an incentive from <UTILITY> for <number> other <ENDUSE> project(s). Was it a single decision to complete all of those <ENDUSE> projects for which you received an incentive from <UTILITY> or did each project go through its own decision process?"	If participant responds "single decision," assign free-ridership score to same end-use of the additional projects (projects with separate project ID's)
PY4 Project level NTG Ratio (free-ridership only)	1 – Project level Free-ridership

Source: Evaluation team

For projects that had quantifiable spillover, the program-level net savings reflecting free-ridership was adjusted to add the participant spillover.

5.2.9 Trade Ally Net-to-Gross Assessment and Final NTGR

The trade ally responses to free-ridership interviews resulted in an evaluation estimate of 2 percent free-ridership for gas measures, and 5 percent free-ridership for electric measures. The primary driver of the

trade ally results is the consistent response, from a small number of trade allies that installed the vast majority of measures, that SBES strongly influenced their 2011 sales to small businesses to which they had not sold energy efficient products in the past. We used the trade ally estimate as a cap on free-ridership, concluding that the trade allies used the program to overcome market barriers to serve a hard-to-reach audience. This is supported by the program theory that the program was designed to serve an under-served market.

ComEd and the gas utilities designed the SBES program to serve small businesses that had not participated in standard energy efficiency programs in the past. As such, any SBES participation does not cannibalize measure installations from other programs. By extension, any expanded "market share" gained by SBES displaces sales of less-efficient equipment.

In order to include the effect of market expansion, consider a new approach where we first quantify the expanded market energy efficient equipment that these trade allies would not have served without the influence of the program. All of the sales in the expanded market would not be free-riders because, prior to SBES, they would not have had access to rebated equipment.

Four questions in the current interview guide provide this information:

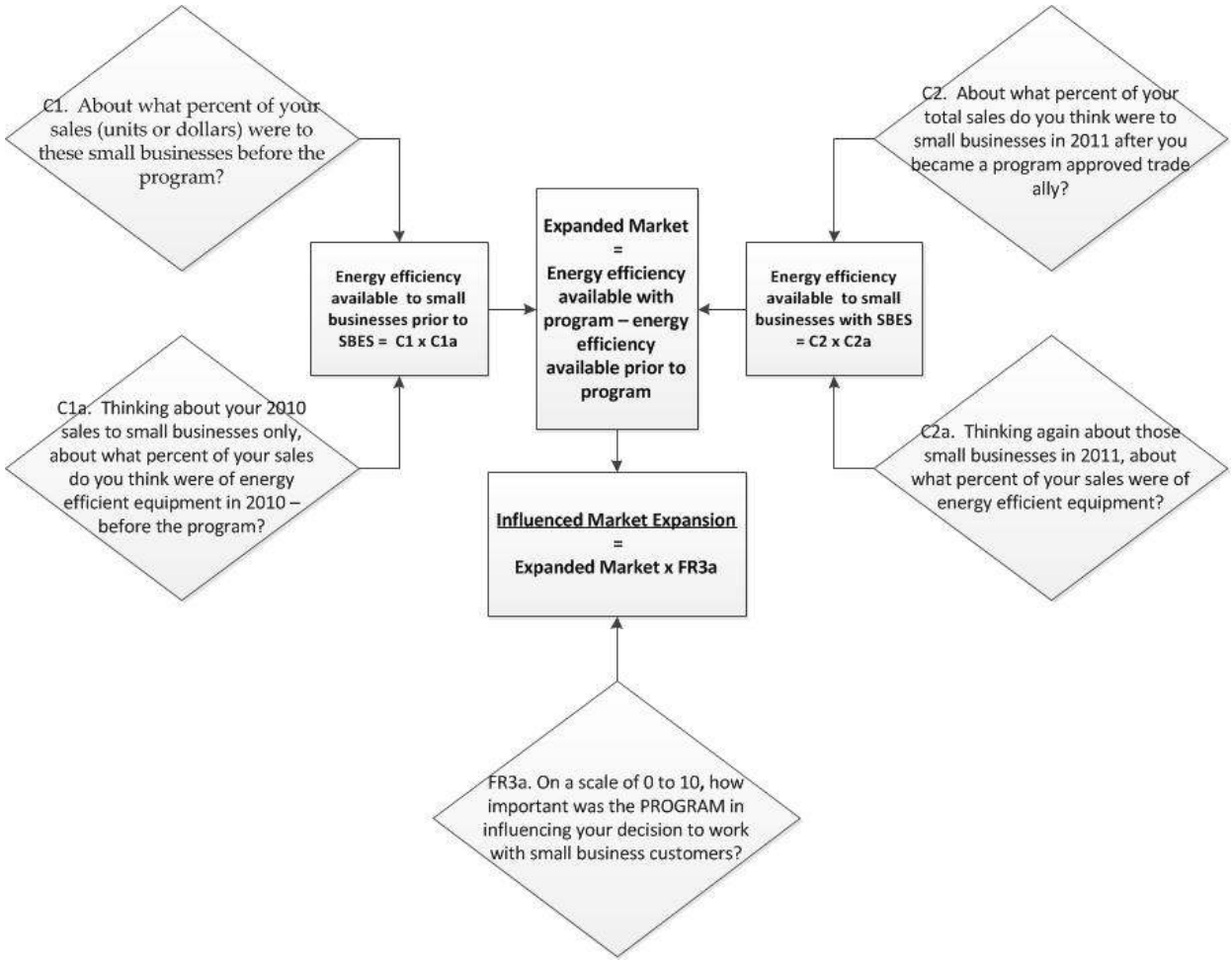
> C1 Were you selling your services to small businesses that qualify for this program prior to participating in the SBES program? [IF YES]
>
> About what percent of your sales (units or dollars) were to these small businesses before the program?
>
> a. Thinking about your 2010 sales to small businesses only, about what percent of your sales do you think were of energy efficient equipment in 2010 – before the program? Was it more than 50 percent or less than 50 percent? More or less than 75 percent or 25 percent? Etc. (narrow down ideally to a 10 percent range – e.g., 20-30 percent)
>
> C2 About what percent of your total sales do you think were to small businesses in 2011 after you became a program approved trade ally?
>
> a. Thinking again about those small businesses in 2011, about what percent of your sales were of energy efficient equipment? Was it more than 50 percent or less than 50 percent? More or less than 75 percent or 25 percent? Etc.

Unfortunately, the interviews did not capture this information for all respondents. For the purposes of calculation, we used the following questions as proxies for the above questions for two respondents:

> C3. Of the [number of projects in program] projects in 2011, how many of these small businesses were your customers before they participated in the program?
> C4. Of the small businesses who were your customers before the program, how many of them had EVER installed energy efficient equipment that you are aware of?

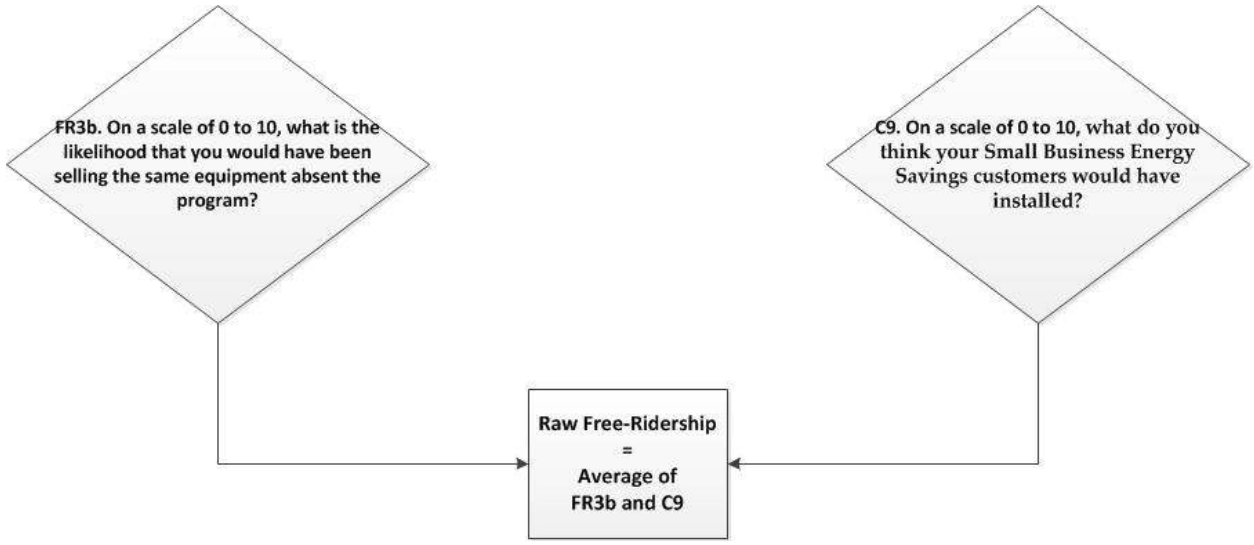
Follow-up interviews would confirm the validity of these proxies or provide the basis for recalculation. The following figure shows the mechanics of this process:

Figure 5-1. SBES Program Influenced Market Expansion Calculation



While the energy savings from the Influenced Market Expansion for a given trade ally would be unencumbered by free-riders, its complement (1 – influenced market expansion) could have some degree of free-ridership. A comparison of the trade ally's perception of the counter-factual selling practices to their perception of the counter-factual willingness to purchase energy efficient products absent the program. In other words, the question posed is: what does the trade ally perceive they would sell absent the program compared to what they perceive the participant would have been willing to buy absent the program? The figure below illustrates this comparison.

Figure 5-2. SBES Program Trade Ally Free-Ridership Calculation



The calculation of Free-Ridership for each trade ally would put together the two elements discussed above per the following equation:

(1 – Influenced Market Expansion) x Raw Free-Ridership

For an estimate of program Free-Ridership (from the trade ally perspective), the next steps would be to weight and sum the individual Free-Ridership values. The NTG Calculation would be as follows:

1 – Weighted Free-Ridership = NTG (from the Trade Ally perspective)

Using the trade ally weighted free-ridership as a cap on program-free-ridership from the participant's perspective produces Navigant's recommended NTG for SBES.

5.3 *Detailed process results*

5.3.1.1 Characteristics of Survey Participants and Trade Allies

The program has multiple implementation contractors, each playing a different role. Franklin Energy and Nexant are the two SBES program implementers – Franklin Energy implementing the program for ComEd, Peoples Gas and North Shore Gas, and Nexant doing so for ComEd and Nicor. Nicor contracted with WECC to serve as their overall program administrator, while Peoples Gas and North Shore Gas used Franklin Energy for both implementation and marketing.

The Franklin Energy Outreach/Marketing Manager was responsible for marketing strategy and for assisting trade allies. She supports trade allies on outreach events and reaches out to business organizations and the Chamber of Commerce. In addition, she works with utility staff to market the program and provides a point of contact for trade allies. It appears that the implementation contractors have been successful in this area, as

all the trade allies said they know whom to call at Nexant and Franklin Energy for support with the program.

ComEd and Peoples Gas/North Shore Gas Customers Survey Participants
The ComEd and Peoples Gas/North Shore Gas survey participants consisted mostly of two groups: automotive/ automotive repair and retail, service organizations. The remaining customers were distributed about equally among church and non-profits, restaurants, transport and warehouse, and other.

ComEd and Peoples Gas/North Shore Gas Trade Ally Participants
Trade ally participants in the ComEd and Peoples Gas/North Shore Gas SBES program include lighting contractors, HVAC contractors, and environmental companies who specialize in providing energy efficient products. Some of the companies changed their focus to accommodate the SBES program and other ComEd programs, while others are continuing their pre-program market focus on energy solutions, energy efficient lighting, automation, HVAC, and solar, wind, and gas savings.

The smallest trade allies reported one or two employees and the largest, an HVAC company, reported 130 employees. Of the five trade allies who answered the installation question, one was a lighting company that installed only lighting measures, two installed both electric and gas measures, one installed control measures only and one installed only gas measures.

SBES trade allies are a subset of the Standard and Custom trade ally list. The implementers limited the number of trade allies that were allowed into the SBES program because of their close relationship to the delivery of the program and the need for a significant amount of training. Some trade allies have longstanding, close relationships with electrical or mechanical trade allies who help them provide a turn-key product to their customers. Another issue was the amount of trade ally participation in the program. Some trade allies have embraced the program, aggressively market it and have hired more staff, while others have fielded only a few projects.

Trade allies first learned about the program from a client, a distributor, at a meeting, from an implementation contractor field representative, or from working with the Standard and Custom Programs. Trade allies experienced with the ComEd programs were able to walk customers through the Standard and Custom Program paperwork.

Trades Allies – Customer Satisfaction
Of the eight trade allies that provide some feedback on this program, most were satisfied with the program. One said he was satisfied because he made money and another said he was satisfied with the idea of the program but would like to see more marketing so the program would be easier to deliver. The unhappy trade ally indicated that he was not very satisfied because "he has put effort into marketing the program and for everyone he has talked to the incentive isn't enough for them to participate."

Customers are very satisfied with the program. One trade ally discovered one of his tenants had a bad furnace, which he replaced. Customers like the program because "they are happy to know that there are utilities out there that actually care about small businesses and how they can reduce energy bills and save money" and "they are getting something that doesn't cost them nearly anything (thermostats) and will help save them money."

5.3.2 Marketing

Customers - Usefulness of Marketing Materials

One ComEd and Peoples Gas/North Shore Gas survey participant commented that the marketing materials would be more useful if it contained more detail. Two participants requested a contact person to explain the program material.

Trade Allies on Marketing

Franklin Energy trade allies contacted their current customers via phone or mail and go door-to-door to find new customers for the program. A couple of them contacted current customers by phone although not everyone found that productive. Trade allies targeted a neighborhood or a zip code looking for qualified customers. One trade ally has been targeting the Nicor service area because he claims that they pay the trade ally faster.

Trade allies market to current and new customers. One markets by zip code, another has defined 'his' service area and the third chooses and area and drives down every street to cover the area. He preferred to work in the Nexant territory because they have faster incentive payment turn around.

Of four Franklin Energy trade allies, two install gas only measures and two have partnerships with a lighting trade ally to provide the electric measures. They plan to continue these relationships in the future.

The trade allies or their staff attended training sessions about the program. Two of the three trade allies did not see a need for more training. One would like to know more about the products. Some customers would prefer for their own contactor to install the measures but they usually go along with the contractor assigned to the program.

Two of the three trade allies believe the SBES Program has been a competitive advantage for his firm and that the program has helped them grow revenues. They have not hired more employees because of the program but two of the trade allies plan to hire next year. All of the trade allies plan to participate next year, even the trade ally who has not been able to work the program.

Two of the respondents say their businesses would not be much different without the program. The third one would not be working in this market.

The Small Business Energy Savings Program has changed the way many trade allies are doing business. Trade allies said they:

- Would have more gaps between projects.
- Would not work as much with small businesses
- Would not have an existing business or it would have been much smaller

One trade ally voiced a complaint about the Franklin inspection process. It was, he said, a "sore spot." While he never has issues with the Nexant inspections, Franklin Energy uses a sub-contractor to conduct the inspections. He was very protective of his customers and did not think the sub-contractor was sensitive to his customers' needs. For instance, the sub-contractor sent a form letter to one of his customers, used the

wrong last name, misspelled it and said they need to inspect his "house" rather than his business. The trade ally understood that they have to do inspection and he would be happy to meet them for the inspection. The sub-contractor said the inspection has to be a "surprise" and that they couldn't alert the trade ally. The trade ally did not follow this reasoning.

Energy Advisors on Marketing

Customers are frequently directed to the prescriptive programs, either gas or electric, by the energy advisor or the trade ally. Word-of-mouth marketing is occurring but is difficult to quantify. Some customers will tell their business friends.

Some trade allies are looking for ways to make the program work while others are not. Integrys does not market as aggressively as ComEd, who is on the radio, has bill inserts and billboards. The implementers should be more in view so they are not mistaken for retail energy suppliers. It is difficult for customers to tell the difference between supply and an energy efficient program. Some customers are bewildered by the program offer.

5.4 *TRM Recommendations*

The following research findings and recommendations may assist the Illinois TRM Technical Advisory Committee annual updating process:

- The following commercial and industrial measures should be considered for addition to the TRM, in approximate order of importance:
  C&I Gas Measures
  - Programmable thermostats
  - Space heating furnace tune-up
  - Water heater turn-down

  C&I Electric Measures
  - Eight foot T12 fluorescent conversion to T8
  - Cold cathode lighting
  - LED exit signs
- The Illinois TRM should consider adding one or more new building types for selective use by the Small Business program, such as a "low hours-of-use miscellaneous" building type that may be used for participants with lower lighting operating hours.
- The TRM savings estimate for C&I programmable thermostats should address the diversity of baseline conditions, including program direct-install versus unverified baseline contractor/self-install and existing programmable thermostats that are confirmed as not programmed for occupied/unoccupied settings. The TRM savings value for C&I programmable thermostats should state whether or not the per unit savings adjusts for the scenario that some portion of new thermostats may not be programmed.
- Water usage estimates for commercial faucet aerator and showerhead measures in the TRM should be based on commercial water usage research. ASHRAE is a possible data source.
- Our engineering recommendation is that the baseline for LED exit signs, cold cathode lamps, and compact fluorescents should recognize the diversity of existing commercial inefficient lighting, including long-life incandescent lamps and compact fluorescent lamps (for LED exit signs).
- The heating system tune-up measures in the TRM should re-assess the baseline condition for maintenance contracts and previous tune-ups. The current TRM baseline condition for boiler tune-ups states "The baseline condition of this measure is the facility cannot have standing maintenance contract or tune-up within the past 36 months." Although some portion of C&I customers report having a maintenance contract or a previous tune-up in the past three years, it is not clear if the quality of reported maintenance is consistent with the TRM baseline – the reported maintenance may be less thorough and not improve efficiency to the same degree as the program-rebated measure. The current TRM baseline suggests an all-or-nothing approach to savings estimation.

5.5 *VDDTSR Memo-Final version and Franklin Response*

To: Pat Michalkiewicz, Peoples Gas & North Shore Gas

CC: Jennifer Hinman, David Brightwell, ICC
Kevin Grabner, Randy Gunn, Laura Agapay, Navigant, Inc.

From: Argene McDowell and Charles Ampong; Navigant, Inc.

Date: May 11, 2012

Re: Integrys PY1 Small Business Energy Savings Program (SBES Program)— Verification and Due Diligence and Program Tracking System Review

Introduction
This document provides the findings from Navigant's verification and due diligence review of quality assurance, program tracking, and eligibility verification procedures used in the Integrys (Peoples Gas and North Shore Gas) and ComEd Small Business Energy Savings Program (SBES Program) during program year one (PY1). The main components of this task are in-depth interviews with program staff, database tracking system review, marketing and projects documentation review, and benchmarking of these activities to industry or national best practices for small business energy savings programs.

Overview of Findings
Overall, the quality assurance and verification procedures put in place by the program implementer (Franklin Energy Services) meets many aspects of national best practices. The program's Operations Manual provides a detailed quality control and quality assurance framework that clearly outlines the program guidelines for measure and incentive eligibility, onsite inspections, and customer satisfaction surveys. These QC/QA measures are found to meet or exceed quality assurance expectations.

The program tracking database captures the vital information that enables accurate tracking of the program's claimed savings. The tracking system accurately tracks program default/deemed savings and total savings estimated for installed water devices, CFLs, control technologies, and high efficiency space and water heating measures. The program operating manual and the spreadsheet of default savings measures contain the assumptions used for the estimation of PY1 default savings for the twelve measures eligible under the SBES program. Review of the default savings assumptions and program delivery indicates that the baseline for claimed program savings is early replacement/retrofit of existing equipment. Program participation has been improving in the third quarter of PY1. Trade ally and account manager trainings encourage participating trade allies to communicate the existence and the benefits of the SBES program to their customers.

Purpose of the Verification and Due Diligence Review
The primary purpose of the verification and due diligence task was to determine:

- Whether project eligibility criteria have been properly adhered to and applications are backed with supporting documentation;

- Whether savings were calculated correctly and project information entered in an accurate and timely manner in the program tracking system; and

- If key quality assurance and verification activities were adequately implemented.

Data Collection
Navigant collected data for this verification and due diligence task through interviews with the program manager and tracking system team, and through review of program documentation from January through March 2012. During this period, Navigant collected data including program manuals, application and incentive worksheets, default savings spreadsheets, marketing plan, project documentation, Access database extracts, and trade ally outreach materials.

Navigant's findings were based on conducting the following reviews and benchmarking the results to national best practices:

- In-depth interviews with program stakeholders
- Program documentation review
- Sample projects desk review
- Program tracking system review
- Marketing and outreach review

In-depth Interviews with Program Stakeholders
Navigant conducted a kick-off telephone discussion with the program implementer to enable the evaluation team to become familiarized with the program documentation, particularly the structure of the tracking system and other general internal QA/QC procedures. Navigant then arranged and conducted an in-depth telephone interview with the SBES Program Manager from Franklin Energy Services (FES) involved in the program's day-to-day operations. The telephone interview included prepared question topics such as program administration, program outreach and marketing, program delivery mechanism, customer satisfaction, and implementation challenges. At the conclusion of the interview, Navigant provided an opportunity for the person interviewed to ask any questions or raise additional topics that were not previously discussed in the telephone interview.

Program Documentation Review
Navigant requested program documentation from the program implementer to conduct the verification and due diligence review. The documentation included the program Operations Manual30, Integrys 2011 Compliance Filing31, FES Trade Ally Agreement32, spreadsheet of PY1 default savings values, tracking database extract, application and incentive processing worksheets, program outreach and marketing materials, and the program quarterly savings and cost report from PG and NSG. The program's operations manual provides a detailed quality control and quality assurance framework that clearly outlines the program guidelines for measure eligibility, application review, incentive processing, and post installation

[30] Peoples Gas & North Shore Gas SB 1918 Energy Efficiency Programs Operation Manual (V 4.0 DRAFT, Updated: 1-6-2012, and V6 updated 4/2/2012)
[31] North Shore Gas/Peoples Gas Compliance Filing Energy Efficiency Program Plan, June 1, 2011 – May 31, 2014, June 2011, Docket 10-0564 Attachment A.pdf
[32] FES Trade Ally Agreement 8-31-2011.docx (Franklin Energy Services Participating Trade Ally Agreement For the ComEd / Peoples Gas / North Shore Gas Small Business Energy Savings Program)

onsite inspection. The quarterly program delivery report includes highlights of energy savings and cost information.

Projects Files Desk Review

Navigant requested from the program implementer filled or scanned copies of handwritten application documents of three (3) selected projects (Project IDs: 22462 from NSG, 27628 and 25619 from PG). The project documentation generally included completed applications, SBES direct install summary sheets, customer authorization forms for releasing gas usage information, project inspection forms, a common area survey list of energy savings and incentive opportunities for ComEd and PG/NSG, itemized invoices, and copies of incentive checks paid to the customers. The project documentation was thoroughly reviewed and compared to corresponding entries in the program tracking database for accuracy and completeness.

Program Tracking System Review

Navigant performed a detailed review of the program database tracking system. The program implementer provided a process guide for the Bensight Data Management system33. The Bensight Guide details the process for creating an account, setting up a project file, and recording project information. In addition, a QC checklist is available before the completion of every data entry to ensure project information are accurately tracked and recorded. Navigant received an extract from the Bensight tracking system (Access database format dated 2/14/2012), and reviewed the Access database entries to verify if all the information required for the impact and process evaluation are tracked. For each of the three project files requested and reviewed, Navigant compared the recorded information in the handwritten project application forms with the entries in the tracking database to look for accuracy of information documented in the tracking system, any data gaps, and any consistency issues of estimated savings compared with project deemed savings.

The tracking system extract we received contained savings and installed quantities for gas measures only. Electric measures were not included in the extract.

Marketing and Outreach Review

Navigant received marketing and trade ally documentations, which included the program marketing plan34, press releases, list of contracted trade allies and marketing leads, and trade ally outreach and orientation materials. Navigant reviewed all received documentations and verified through telephone interview, the impact and challenges these marketing strategies have on program participation.

Review of Program Operating Procedures

Navigant examined the operating procedures as outlined in the program Operations Manual and verified through in-depth interview with the program implementer the procedures relating to measure eligibility, installation and incentive processing. The following key steps were identified as the main activities leading to final project approval and incentive payment.

- Application Submittal and Pre-Inspection
- Installation
- Final Application and Incentive Approval
- Inspection and Verification
- Customer Service, Invoicing and Reporting

[33] SBES process document v 5 110111.pdf

[34] Integrys Small Business Energy Service Program (SBES Program) Marketing Plan 2011v6.docx

Application Submittal and Pre-Inspection

A customer (or trade ally on behalf of the customer) interested in submitting a project to the SBES program submits a completed pre-approval application for review. The program implementer's technical staff reviews the application to determine customer eligibility, confirming from the customer's utility bill whether the customer is in NSG or PG service territory. After initial approval of the application, the field technician sets up an initial meeting with the business manager or property owner where they perform a walk-through assessment of the business premises to determine the potential for installing the no-cost faucet aerators, showerheads, pre-rinse sprayers, vendor misers and CFL measures. As part of the site assessment, the program implementer develops a report using standardized forms and makes recommendations to the business manager and the contractor for also installing low-cost measures including programmable thermostats, guest room energy management, and certain O&M measures (boiler tune-up, furnace tune-up, steam trap repair/replacement). If the application was completed by a Registered Energy Contractor (REC) and they are qualified to perform the work, they are awarded the work. If the application was completed by a customer, the contractor is assigned from the REC list.

During the visit, the field technician may complete an assessment of the common area of the premises and suggest other lighting or heating efficiency improvements that could be installed for rebates through the ComEd or PG/NSG Prescriptive programs. Applications identified from the common area survey during the Integrys multifamily direct install program site visits could also be referred to the SBES program if they have less than 100 KW peak demand or 60,000 therms of usage. The program implementer refers any non-qualifying public or government building to the Department of Commerce and Economic Opportunity (DCEO) program.

Installation

Upon approval of the customer, the field technician provides no-cost direct installation of energy-saving faucet aerators, showerheads, pre-rinse sprayers, vending machine controls, and CFL measures. The customer employs the services of program trade allies if they choose to install any of the recommended low-cost measures at a pre-negotiated price subsidized by the SBES program. After installation, the trade ally or contractor emails the applicable invoice documentation to Franklin. The remainder of the cost is invoiced to the customer. The project installation data is then processed into the tracking database by Franklin staff.

Final Application and Incentive Approval

The SBES program has two work orders for each project, involving work orders for the no-cost direct install measures and for the recommended low-cost measures. After installation of the direct install measures, the trade ally will have to submit a final signed customer application and supporting documentation of all installed low-cost measures for final review. The program implementer checks the application for completeness by verifying the installed low-cost equipment technical specifications, accompanied itemized contractor invoice or proof of purchase receipt, accuracy of calculated energy savings and incentives, and confirms the application is in compliance with all program rules. If an application is determined to qualify for the incentive, the program implementer sends an approval letter and fund allocation notice to the contractor. After completion of the internal incentive authorization process, the program implementer sends the approved incentive check to the contractor.

Inspection and Verification

The post installation activities involve ensuring that the key performance indicators, as well as the QA/QC requirements for onsite inspections outlined in the program's operation manual, were implemented. The

QA/QC checks involve any customer or business manager follow-up after an installation to verify the customer's satisfaction with the work and to ensure that all devices are still installed and functional. The program implementer performs randomly selected post inspection and verification for 10 percent of all installations to confirm installation and functionality. During the post inspection period the field technicians are provided with a list of selected sites and customer application information. The field technician must fill out the verification checklists at the inspection site and record the quantity and type of the installed equipment.

Customer Service, Invoicing and Reporting

The program implementer reports financial, invoicing, installation, and marketing activity data to NSG and PG monthly and quarterly. In the event that a customer is dissatisfied or has an issue with program staff or delivery, the program implementer uses a complaint resolution process[35] to address the cause of the customer's dissatisfaction, to respond to all complaints and to notify ComEd, PG or NSG. Complaints are tracked and reported monthly, but detailed complaint logs are available on a weekly basis to Program Managers of ComEd, NSG, and PG. The program implementer provides safety training for all staff involved in this program, particularly driving and personal safety training for technicians doing the field installations.

Verification and Due Diligence Findings

Based on the telephone interview with program staff and review of program documentation and tracking database, Navigant identified the following program implementation strengths and challenges. These are followed by benchmarking the program activities and findings with standard program best practices:

- Navigant's findings after reviewing the program operating manual and project application documents suggest the QA/QC procedures in place for the SBES program are detailed, and that the program implementer is performing well at reviewing applications for program eligibility. The tracking system accurately tracks program default/deemed savings and total net savings.
- It is expected that the centralized and automatic reporting functions in the tracking system may be helpful in reducing the administrative burden on program staff. However, based on the telephone interview, it appears users of the tracking database find it a bit difficult to use. Entering data is a two-step process with the technician or the trade ally completing the forms and Franklin staff inputting the data into the database.
- The findings from desk review of project files suggest the information from the handwritten paper application is adequately transferred into the tracking system. However, there are other useful types of information on the paper application that are not recorded in the tracking system such as the type of business and the make and model of the low cost measures.
- Navigant noted from the file review that Project# 22462 with a $32,000 incentive received a post inspection, but the tracking system indicated no post-installation inspection was required. This seems to be inconsistent with program guidelines. The tracking system should be updated frequently with post inspection findings.
- The FES Participating Trade Ally Agreement includes baseline specification requirements for installed low-cost measures. We did not find comparable baseline specification requirements for the direct install measures. Review of the project file direct install summary sheets and field inspection checklist seems to suggest the program implementer is not tracking or recording the baseline

[35] Complaints are defined in the Integrys Operating Manual as issues communicated by customers that impact timely and accurate installation, the conduct and safety of the direct installation technicians, product performance, and damage to customers' property during the field visit.

equipment efficiency or the condition of existing equipment (examples: flow rate of existing water devices compared to program measures, wattage of existing incandescent lighting).

- As of 2/14/2012, the evaluation team verified that the SBES Program has 191 completed projects (47 for NSG and 144 for PG) out of which 101 projects have received payments (41 from NSG and 60 from PG) and 90 projects were going through the payment batch process. The evaluation team identified only one instance where an installed measure was cancelled (project# 34703) for not meeting the program requirements.
- From the telephone interview, the evaluation team learned about the challenges faced by field technicians who are collaborating to complete common area assessments for the Multifamily and SBES programs. Some field technicians working under the Multifamily program may encounter potential low cost measures for the SBES program but may not have the skills to complete a survey and incentive calculation. It takes time to refer the site to an SBES field technician and schedule the survey. The program implementer underscored this challenge and will provide training to enable all field technicians to enroll the customer in either the SBES program or the Multifamily program.
- The reviewed project files did not contain any customer satisfaction survey findings. Navigant was unable to provide accurate assessment of how customers feel about the SBES program and the benefits it offers.
- The Trade Ally Agreement requires all participating trade allies to provide at least three leads per month to the program, to avoid being removed from the program. Navigant's review could not adequately establish how this process is implemented.
- The tracking data extract we received did not contain information on electric measure installations. For purposes of coordinating and conducting impact and process evaluation for ComEd and Peoples Gas and North Shore Gas, tracking extracts sent to the evaluation team should include all gas and electric measure information.

Quality Control and Verification Best Practices

To conduct the best practices benchmarking assessment, the evaluation team compared the program implementer's practices above with the *Best Practices Self-Benchmarking Tool*[36] from the *National Energy Efficiency Best Practices Study* (numbered items in *italic* font).

I. Program Design and Structure

1. *Have a sound program plan and clearly articulated program theory that describe the program logic, niche, resources and ultimate goal*
   - The program's Operations Manual and Marketing Plan are fully developed and contain a written program theory that addresses the program niche, its resources and its ultimate goals. Program interventions and key metrics are completely based on the underlying theory.
2. *Assure quality of product through independent testing procedures.*
   - The program sources equipment (e.g. showerheads, CFLs and faucet aerators) that meet or exceed product quality standards established through various standards and certifications for such equipment.
   - The SBES program verifies that low-cost measure types on which incentives are paid meets the prescribed efficiency standards using third-party databases and product testing (i.e. ENERGY STAR, GAMA, and AHRI).

[36] See the Best Practices Self-Benchmarking Tool developed for the Energy Efficiency Best Practices Project: **http://www.eebestpractices.com/benchmarking.asp**

3. *Use measure product specification in program requirements and guidelines.*
   - The SBES direct install program does not use product specifications to establish eligibility, but is based on the one-to-one replacement of existing devices with the new low flow water devices. CFL replacements are based on the simple requirement that existing lighting should be incandescent bulbs.
   - The program's Participating Trade Ally Agreement outlines the eligible small business low-cost prescriptive measures, baseline equipment specification requirements, and the qualifying efficiency standards.
4. *Develop inspection and verification procedures during the program design phase.*
   - Procedures for inspection and verification are detailed based on the program implementer's experience in the multifamily and prescriptive market sector, and also on experience from ComEd's Prescriptive Program.
5. *Implement a contractor screening/certification/training process.*
   - The SBES program utilizes field representatives to inform and recruit participating trade allies and organize orientation meetings and in-person visits to train and equip trade allies to communicate program information to customers. Current trade ally participation has been impressive and is increasing.
6. *Use incremental costs to benchmark and limit payments, and set an incentive strategy to maximize net not gross program impacts.*
   - For the low cost measures, payments and rebate formulas are tied to measure incremental costs. The incentive strategy for all measures considers the likely level of free-ridership and seeks to maximize net savings.

II. Data Reporting and Tracking

7. *Define and identify key information needed to track and report early in the program development process*
   - Program data requirements were defined early in the program development process and are tracked in the program tracking database.
8. *Design program tracking system to support the requirements of evaluators as well as program staff.*
   - The tracking system allows real-time reporting of routine functions like monthly portfolio and program reports, energy savings and financial tracking. Automated reporting and tracking increases efficiency of program staff.
   - The data tracking system is well designed and fulfills the needs of both program staff and evaluators. It tracks program key performance metrics, and fully integrates marketing, customer, trade ally and impact data.
   - The data tracking system does not seem to track the conditions of the baseline equipment during the initial site assessment. Project summary sheets and field inspection checklists do not have any information about the baseline equipment.
9. *Develop accurate algorithms and assumptions on which to base savings estimates.*
   - Savings algorithms use empirical data from the most recent evaluations, and are based on an acceptable deemed savings approach. We recommend some changes to PY1 default inputs, addressed in separate findings, and also recommend adopting the Illinois Statewide Technical Reference Manual when it becomes final.
10. *Set reasonable and accurate expectations for energy savings and measure performance.*
    - The program implementer meets with potential participants before installations to discuss their expectations for energy and bill savings. The program tracking system is able to help the program report actual savings to the participant after installation.

11. *Verify accuracy of rebates, coupons, invoices to ensure the reporting system is recording actual product installations by target market*
    - Customers/Trade Allies are required, as part of the program terms and conditions, to submit copies of all invoices or other reasonable documentation of the costs associated with purchasing the installed equipment.
    - As part of the application review process, technical staff of the program implementer compares invoices and purchase orders to the application information to confirm that the claimed measures were installed at the specified time.

III. Inspection Procedures

12. *Conduct on-site post-installation inspections.*
    - The SBES program implementer guidelines are to randomly inspect 10 percent of all small business retrofit projects completed each program year, to verify installation counts and compare make and model numbers with those provided on the incentive claim. Any inconsistent findings are recorded. Inspections may also be triggered to spot check equipment or trade allies where problems have been found in the past.
    - The post inspection and verification was conducted by the program implementer in PY1. The program implementer considered subcontracting the post inspection activities to an independent third party, but it appears this was not implemented.
13. *Build in to the sampling protocol statistical features that allow a reduction in the number of required inspections based on observed performance and demonstrated quality of work.*
    - The program implementer conducts a fixed percentage of post-inspections for the program. Statistical sampling is not considered at this stage.
14. *Govern post-inspection levels by cost-effectiveness considerations and results from an initial set of inspections early in the implementation process.*
    - Cost-effectiveness is an important component of the post-inspection verification, which requires the inspection of 10 percent inspection of all SBES retrofits of projects.
15. *Conduct and record inspections in a timely manner.*
    - Post inspections of installed devices are completed promptly, based on the project documents we reviewed, but we could not verify that findings are regularly input into the program tracking database. No inspection date or findings can be traced in the tracking system.

IV. Evaluation

16. *Assess customer satisfaction with the product through evaluation.*
    - Customer satisfaction surveys are conducted by the program implementer to identify potential program and process improvements.
    - The program targets a 10 percent customer response rate with the aim to achieve average overall rating of 4.5 or above on a 5.0 scale.
17. *Verify accuracy of invoices to ensure the reporting system is recording actual product installations by target market.*
    - Trade allies or contractors are required as part of receiving payment for the low-cost measures to submit copies of all invoices or other reasonable documentation of the costs associated with installing the energy efficient equipment.
    - Incentives are paid only after the program implementer has verified all invoices are genuine and meet the program requirements.

Recommendations

The Navigant EM&V team has the following recommendations for improving the program implementation activities and the tracking system. These recommendations are based on the findings outlined above.

- The program implementer should consider updating quarterly reports to capture all key program performance metrics, including information on participation, quantity of installed measures, marketing progress and challenges. The report should also document how many leads are presented monthly by the participating trade allies, as required by the Trade Ally Agreement.
- The implementer may want to consider hand held computers that would facilitate on-site data collection. A simplified procedure could reduce the burden and multiple handling of data entry.
- If the direct install CFL replacement must meet lumen equivalency specifications, such as what is outlined in the Multifamily program guidelines for installing CFLs, then the program implementer should provide such guidelines in the Operations Manual and consider methods to record baseline data from project sites.
- If the direct install water saving measures have baseline efficiency specification requirements, the program implementer should provide such guidelines in the Operations Manual and consider methods to record baseline data from project sites.
- The program implementer should consider modifying the SBES Direct Install Summary sheet to gather baseline equipment conditions/efficiency, and include that data in the tracking system.
- The program implementer should consider modifying the program tracking system to track post inspection findings that are mostly recorded in the post inspection hardcopy forms. The tracking system should also track the inspection completion date, newly installed equipment make and model specifications, and additional field notes that may be useful for the EM&V activities.
- We recommend that changes to the tracking system implemented to facilitate gas measure evaluation also be implemented for the electric measures installed through the program. Extracts for evaluation purposes should include gas and electric measure information.
- The SBES program implementer should consider inspecting the first few projects submitted by a newly recruited trade ally, the first few instances of a new measure in the program, and measures with higher savings uncertainty or set-up requirements (e.g., programmable thermostats).

The Franklin Energy Response to the Small Business Verification and Due Diligence memo is provided below.[37]

Small Business Energy Savings (SBES) Program

The SBES program is one of two jointly delivered programs in the Peoples Gas and North Shore Gas portfolio, the other being the Multi-Family Home Energy Savings Program. Whereas the RCx program is co-delivered in partnership with ComEd, these two programs are overseen by ComEd, as well as PGL/NSG. This evaluation covers only the gas side of the program. The evaluation team at Navigant found that program QA and verification procedures met with national best practices and met or exceeded the expectations of the evaluation team. A few issues were raised in the memo and are addressed below.

1. Recommendation: Consider updating quarterly reports to capture all KPIs.

[37] Memo from Jay Boettcher and Paul Isaac, Franklin Energy, July 18, 2012 "Re: Navigant's verification and due diligence review of program tracking, quality assurance and savings verification procedures in PY1 of the Peoples Gas and North Shore Gas C&I Portfolio"

Response: This recommendation will be reviewed prior to the September quarterly meeting to ensure that all KPIs are covered in the report.

2. Recommendation: Consider hand held computers for on-site data collection by field staff.
   Response: iPads are currently in-use by our Energy Advisor field team. Program management is looking into a reliable portable printer to pair with the iPads.
3. Recommendation: Review baseline performance expectations for DI measures.
   Response: SBES program management will work with the MF program manager to compare best practices for meeting lumen equivalency specifications for CFL replacement and for measuring baseline efficiency for DI water savings measures. If changes to current SBES operating practices are warranted, such changes will be added to the SBES operations manual and DI summary sheet to capture baseline equipment conditions.
4. Recommendation: Inspect the first few installations of any given measure and those that have a small rebate but high impact.
   Response: This is a sound recommendation and a process will be developed to address this.
5. Recommendation: Modify the program tracking system to capture valuable post-inspection data.
   Response: Program management will work with the IM team to identify additional fields not already in the system (as suggested by Navigant) that could be added to the system for tracking post-inspection findings, such as pass/fail status.
6. Recommendation: Inspect the first few projects by a newly recruited trade ally and the first few installations of any given measure and those with higher savings uncertainty or set-up requirements.
   Response: Franklin Energy staff currently conducts on-site, during installation inspections for the first three installations of any trade ally. In addition, SBES projects are subject to a 10 percent minimum post-inspection requirement, completed by our third-party inspection partner, DNV KEMA. Program processes will be reviewed to appropriately inspect new measures in the program and those with saving uncertainty, or low measure persistence.

5.6 *Data Collection Instruments*

5.6.1 Program Staff and Implementer In-Depth Interviewer Guide

Small Business

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

April 17, 2012

Name of Interviewee: _____ Date: _____
Title: _____ Company: _____
Role in Program: _____

[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. Where possible, interview date/times will be arranged in advance. The interviews may be audio taped.

Introduction

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 Nicor Gas _____ program. We're conducting interviews with program managers and key staff in order to improve our understanding of the program. At this time we are interested in asking you some questions about the Nicor Gas _____ 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.]

Roles and Responsibilities

[*For respondents that were interviewed as part of the Rider 29 study focus questions/responses on any changes since last interview*]

1. Can you briefly summarize your role in the Nicor Gas Small Business Program: What are your main responsibilities?
2. Can you explain who is involved in the program implementation, and what their roles are? *[Probe for all significant actors with responsibility in program delivery including implementer, **account managers**, and program allies.]*

    a. What is WECC responsible for? What is Nexant responsible for? Rebate Processing?
    b. Manage Data? / Tracking Targets?
    c. Planning and oversight

3. Roughly, how many people are assigned to work on this program? What are your near-term plans for adding staff? From your perspective, is staffing adequate for this program to meet its goal? (If not): What areas/functions do you feel are not adequately staffed?

4. What are the formal and informal communication channels between these groups (between WECC and Nexant (the implementation contractor))? Do you feel information is shared in a timely manner?

5. Are there any documents, other than what has been provided on the SharePoint site, that outline the roles and responsibilities of program staff for the program? Operations manual, policies and procedures guide? Can we get a copy?

Overall Goals and Objectives

6. According to the most recent monthly report, you are [ahead/behind] on PY1 goals. Why do you think this is? Do you think you feel the PY2 goals are realistic? Why or why not?

7. Outside of the quantitative goals (e.g., $, $/kWh, savings and participation rates), in your own words, what are the key goals and objectives of this program?

Marketing and Promotion

8. Please describe your program marketing campaign in your own words. What are the marketing channels that are used? (bill inserts, TV, newspaper, radio, workshops, community events?)
    a. How often does each activity occur?
    b. Who is in charge of developing materials?
    c. Who is in charge of marketing activities?
    d. Do you have a written marketing plan?

9. Do you anticipate making any changes to marketing efforts for Program Year 2 (starting June 1 2013)? If so, please describe these changes.

Trade Allies

10. Could you talk a bit about the program efforts that specifically target trade allies?

11. Is there one staff member that oversees the program trade ally network? Or staff that specialize in different equipment markets? Lighting, HVAC, Motors, etc.?

12. How are trade allies recruited for the program(s)? Which types of trade allies are choosing to participate in the program(s) and which are not?

13. Do you have a sense of trade allies' satisfaction with their participation in the trade ally program?

14. What kind of training is provided to them as part of the registration process? What role do they have in marketing the program(s)? What kind of support, if any, is provided to them for marketing the program(s) to their customers?

15. Have allies requested any other types of support/collateral, etc. If so, what have they requested and how are you responding to their requests?

16. Are there any quality control procedures in place for trade allies? What is done if a complaint is received, for example? Are there any situations where they would be dropped from the program for poor performance?

Program Participation

We are also trying to learn of any process related issues that may arise from the current design of the program(s).

17. Have you received any feedback from customers on various aspects of the program?

18. What do customers do if they have questions about the participation process? Is there a systematic process in place for responding to customer inquiries? How quickly are their questions answered? What improvements can be made?

19. What is the target review time between receipt of the pre-approval application and letter of approval? What is the average review time? What, if anything, slows down review time?

20. Is there a process in place for communicating to customers the status of their application? Is there any system in place to track project progress? If so, please describe.

21. What is the target processing time between final documentation and payment? What percent of applications are actually processed within that amount of time? What, if anything, slows down processing time?

Incentives

22. What do you perceive to be the level of satisfaction among program participants with the current incentive amounts for the low cost measures?

23. How do trade allies perceive the incentive levels for the low cost measures? What specific feedback have they given? Have you heard any feedback from trade allies about the percent of total project cost caps, and if so, what have you heard?

Call Center

24. Are customers/contractors making use of the phone number to program staff listed on the application form? [Probe for call volume.] What are the main issues raised by customers/contractors?

Data Tracking

25. What systems are in place for data tracking? Who captures the data and how? Can you briefly describe what data are tracked for the program(s)? What about application attachments and calculations? What about review history and revisions to savings or incentive amount?

26. Do you feel all important information is captured and stored in a way to best support program efforts? Is the information accurate and current? Are there additional types of reports or information that you would find beneficial? Is there a process for requesting additional data?

Quality Assurance and Quality Control (WECC and the IC)

27. Is there any additional documentation, other than what you have provided on the SharePoint site, that describes the quality assurance procedures? If so, can we obtain a copy?

28. Can you provide a brief description of your quality procedures? What kind of quality procedures are in place to verify equipment quantities and eligibility? Project completion? What is the process for verifying savings?

29. Approximately, what percentage of all projects is pre-inspected and post-inspected? How do you determine if a project requires inspection (both pre and post)?

30. Who conducts pre and post inspections and how are they documented? Do they use standardized data collection forms? How can we arrange to obtain these documents?

31. When are on-site measurements conducted as part of the pre and post verification? Which measures and business types?

Program Adjustments and Enhancements

32. From your experience to date, are there elements in design, structure, and/or operation that should be modified to make the program(s) work better? If so, what would you recommend? Why do you think this change is needed?

33. Do you feel that free-ridership is a major concern for the program(s)? [Please explain.]

34. Do you see this program is leading participants to undertake still additional energy savings projects outside of the Nicor programs? If so, what types of measures or projects?

35. Is the program having any impacts on non-participants – driving any increased energy efficient projects or behaviors - that you are aware of?

36. Do you think the current economic conditions are affecting the program? If so, how?

Other

37. We are also planning on talking to _____and _____ about this program. Are there any additional people with key roles that we should talk to?

38. 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.

5.6.2 Trade Ally In-Depth Interviewer Guide

ComEd/Nicor and ComEd/Peoples Gas and North Shore Gas Evaluation for the Small Business Energy Savings Program
Final Version August 3, 2012
Contractor In-Depth Interview Guide

Respondent name:	
Respondent phone number:	
Respondent title:	
Email Address:	
Respondent Company	
Date:	
Status:	
Utilities	**ComEd/Nicor**
	ComEd/Peoples Gas and North Shore Gas
	Both gas companies

Section	Topics	Questions
Background	What type of business does the trade ally conduct and what types of experience does this trade representative have?	Q1-Q3
Marketing and Participation	How did trade ally become aware of this program and other utility programs? Do you refer customers to other utility programs? Is the level of utility marketing sufficient? Has word of mouth marketing had an impact?	Q4-Q8
Program Barriers	How could the program be changed to overcome the barriers encountered by customers and trade allies?	Q9-Q12
Administration and Delivery	How do you market the program? How do you provide customers with service for both electric and gas energy efficient equipment? Does program delivery occur in a timely manner? Do you need more training?	Q13-Q21
Program Satisfaction	How satisfied are trade allies with the program? How satisfied are customers with the program? Do the inspections increase or decrease customer satisfaction?	Q22-Q25

Section	Topics	Questions
Economic Indicators	How do the current economic conditions impact the program? Have your business revenues grown? Have you hired more employees? Do you plan on continuing your participation?	Q26-Q31
Free-ridership and Spillover	Would small business customers have installed the equipment without the program (free-ridership)? About what percentage of customers have installed additional energy efficient equipment without an incentive (spillover)?	FR3a-S2

[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/Nicor or ComEd/Peoples Gas and North Shore Gas] Small Business Energy Savings 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.

Background

2. 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?
    - Do you mainly serve small businesses, large businesses or a mix of the two? Do you
        - Install Gas Measures only
        - Install Electric Measures only
        - Install both Gas and Electric measures

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

4. How would you describe your familiarity with your company's alliance with the [ComEd/Nicor or ComEd/Peoples Gas and North Shore Gas'] Small Business Energy Savings Program?

[ONLY ASK IF RESPONDENT PARTICIPATES IN BOTH PROGRAMS]

5. I understand that you participate in both the Nicor and the Peoples Gas and North Shore Gas programs. What are the major differences between the two programs? Is one easier to participate in than the other?

Marketing

6. How did you (the contractor) become aware of the program?

7. What other ways can the utilities and program implementers boost program awareness with contractors?

8. Are you aware of other ComEd, Nicor, Peoples Gas and North Shore Gas Programs?

[ONLY ASK IF 5 = YES]]

9. Have you referred any customers to other ComEd, Nicor, Peoples Gas and North Shore Gas] business programs?

10. Do you have any materials that you can leave with customers describing the full range of [ComEd/Nicor or Peoples Gas and North Shore Gas] programs? (ASK SEPARATELY ABOUT EACH IF IN BOTH PROGRAMS)

11. What kind of support, if any, do [Nexant/Franklin Energy] provide to you for marketing the Small Business Energy Savings Program to your customers?

12. Do you use utility-produced marketing materials? Cooperatively?

13. Do you think promotional efforts are successful? How do your customers hear about the program?

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

15. Do you think they reach the right audience?

16. If the utilities or implementers are missing areas of opportunity, what are those areas?

17. Have you noticed any spontaneous word- of- mouth marketing among [ComEd/Nicor or ComEd/Peoples Gas and North Shore Gas'] customers?

18. For example, do customers know of other participating businesses?

Program Characteristics and Barriers – ask about both programs

19. What areas could be improved to create a more effective program for customers and program partners?

20. Do you have any recommendations for what could be modified to make the program work better (e.g., incentive levels, eligible equipment, etc.)? Why do you think this change is needed?

21. Do you think the utilities should add more measures to the Capital Improvements list? What would you like to see added to the program? Do you think this would increase program participation?

22. Have you looked at the any of the utilities' websites? Which ones? Why did you visit this website? Did you find the information you needed there?

23. What barriers have you encountered with the program? [ONLY ASK IF THEY PARTICIPATE IN BOTH PROGRAMS] Are there different barriers between the two programs?

Administration and Delivery

24. Do you actively market the program to your customers? How did you decide which [ComEd/Nicor or ComEd/Peoples Gas and North Shore Gas] customers to contact about the program? Are these customers current customers of yours?

25. Did you market to targeted geographic areas?

26. This program provides rebates for electric and gas measures. Did you provide customers with the full program? Did you partner with another trade ally or provide all the services yourself? Do you currently partner with another company?

27. As an [electrical contractor/ or an HVAC contractor], do you plan to partner with [an HVAC contractor/ or an electrical contractor] to be able to install the complete list of measures offered in the next program year? If no, why not?

28. After the customer agrees to install the recommended equipment, how long does it usually take to schedule the installation?

29. Are customers confused by any forms they need to fill out? Are customers confused about the SBES implementation process?

30. How long did it take [Nexant/Franklin Energy] to process your payment after installation? Is this an acceptable amount of time?

31. Are you able to provide qualified customers with a loan arrangement? Who finances these loans? About what percent of your SBES program sales are financed? What percent of customers request financing?

32. Did you know whom to contact for help with this program? Who would you call? What is the name of the company implementing the program?

33. What training did you receive in how to deliver this equipment to small business customers? Would more training be useful? What types of training would be helpful?

Satisfaction with the SBES Program

34. Are you satisfied with the program? Why or why not?

35. Has the program allowed your organization to provide an increased level of customer service? Are customers satisfied with the program? Why or why not?

36. Have you had any call backs and if so, on what measures?

37. Do you think customers like the assigned trade ally approach or do some customers say they want their own contractor?

38. Are the incentives levels effective at encouraging customers to install equipment they would not have considered without the program?

39. What has been the impact of the recent increases in incentive levels from last program year?

40. The implementers (Nexant or Franklin Energy) conduct pre and post inspections of the installations. Are these inspections conducted quickly? Do they present a barrier to participation or are they a burden on customers? Do the pre-inspections unnecessarily delay installations? Do the post-inspections unnecessarily delay incentive payments?

Economic Indicators

41. Do you think the current economic conditions are affecting the program? If so, how?

42. Do you find the SBES Program is a competitive advantage for your firm?

43. 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? About what percent (+/- 10 percent)

44. Have you hired more employees because of work generated by the Small Business Energy Savings Program? How many? In the next year will you hire more employees to handle increased work generated by the program? About how many?

45. Do you plan to continue participating in the program [both programs] through 2013?

FREE-RIDERSHIP

[Ask the following for all the measures incorporated in aggregate]

46. FR3a On a scale of 0 to 10 where 0 is NOT AT ALL IMPORTANT and 10 is EXTREMELY IMPORTANT, how important was the PROGRAM in influencing your decision to work with small business customers? (This includes incentives as well as program services and information) [SCALE 0-10]

47. C1 Were you selling your services to small businesses that qualify for this program prior to participating in the SBES program? [IF YES]

48. About what percent of your sales (units or dollars) were to these small businesses before the program? Thinking about your 2010 sales to small businesses only, about what percent of your sales do you think were of energy efficient equipment in 2010 – before the program? Was it more than 50 percent or less than 50 percent? More or less than 75 percent or 25 percent? Etc. (narrow down ideally to a 10 percent range – e.g., 20-30 percent)

49. C2 About what percent of your total sales do you think were to small businesses in 2011 after you became a program approved

trade ally?

50. Thinking again about those small businesses in 2011, about what percent of your sales were of energy efficient equipment? Was it more than 50 percent or less than 50 percent? More or less than 75 percent or 25 percent? Etc.

51. C3. Of the [number of projects in program] projects in 2011, how many of these small businesses were your customers before they participated in the program?

52. C4. Of the small businesses who were your customers before the program, how many of them had EVER installed energy efficient equipment that you are aware of?

ONLY ASK IF C4. > 0.

53. What type of equipment was it? When was that project installed?

54. C5. Did the customer receive a rebate from a utility program for installing that energy efficient equipment? (Electric only, no gas rebates existed in Illinois before PY1) [ONLY ASK IF C5. = NO]

55. C6. Why do you think the customer did not receive a rebate for this equipment?

56. C7. After their program participation, have any of the SBES program participants asked your organization to install additional energy efficient equipment?

[ONLY ASK IF C7. = YES]

57. What did you install? Why did they want more equipment? Did the equipment qualify for a utility incentive?

I would now like to ask about what you would have done if the program had not been available.

58. FR3b Using a 0 to 10 likelihood scale where 0 is NOT AT ALL LIKELY and 10 is EXTREMELY LIKELY, if the PROGRAM had not been available, what is the likelihood that you would have been selling the same energy efficient equipment to small businesses? [SCALE 0-10]

C9 If this program was not available, what do you think your Small Business Energy Savings customers would have installed? [RECORD VERBATIM RESPONSE]

Don't know
Refused

C10. If the program were not available to your customers and potential customers in the future, how would their decisions regarding lighting and HVAC equipment be different? [RECORD VERBATIM RESPONSE]

Don't know
Refused

C11. In the absence of the SBES program, how would your business be different? [RECORD VERBATIM RESPONSE]

Don't know
Refused

I only have a few more questions left for you.

Spillover

59. S1. How many of your small business customers purchase program equipment and do not apply for the incentive offered by the utility? [Ask about which measure types and rough scope.] a. Why is that, in your experience? (e.g., too time-consuming, too much paperwork, incentive too small to bother)

60. S2. As a result of increased program awareness, how many of your small business customers choose to implement other energy efficiency measures not incented by the program (things like pipe wrap or other energy efficiency equipment)?

[ONLY ASK IF S2. > 0]

61. What types of additional measures do they usually install? (Try to develop a number for each type.)

CLOSING SECTION

62. 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?

63. On behalf of [ComEd/Nicor or ComEd/Peoples Gas and North Shore 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]

5.6.3 Energy Advisor In-Depth Interviewer Guide

ComEd/Nicor and ComEd/Integrys Evaluation for the Small Business Energy Savings Program
Energy Advisor In-Depth Interview Guide

Respondent name:	
Respondent phone number:	
Respondent title:	
Respondent Company	
Date:	
Status:	

The energy advisor is employed by the implementer and conducts the assessment and installs the no-cost measures.

[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

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 ComEd/Nicor or ComEd/Integrys' Small Business Energy Savings Program. We're conducting interviews with Energy Advisors in order to improve our understanding of this program. The questions will only take about a half hour. Is this a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

Background

1. Can you briefly summarize your roles and responsibilities at Nexant/Franklin Energy for the SBES Program? For how long have you carried these out?

Marketing and Participation

2. How do customers become aware of the program? What other ways can Nexant/Franklin Energy use to boost program awareness with contractors/customers?

3. Are you aware of the other ComEd, Nicor,/ ComEd/Integrys Programs? Have you referred any customers to other ComEd, Nicor/ ComEd/Integrys business programs? Do you have any materials that you can leave with customers describing the full range of ComEd/Nicor/Integrys Programs? (ASK SEPARATELY ABOUT EACH)

4. Do you market the SBES Program directly to customers? How? Do you distribute utility-produced marketing materials?

5. Do you think level of marketing and promotion of the Small Business Energy Savings Program has been appropriate so far? Do you think promotional efforts are successful? Do you think they reach the right audience?

6. Have you noticed any spontaneous word- of- mouth marketing among ComEd/Nicor or ComEd/Integrys' customers?

Program Characteristics and Barriers

7. What could be modified to make the program work better from your perspective (e.g., incentive levels, eligible equipment, etc.)? If so, what would you recommend? Why do you think this change is needed?

Administration and Delivery

8. About what percentage of the customers you talk to about the program agree to an assessment of their energy use?

9. Of those who agree to an assessment of their facility, about what percentage agrees to install at least one no-cost measure?

10. Of those who agree to install a no-cost measure, what percentage agrees to install at least one low-cost measure?

11. After the customer agrees to install the recommended low-cost equipment, how long does it take for the contractor to install the low-cost equipment?

Thermostat Installation

IF THERMOSTAT IS INSTALLED AS PART OF THE NO COST MEASURES (INTEGRYS):

12. Are you trained to program the thermostat to lower the temperature in the evening or raise it for air conditioning before leaving the facility? Are you required to teach the customer how to use the programmable thermostat? Do you think this training is effective for customers?

Satisfaction with the SBES Program

13. Do you think contractors are satisfied with the program? Why or why not?

14. Do you think customers are satisfied with the program? Why or why not?

15. Are the incentives levels effective at encouraging customers to install equipment they would not have considered without the program? About what percent of your customers were planning to install any of the no-cost/low cost equipment without the incentive?

16. What barriers prevent customers from participating in the program? How can these barriers be reduced, in your opinion?

17. Do you conduct pre- or post-installation inspections? Are these inspections scheduled quickly? Do they present a barrier to participation or are they a burden on customers? Do the pre-inspections unnecessarily delay installations? Do the post-inspections unnecessarily delay incentive payments?

18. Do you think the current economic conditions are affecting the program? If so, how?

Thank you and closing.

5.6.4 Program Implementer In-Depth Interviewer Guide

Program Staff and Implementer In-Depth Interview Guide
Small Business Energy Savings Program
(Interviews to be Conducted Separately)

May 15, 2012 draft

Name of Interviewee: _____ Date: _____
Title: _____ Company: _____
Role in Program: _____

[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. Where possible, interview date/times will be arranged in advance. The interviews may be audio taped.

Introduction

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 Nicor Gas Small Business Energy Savings Program. We're conducting interviews with program managers and key staff in order to improve our understanding of the program. At this time we are interested in asking you some questions about the Nicor Gas SBES 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.]

Roles and Responsibilities

[*For respondents that were interviewed as part of the Rider 29 study focus questions/responses on any changes since last interview*]

1. Can you briefly summarize your role in the ComEd/Nicor Gas/Integrys Gas Small Business Energy Savings Program: What are your main responsibilities? Has your role changed over time?

2. Can you explain who is involved in the program implementation, and what their roles are? If NICOR: What is the role of WECC in delivering this program, if any?

3. Roughly, how many people are assigned to work on this program? What are your near-term plans for adding staff? From your perspective, is staffing adequate at Nexant for this program to meet its goal? (If not): What areas/functions do you feel are not adequately staffed?
4. What are the formal and informal communication channels between these groups (between WECC and Nexant (the implementation contractor)) and the utilities? Do you feel information is shared in a timely manner?

5. Are there any documents, other than what has been provided on the SharePoint site, that outline the roles and responsibilities of program staff for the program? Operations manual, policies and procedures guide? Can we have access to these documents?

Overall Goals and Objectives

6. According to the most recent monthly report, you are [ahead/behind] on PY1 quantitative goals. Why do you think this is? Were the PY1 goals realistic given that it was a ramp up year? Why or why not?

7. Outside of the quantitative goals (e.g., $, $/kWh, savings and participation rates), in your own words, what are the key goals and objectives of this program? The operating plan says that education and awareness of the benefits of energy efficiency for target audiences will be the key to the marketing strategy. What has this meant for the development of marketing the SBES program?

Marketing and Promotion

8. Do you have a written marketing plan from either Nexant or Franklin Energy?

   Please describe your program marketing campaign in your own words. Are any of the following marketing channels used? (Bill inserts, TV, newspaper, radio, workshops, community events, emails, social media?)

   a. How often does each activity occur?
   b. Who is in charge of developing materials?
   c. Who is in charge of marketing activities?
   d. Do you have a written marketing plan?

9. Is there any additional marketing material that has not been provided on the SharePoint site? If so, can we arrange to get access to the marketing collateral you use?

10. Do you anticipate making any changes to marketing efforts for Program Year 2 (starting June 1 2012)? If so, please describe these changes.

11. One idea in the Nicor operations plan was for Nexant to use direct mail or outbound telemarketing to market the program? Have these methods been used by Nexant?

12. The issue with split incentives – Energy Advisors should work with landlords to obtain permission to install the no-cost equipment and to encourage them to share the costs of the low cost equipment? Is this happening?

Trade Allies

13. Could you talk a bit about the program efforts that specifically target trade allies? How involved are you in the relationships with trade allies? Are you involved at all in the formal RFP process to solicit trade allies?

14. Is there one staff member that oversees the program trade ally network? Who is this at Nexant/Franklin Energy?

15. Who recruits trade allies? Which types of trade allies are choosing to participate in the program(s) and which are not? How many trade allies are currently participating in the program? How many would you say are active participants?

16. Do you have a sense of trade allies' satisfaction with their participation in the trade ally program? From the Surveys? How often do you conduct trade ally surveys? How many trade allies complete the surveys? Do you track the results of these surveys? May we have access to these reports? Do the surveys raise any flags with the program implementation?

17. What kind of training is provided for trade allies as part of the registration process? What role do they have in marketing the program(s)? What kind of support, if any, is provided to them for marketing the program(s) to customers?

18. Have trade allies requested any other types of support/collateral, etc. If so, what have they requested and how are you responding to their requests? If so, what have they requested and how are you/Nexant/Franklin Energy responding to their requests

19. Are there any quality control procedures in place for trade allies? What is done if a complaint is received, for example? Have you had to drop any trade allies from the program for poor performance? Have any trade allies been dropped for not providing the three leads a month to the program?

20. How many trade allies are currently participating in the Nexant program? How many would you say are active participants? Is this enough for the program to be successful?

21. What kind of support, if any, is provided by ComEd/Nexant/Franklin Energy to the trade allies for marketing the program(s) to their customers?

Program Participation

We are also trying to learn of any process related issues that may arise from the current design of the program(s).

22. Could you briefly describe the process for participation in the program(s) from the customer perspective? Who drives participation: implementers, customers, trade allies?

23. Have you personally received any feedback from customers on the program?

24. What do customers do if they have questions about the participation process? Is there a systematic process in place for responding to customer inquiries? How quickly are their questions answered? What improvements can be made? Are these questions answered by the implementer? What happens if a customer calls the utility? Is the call routed to the implementer?

25. Is there a system in place to track project progress? If so, please describe. Is the process to transfer customer lead to other program, such as the BEER program, when appropriate, working?

26. What is the target processing time between final documentation and payment to the contractor? What percent of applications are actually processed within that amount of time? What, if anything, slows down processing time? How can this bottle neck be changed?

27. Does the post-inspections performed by Nexant/Franklin Energy ever slow down the payment to the contractor? How does the post inspection process work?

Thermostat Installation

IF THERMOSTAT IS INSTALLED AS PART OF THE NO COST MEASURES (INTEGRYS):

28. Are the technicians trained to program the thermostat to lower the temperature in the evening or raise it for air conditioning before leaving the facility? Are they required to teach the customer how to use the programmable thermostat? Do you think this training is effective?

IF THERMOSTAT IS INSTALLED AS PART OF THE LOW COST MEASURES (NICOR):

1. Are the contractors trained to program the thermostat to lower the temperature in the evening or raise it for air conditioning before leaving the facility? Are they required to teach the customer how to use the programmable thermostat? Do you think this training is effective?

Incentives

29. What do you perceive to be the level of satisfaction among program participants with the current incentive amounts?

30. How do trade allies perceive the incentive levels? What specific feedback have they given?

Call Center

31. Are customers/contractors making use of the phone number to program staff listed on the application form? [Probe for call volume.] What are the main issues raised by customers/contractors with program staff?

Data Tracking

32. What systems are in place for data tracking? Who captures the data and how?

33. Can you briefly describe what data are tracked for the program(s)? What about application attachments and calculations? What about review history and revisions to savings or incentive amount?

34. Do you feel all important information is captured and stored in a way to best support program efforts? Is the information accurate and current? Are there additional types of reports or information that you would find beneficial? Is there a process for requesting additional data? For modifying/changing the information?

35. Is the system used for data tracking linked with any other systems such as databases with customer account information or ones that track marketing activities?

Quality Assurance and Quality Control (WECC and the IC)

36. Are there any additional documents, other than what you have provided on the SharePoint site, that describe the quality assurance procedures? If so, can we obtain a copy?

37. Can you provide a brief description of your quality procedures? What kind of quality procedures are in place to verify equipment quantities and eligibility? Project completion? What is the process for verifying savings?

38. Approximately, what percentage of all projects is post-inspected? How do you determine if a project requires inspection? How many projects are inspected during installation?

39. How are they documented? Do they use standardized data collection forms? How can we arrange to obtain these documents?

40. When are on-site measurements conducted as part of the pre and post verification? Which measures and business types? Are they ever needed for this program?

Program Adjustments and Enhancements

41. From your experience to date, are there elements in design, structure, and/or operation that should be modified to make the program(s) work better? If so, what would you recommend? Why do you think this change is needed?

42. Do you feel that free-ridership is a major concern for the program? [Please explain.]

43. Do you see this program as leading participants to undertake additional energy savings projects using other Nicor/Integrys/ComEd programs? Will participants install additional equipment outside of the Nicor/Integrys/ComEd programs? If so, what types of measures or projects?

44. Is the program having any impacts on non-participants – driving any increased energy efficient projects or behaviors- that you are aware of?

45. Do you think the current economic conditions are affecting the program? If so, how?

Other

46. We are also planning on talking to _____and _____ about this program. Are there any additional people with key roles that we should talk to? WECC?

47. 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.

5.6.5 Small Business Energy Savings Program Participant Survey

NICOR/COMED or INTEGRYS/COMED SMALL BUSINESS ENERGY SAVINGS PROGRAM

PARTICIPANT SURVEY

PY1 FINAL (8/08/2012)

Table 1: Small Business Energy Savings Program Survey Topics

Topics	Research Questions
Measure Modules: 1) Direct Install Measures 2) Capital Investment Lighting Measures 3) Capital Investment Non-lighting (HVAC, Tune-Up, other)	• Impact Direct Install Measure issues • Persistence • Hours of use • Tune-up baseline check • Early Replacement check • Programmed thermostats
NTG	• Would the customer have installed the energy efficient equipment without the program?
Spillover Module	• Did the SBES Program encourage the customer to install energy efficient equipment without an incentive? Why?
Process Module Firmographics Model	• Satisfaction • Marketing and Outreach • Benefits and Barriers • Feedback and Recommendations • Ownership • Type • Age • Number of employees

Participation Type = *Direct Install Direct Install Contractor Installed*
Contractor Installed Only
Assessment Only

Enduse = *Lighting*
Gas Non-lighting
Electric Non-lighting

Direct Install *List of measures installed during the assessment*

INTRODUCTION

[READ IF CONTACT=1]

Hello, this is _____ from Opinion Dynamics calling on behalf of ComEd and Nicor. ***This is not a sales call.*** May I please speak with <PROGRAM_CONTACT>?

Our records show that <COMPANY> installed energy efficient <ENDUSE> through the Small Business Energy Savings Program sponsored jointly by ComEd and/or [Nicor/Integrys Gas]. We are calling to do a follow-up study about <COMPANY>'s participation in this incentive program. I was told you're the person most knowledgeable about this project. Is this correct? [IF NOT, ASK TO BE TRANSFERRED TO MOST KNOWLEDGABLE PERSON OR RECORD NAME & NUMBER.]

This survey will take about 20 minutes. Is now a good time? [If no, schedule call-back]

[READ IF CONTACT=0]

Hello, this is _____ from Opinion Dynamics calling on behalf of ComEd and [Nicor/Integrys Gas]. I would like to speak with the person most knowledgeable about the recent assessment and changes in lighting, cooling or other energy-related equipment for your firm at this location.

[IF NEEDED] Our records show that <COMPANY> purchased and installed energy efficient <ENDUSE> and your contractor received an incentive of <INCENTIVE AMOUNT> from ComEd and/or [Nicor/Integrys Gas]. We are calling to do a follow-up study about your firm's participation in this incentive program, which is called the Small Business Energy Savings Program. I was told you're the person most knowledgeable about this project. Is that correct? [IF NOT, ASK TO BE TRANSFERRED TO MOST KNOWLEDGABLE PERSON OR RECORD NAME & NUMBER.]

This survey will take about 20 minutes. Is now a good time? [If no, schedule call-back]

SCREENING QUESTIONS

A1. Just to confirm, between June 1, 2011 and May 31, 2012 did <COMPANY> participate in the Small Business Energy Savings Program offered by ComEd and/or [Nicor/Peoples/North Shore Gas] at <ADDRESS>?

IF MORE EXPLANATION IS NEEDED: This is a program where your business may have received a free energy assessment, an offer of free energy savings products, and a report.

IF <PARTICIPATION_TYPE>=[CAPITAL IMPROVEMENT OR DIRECT INSTALL+CAPITAL IMPROVEMENT]: Program incentives were paid directly to your contractor who implemented one or more energy saving capital improvement projects or equipment improvements and tune-ups.

1 Yes, participated as described
2 Yes, participated but at another location
3 NO, did NOT participate in program [if this is answered, go to A2]
00 Other, specify [if this is answered, go to A2]
98 Don't know [if this is answered, go to A2]
99 Refused [if this is answered, go to A2]

[SKIP A2 IF A1=1, 2]

A2. Is it possible that someone else dealt with the energy-efficient product installation?

1 Yes, someone else dealt with it
2 No
00 Other, specify
98 Don't know
99 Refused

[IF A2=1, ask to be transferred to that person. If not available, thank and terminate. If available, go back to A1]

[IF A1=2,3,00,98,99: Thank and terminate. Record disposition as "Could not confirm participation".]

Before we begin, I want to emphasize that this survey will only be about the energy saving products and services received through the Small Business Energy Savings Program at <ADDRESS>.

[IF <PARTICIPATION_TYPE=DIRECT INSTALL OR DIRECT INSTALL+CAPITAL IMPROVEMENT ASK QA0-QA7]

Direct Install Measures

QA0. Were you present when <COMPANY> was visited by an Energy Advisor from the Small Business Energy Savings Program who conducted an assessment of your facility's energy saving opportunities and who may have directly installed free energy saving products?

QA1. I am going to read a list of energy saving products that our records indicate were installed in your facility or building. Please confirm which of the following were installed during the energy assessment. Also, let me know how many were installed?

	Direct_install	**QA1**			**QA1_Num**
Free Products	**Yes, data from database**	**Yes, confirmed**	**No, not installed**	**DK/NA**	**If Yes, How many were installed?**
13 W CFLs					
20 W CFLs					
23 W CFLs					
Bathroom Faucet Aerators (gas)					
Bathroom Faucet Aerators (electric)					
Kitchen Faucet Aerators (gas)					
Kitchen Faucet Aerators (electric)					
Showerheads (gas)					
Showerheads (electric)					
Pre-Rinse Sprayer					
Hot Water Temperature Reset					
Vending Miser					
Cooling Miser					

QA2. Is (are) all of the free product(s) still installed in the original locations?

1. Yes
2. No
98. Don't know
99. Refused

[IF QA2=2 Ask QA2a, ELSE SKIP TO QA7]

QA2a. Which free products are not installed in their original locations?
(Mention 1, Mention 2, Mention 3,…)

For each measure mentioned in QA2a, ask QA3-QA6

QA3. How many were removed from their original locations (please be specific)?

QA4. If the device(s) is NOT installed at original location, what happened to the device? (*Interviewer: read list and record one response*).

1. It is installed at some other location in the facility
2. It is in storage
3. It was sold or given away
4. It was thrown away
00. Other, specify
98. Don't know
99. Refused

QA5. Why [was/were] the device(s) moved from [their/its] original locations? (*Record/answer all that apply*)

1. (Equipment failed)
2. (Didn't work properly)
3. (Wrong size – too small or too large)
4. (Low water flow)
5. (Didn't like the color)
6. (Didn't like the appearance/unattractive)
00. (Other, specify)
98. (Don't know)
99. (Refused)

QA6. What did you replace the device with? (*Record/answer all that apply*)

1. With a new high efficiency device
2. With a less efficient device
3. Re-installed old equipment
4. Did not replace
00. Other, specify
98. Don't know
99. Refused

[IF PRSV=1, ASK QA7]

QA7. Hour many hours per day would you estimate the pre-rinse sprayer(s) is (are) used at this site?

1. About one half hour
2. About one to two hours
3. About 3 hours
00. Other, specify
98. Don't know
99. Refused

ASK QA8 ONLY IF NO MEASURES WERE CONTRACTOR INSTALLED.

QA8. The Energy Advisor may have recommended a number of energy efficient steps you could take to reduce your energy usage. Why did you decide not to take any of these steps when a rebate was available?
[RECORD OPEN ENDED RESPONSE]

GO TO PROCESS MODULE IF DI ONLY–BEGINS WITH S0

Capital Investment LIGHTING MODULE [ASK MODULE IF PARTICIPATION_TYPE = CI OR DI+CI AND ENDUSE= LIGHTING]

NOTE: THREE MEASURE VARIABLES ARE MEASD1, MEASD2 AND MEASD3.

A3. I'd like to confirm some information in our database. Our records show that a contractor installed the following lighting measures through the Small Business Energy Savings Program. Is this correct?

[ASK A3a IF MEASD1 <> BLANK]

A3a <MEASD1>

1 Yes
2 No, did not install
8 Don't know
9 Refused

[ASK PL3a IF A3a=1]

PL3a Is the lighting still installed?

1. Yes
2. No
98. Don't know
99. Refused

[ASK A3b IF MEASD2 <> BLANK]

A3b <MEASD2>

1 Yes
2 No, did not install
8 Don't know
9 Refused

[ASK PL3b IF A3b=1]

PL3b Is the lighting still installed?

1. Yes
2. No
98. Don't know
99. Refused

[ASK A3c IF MEASD3 <> BLANK]

A3c <MEASD3>

1 Yes
2 No, did not install
8 Don't know
9 Refused

[ASK PL3c IF A3c=1]

PL3c Is the lighting still installed?

1. Yes
2. No
98. Don't know
99. Refused

L4 After you completed the installation of the new fixtures, did you install additional lighting fixtures in that same space at a later time to increase the amount of lighting?

1 Yes
2 No
8 (Don't know)
9 (Refused)

[ASK IF L4=1, ELSE GO TO NEXT LIGHTING MEASURE]

L5 How many of these additional new fixtures did you install? [NUMERIC OPEN END, 1 TO 3000; 98=Don't know, 99=Refused]

If PL3a=2 or PL3b=2 or PL3c=2, ask QA4-QA6 for each:

QA4. You mentioned that <MEASD1/MEASD2/MEASD3> is no longer installed. What happened to the lighting equipment? (Read list and record one response).

1. It is installed at some other location in the facility
2. It is in storage
3. It was sold or given away
4. It was thrown away
00. Other, specify
98. Don't know
99. Refused

QA5. Why [was/were] the lighting equipment moved from [their/its] original locations? (*Record/answer all that apply*)

1. (Equipment failed)
2. (Didn't work properly)
3. (Didn't like the color)
4. (Didn't like the appearance/unattractive)
00. (Other, specify)
98. (Don't know)

99. (Refused)

QA6. What did you replace the lighting equipment with? (*Record/answer all that apply*)
1. With new high efficiency lighting
2. With less efficient lighting
3. Re-installed old equipment
4. Did not replace
00. Other, specify
98. Don't know
99. Refused

HOURS OF USE – LIGHTING

Now we'd like to talk about the hours that your interior lighting equipment is in operation.

LH1a Are you typically open every day, Monday through Friday?
1 Yes
2 No
8 Don't know
9 Refused

[ASK LH1b IF LH1a=2]
LH1b How many days are you CLOSED Monday through Friday?
1 One
2 Two
3 Three
4 Four
5 Five
8 Don't know
9 Refused

[IF LH1b=5, SKIP TO LH4]
LH2 At what time do your indoor lights currently turn on during weekdays (Monday - Friday)? (Enter 2400 for 24-hour operation, enter 0 for never on)
LH2a Enter hours and minutes, e.g., 0530 for 5:30
LH2b 1. AM
2. PM

[SKIP LH3 IF LH2=24hr or never]
LH3 At what time do your indoor lights currently turn off during weekdays (Monday - Friday)? (Enter 2400 for 24-hour operation, enter 0 for never on)
LH3a Enter hours and minutes, e.g., 0530 for 5:30
LH3b 1. AM
2. PM

LH4 Does the lighting equipment operate on a different schedule on weekends (Saturday and Sunday)?
1 Yes

2 No
8 Don't know
9 Refused

[ASK IF LH4=1, ELSE SKIP TO LH9]

LH5 On Saturdays, at what time does the indoor lighting equipment turn-on? (Enter 2400 for 24-hour operation, enter 0 for never on)
LH5a Enter hours and minutes, e.g., 0530 for 5:30
LH5b 1. AM
2. PM

[SKIP LH6 IF LH5=24hr or never]

LH6 And when does the indoor lighting equipment turn off on Saturdays? (Enter 2400 for 24-hour operation, enter 0 for never on)
LH6a Enter hours and minutes, e.g., 0530 for 5:30
LH6b 1. AM
2. PM

LH7 And on Sundays, at what time does the indoor lighting equipment turn on? (Enter 2400 for 24-hour operation, enter 0 for never on)
LH7a Enter hours and minutes, e.g., 0530 for 5:30
LH7b 1. AM
2. PM

[SKIP LH8 IF LH7=24hr or never]

LH8 And when does the indoor lighting equipment turn off on Sundays? (Enter 2400 for 24-hour operation, enter 0 for never on)
LH8a Enter hours and minutes, e.g., 0530 for 5:30
LH8b 1. AM
2. PM

LH9a During hours when your business is OPEN, approximately what percentage of the indoor lights are kept on? [NUMERIC OPEN END, 0 TO 100; 998=DON'T KNOW, 999=REFUSED]

[SKIP LH9b IF LH1a=1 AND LH2a = 2400 AND LH4 = 2] (Business is open 24/7)

LH9b During hours when your business is CLOSED, approximately what percentage of the indoor lights are kept on? [NUMERIC OPEN END, 0 to 100; 998=Don't know, 999=Refused]

LH10a Are there any months during the year when the operating schedule for the indoor lighting differs significantly from what you just described?
1 Yes
2 No
8 Don't know
9 Refused

[ASK LH10b-e IF LH10a=1; ELSE SKIP TO non-lighting MODULE]

LH10b How many hours per day does your indoor lighting typically operate during the periods with different operating schedules?
[NUMERIC OPEN END, 0 TO 24; 98=DON'T KNOW, 99=REFUSED]

LH10c And how many days per week?
[NUMERIC OPEN END, 0 TO 7; 8=DON'T KNOW, 9=REFUSED]

LH10d How many months per year does the equipment run on the alternative schedule? [NUMERIC OPEN END, 0 TO 12; 98=DON'T KNOW, 99=REFUSED]

LH10e During hours when your business is OPEN, on the alternative schedule, approximately what percentage of the indoor lighting is kept on? [NUMERIC OPEN END, 0 TO 100; 998=DON'T KNOW, 999=REFUSED]

[SKIP LH10f IF LH10b = 24]

LH10f During hours when your business is CLOSED on the alternative schedule, approximately what percentage of the indoor lights are kept on? [NUMERIC OPEN END, 0 to 100; 998=Don't know, 999=Refused]

NON-LIGHTING MODULE [ASK IF ENDUSE = GAS NONLIGHT OR ELEC NONLIGHT AND PARTICIPATION_TYPE = CI OR CI+DI =1, ELSE SKIP TO NET TO GROSS BATTERY]

NL3. Our records show that you implemented the following non-lighting energy saving measures through the Small Business Energy Savings Program. Is this correct?

	Contractor implemented	**NL3**			**NL3_Num**
Low Cost Products	**Yes, data from database**	**Yes, confirmed**	**No, not installed/ implemented**	**DK/NA**	**If Yes, How many were installed?**
Guest room energy management					
Installation of programmable thermostats					
Steam traps					
Boiler tune-ups					

Boiler reset controls					
Furnaces of at least 92 percent AFUE					
Water heaters of at least 88 percent thermal efficiency					
Furnace tune-ups					

Measure Loop

[Loop 1: ASK IF MEASD1=1. Loop 2: ASK IF MEASD2=1. Loop 3: ASK IF MEASD3=1.]
[For Loop 2, replace "1" at the end of read-ins with "2"; for Loop 3, replace "1" with "3".]

The following questions are about the <MEASD1> implemented through the Small Business Energy Savings Program.

[IF MEASD1= BOILER TUNE-UP OR FURNACE TUNE-UP, ASK NL4 AND NL5]

NL4 Prior to receiving this tune-up on your heating system through this program, when did you last tune-up your heating equipment?
1. Within the past three years
2. More than three years ago
3. Never had a tune-up
00. Not applicable
98. Don't know
99. Refused

NL5 Prior to receiving an energy assessment through this program, did <COMPANY> have a maintenance contract for the heating system equipment?
1. Yes
2. No
98. Don't know
99. Refused

[IF MEASD1= BOILER TUNE-UP OR FURNACE TUNE-UP, SKIP TO NEXT MEASURE]

REMOVED EQUIPMENT

NL6 Did the <MEASD1> installed through the Small Business Energy Savings Program replace old or outdated equipment at this facility, or was it an addition of new equipment?

1 (Addition of new equipment - did not replace anything)
2 (Replacement of old or outdated equipment)
00 (Other, specify)
98 (Don't know)
99 (Refused)

[SKIP NL7 NL8 AND NL9 IF NL6=1,98,99]

NL7. Approximately how old was the existing equipment?

___ Estimated Age
98 (Don't know)
99 (Refused)

IF RESPONDENT HAS TROUBLE ESTIMATING AGE OF EQUIPMENT, ASK:

NL7a. Approximately in what year was the existing equipment purchased?

___ Estimated Year of Purchase
98 (Don't know)
99 (Refused)

NL8. How much longer do you think it would have lasted?

___ Estimated Remaining Useful Life
98 (Don't know)
99 (Refused)

NL9. Which of the following statements best describes the performance and operating condition of the equipment you replaced through the Small Business program?

1 Existing equipment was fully functional and without significant problems
2 Existing equipment was fully functioning, but with significant problems
3 Existing equipment had failed or did not function.
4 Not applicable, ancillary equipment (VSD, EMS, controls, etc.)
5 Other (RECORD VERBATIM)
98 (Don't know)
99 (Refused)

[IF MEASD1=GUEST ROOM ENERGY MANAGEMENT OR MEASD1=PROGRAMMABLE THERMOSTAT, ASK NL10, NL11, AND NL12]

NL10 In the spaces where the <MEASD1> devices were installed, do have electric heating or natural gas heating?

1 (Electric space heating)
2 (Natural gas space heating)
98 (Don't know)
99 (Refused)

NL11 Since installing the <MEASD1> device, have you or a contractor programmed the temperature settings?
1 (Yes)
2 (No)
98 (Don't know)
99 (Refused)

[IF NL11=1, ASK NL12}
NL12 Has the <MEASD1> been programmed to maintain a different temperature during unoccupied periods than occupied periods?
1 (Yes)
2 (No)
98 (Don't know)
99 (Refused)

[IF MEASD1=GUEST ROOM ENERGY MANAGEMENT OR MEASD1=PROGRAMMABLE THERMOSTAT SKIP TO NEXT MEASURE]

[End of NON-LIGHTING MODULE] [ASK NON-LIGHTING MODULE ABOUT MEASD2 AND MEASD3]

PY1/4 NET-TO-GROSS MODULE VARIABLES

Variables for the net-to-gross module:
<NTG> (B=Basic rigor level, S= Standard rigor level. All questions here are asked if the standard rigor level is designated. Basic rigor level is designated through skip patterns)
<UTILITY> (ComEd/Nicor or ComEd/Integrys)
<PROGRAM> (Name of energy efficiency program)
<ENDUSE> (Type of measure installed; from program tracking dataset)
<OTHERPTS> (Variable to be calculated based on responses. Equals 1- minus response to N3p.)
<FINCRIT1> (Variable to be calculated based on responses. Equals 1 if payback period WITHOUT incentive is shorter than company requirement. See instructions below.)
<FINCRIT2> (Variable to be calculated based on responses. Equals 1 if payback period WITH incentive is shorter than company requirement. See instructions below.)
<MSAME> (Equals 1 if same customer had more than one project of the same end-use type; from program tracking database)
<NSAME> (Number of additional projects of the same end-use type implemented by the same customer; from program tracking database)
<FSAME> (Equals 1 if same customer also had the same measures installed at a different facility; from program tracking database)
<FDESC> (Type of end-use of a different measure type at the same facility; from program tracking database)

NET-TO-GROSS BATTERY

I'd now like to ask a few questions about the <ENDUSE> you installed through the program.

N1 When did you first learn about <UTILITY>'s Program? Was it BEFORE or AFTER you first began to THINK about implementing this measure? (NOTE TO INTERVIEWER: "this measure" refers to the specific energy efficient equipment installed through the program.)

1 Before
2 After
8 Don't know
9 Refused

[ASK N2 IF N1=2, 8, 9]

N2 Did you learn about <UTILITY>'s Program BEFORE or AFTER you DECIDED to implement the measure that was installed? (NOTE TO INTERVIEWER: "the measure" refers to the specific energy efficient equipment installed through the program.)

1 Before
2 After
8 Don't know
9 Refused

N3 Next, I'm going to ask you to rate the importance of the program as well as other factors that might have influenced your decision to implement this measure. Think of the degree of importance as being shown on a scale with equally spaced units from 0 to 10, where 0 means not at all important and 10 means extremely important. Now using this scale please rate the importance of each of the following in your decision to implement the measure at this time. [FOR N3a-n, RECORD 0 to 10; 96=Not Applicable; 98=Don't Know; 99=Refused]

(If needed: How important in your DECISION to implement the project was…)

N3b. Availability of the PROGRAM incentive
N3c. Information provided through the technical assistance you received from <UTILITY> or [Nexant/Franklin Energy] field staff
N3f. Recommendation from a <UTILITY or Implementer> program staff person
N3h. Information from <PROGRAM> or <UTILITY> marketing materials
N3o. Information in assessment report

N3n. Were there any other factors we haven't discussed that were important in your decision to install this MEASURE?

00 [Record verbatim]
96 Nothing else was important
98 Don't Know
99 Refused

[ASK N3nn IF N3n=00]

N3nn. Using the same zero to 10 scale, how would you rate the influence of this factor? [RECORD 0 to 10; 98=Don't Know; 99=Refused]

N3p If you were given a TOTAL of 100 points that reflect the importance in your decision to implement the <ENDUSE>, and you had to divide those 100 points between: 1) the program and 2) other factors, how many points would you give to the importance of the PROGRAM?
Points given to program: [RECORD 0 to 100; 998=Don't Know; 999=Refused]

[CALCULATE VARIABLE "OTHERPTS" AS: 100 MINUS N3p RESPONSE; IF N3p=998, 999, SET OTHERPTS=BLANK]

N3o And how many points would you give to other factors? [RECORD 0 to 100; 998=Don't Know; 999=Refused] [The response should be equal to <OTHERPTS> because both numbers should equal 100. If response is not <OTHERPTS> ask INC1]

INC1 The last question asked you to divide a TOTAL of 100 points between the program and other factors. You just noted that you would give <N3p RESPONSE> points to the program. Does that mean you would give <OTHERPTS> points to other factors?
1 Yes
2 No
98 Don't know
99 Refused

[IF INC1=2, go back to N3p]

CONSISTENCY CHECK ON PROGRAM IMPORTANCE SCORE

[ASK IF (N3p>69 AND ALL OF (N3b, N3c, N3f, N3h, N3o AND N3mm)=0,1,2,3), ELSE SKIP TO N4aa]

N4 You just gave <N3p RESPONSE> points to the importance of the program. I would interpret that to mean that the program was quite important to your decision to install this equipment. Earlier, when I asked about the importance of individual elements of the program I recorded some answers that would imply that they were not that important to you. Just to make sure I have recorded this properly, I have a couple questions to ask you.

N4a When asked about THE AVAILABILITY OF THE PROGRAM INCENTIVE, you gave a rating of ...<N3B RESPONSE> ... out of ten, indicating that the program incentive was not that important to you. Can you tell me why the incentive was not that important?
00 [Record VERBATIM]
98 Don't know
99 Refused

N4b When I asked you about THE INFORMATION IN THE TECHNICAL ASSESSMENT REPORT, for instance, you gave a rating of ...<N3o RESPONSE> ... out of ten, indicating that the information provided was not that important to you. Can you tell me why the information provided was not that important?
00 [Record VERBATIM]
98 Don't know
99 Refused

N4c When I asked you about THE RECOMMENDATION FROM A <UTILITY> PROGRAM STAFF PERSON, you gave a rating of ...<N3F RESPONSE> ... out of ten, indicating that the information provided was not that important to you. Can you tell me why the information provided was not that important?

00 [Record VERBATIM]
98 Don't know
99 Refused

N4d When asked about THE INFORMATION from the <PROGRAM> or <UTILITY> MARKETING MATERIALS, you gave a rating of ...<N3H RESPONSE> ... out of ten, indicating that this information from the program or utility marketing materials was not that important to you. Can you tell me why this information was not that important?

00 [Record VERBATIM]
98 Don't know
99 Refused

[ASK IF N3p<31 AND ANY ONE OF (N3b, N3c, N3f, N3h, OR N3o=8, 9, 10) ELSE SKIP TO N5]

N4aa You just gave <N3p RESPONSE> points to the importance of the program. I would interpret that to mean that the program was not very important to your decision to install this equipment. Earlier, when I asked about the importance of individual elements of the program I recorded some answers that would imply that they were very important to you. Just to make sure I understand, would you explain why the program was not very important in your decision to install this equipment?

Now I would like you to think about the action you would have taken with regard to the installation of this equipment if the utility program had not been available.

N5 Using a likelihood scale from 0 to 10, where 0 is "Not at all likely" and 10 is "Extremely likely", if the utility program had not been available, what is the likelihood that you would have installed exactly the same equipment? [RECORD 0 to 10; 98= Don't know; 99=Refused]

CONSISTENCY CHECKS

[ASK N5a-d IF N3b=8,9,10 AND N5=7, 8, 9, 10]

N5a When you answered ...<N3B RESPONSE> ... for the question about the influence of the incentive, I would interpret that to mean that the incentive was quite important to your decision to install. Then, when you answered <N5 RESPONSE> for how likely you would be to install the same equipment without the incentive, it sounds like the incentive was not very important in your installation decision.

I want to check to see if I am misunderstanding your answers or if the questions may have been unclear. Will you explain the role the incentive played in your decision to install this efficient equipment?

00 [Record VERBATIM]
98 Don't know
99 Refused

N5b Would you like for me to change your score on the importance of the incentive that you gave a rating of <N3B RESPONSE> or change your rating on the likelihood you would install the same equipment without the incentive which you gave a rating of <N5 RESPONSE> and/or we can change both if you wish?

1 Change importance of incentive rating
2 Change likelihood to install the same equipment rating
3 Change both
4 No, don't change
8 Don't know
9 Refused

[ASK IF N5b=1,3]

N5c How important was availability of the PROGRAM incentive? (IF NEEDED: in your DECISION to implement the project) [Scale of 0 to 10, where 0 means not at all important and 10 means extremely important;

98=Don't know
99=Refused]

[ASK IF N5b=2,3]

N5d If the utility program had not been available, what is the likelihood that you would have installed exactly the same equipment? [Scale of 0 to 10, where 0 means "Not at all likely" and 10 means "Extremely likely"?

98=Don't know
99=Refused]

[ASK IF N5>0, ELSE SKIP TO N8]

N7 You indicated earlier that there was a <N5 RESPONSE> in 10 likelihood that you would have installed the same equipment if the program had not been available. Without the program, when do you think you would have installed this equipment? Would you say…

1 At the same time
2 Earlier
3 Later
4 Never
8 Don't know
9 Refused

[ASK N7a IF N7=3]

N7a. How much later would you have installed this equipment? Would you say…

1 Within 6 months?
2 6 months to 1 year later
3 1 - 2 years later
4 2 - 3 years later
5 3 - 4 years later
6 4 or more years later
8 Don't know

9 Refused

[ASK N7b IF N7a=6]

N7b. Why do you think it would have been 4 or more years later?

00 [Record VERBATIM]
98 (Don't know)
99 (Refused)

ADDITIONAL PROJECTS

[ASK N26 IF MSAME=1] – Other projects within this program.

Our records show that <COMPANY> also received an incentive from <UTILITY> for <NSAME> other <ENDUSE> project(s).

N26 Was it a single decision to complete all of those <ENDUSE> projects for which you received an incentive from <UTILITY> or did each project go through its own decision process?

1 (Single Decision)
2 (Each project went through its own decision process)
00 (Other, specify)
98 (Don't know)
99 (Refused)

[ASK N27 IF FSAME=1 ELSE SKIP TO SPILLOVER MODULE]

Our records show that <COMPANY> also received an incentive from <UTILITY> for a <ENDUSE> project(s) at < ADDRESS >. (Note: FSAME =Other sites participated in this program).

N27 Was the decision making process for the <ENDUSE> project(s) at the other sites the same as for the <ENDUSE> project we have been talking about?

1 (Same decision making process)
2 (Different decision making process)
00 (Other, specify)
98 (Don't know)
99 (Refused)

PY4 SPILLOVER MODULE

Thank you for discussing the new <ENDUSE> that you installed through the <PROGRAM>. Next, I would like to discuss any energy efficient equipment you might have installed OUTSIDE of the program.

SP1 Since your participation in the <UTILITY> program, did you implement any ADDITIONAL energy efficiency measures at this facility or at your other facilities within ComEd's service territory that did NOT receive incentives through any utility or government program?

1 Yes
2 No
8 Don't know
9 Refused

[ASK SP2 IF SP1=1, ELSE SKIP TO S0]

SP2 On a scale of 0-10, where 0 means "no influence" and 10 means "greatly influenced," how much did your experience with the Smart Ideas program influence your decision to install high efficiency equipment on your own? [SCALE 0-10; 98=Don't know, 99=Refused]

SP2a Why did you give it this rating? [OPEN END]

[ASK SP2-SP7i IF SP1=1, ELSE SKIP TO S0]

SP3 What was the first measure that you implemented? (IF RESPONSE IS GENERAL, E.G., "LIGHTING EQUIPMENT", PROBE FOR SPECIFIC MEASURE. PROBE FROM LIST, IF NECESSARY.)

1 Lighting: T8 lamps
2 Lighting: T5 lamps
3 Lighting: High bay Fixture Replacement
4 Lighting: CFLs
5 Lighting: Controls / Occupancy sensors
6 Lighting: LED lamps
7 Cooling: Unitary/Split Air Conditioning System
8 HVAC: Packaged Terminal air conditioners or heat pumps
9 Cooling: Room air conditioners
10 Heating: Furnace
11 Heating: Boiler
12 Variable Frequency Drives (VFD/VSD) on HVAC Motors
13 Programmable Thermostat
14 Refrigeration LED Case Lighting
15 Refrigeration EC motor for cooler/freezer
16 Wall or roof insulation
17 New windows
18 Water heater
00 Other, specify
96 Didn't implement any measures
98 Don't know
99 Refused

[SKIP TO S0 (PROCESS MODULE) IF SP2=96, 98, 99]

SP4 What was the second measure? (IF RESPONSE IS GENERAL, E.G., "LIGHTING EQUIPMENT", PROBE FOR SPECIFIC MEASURE. PROBE FROM LIST, IF NECESSARY.)

1 Lighting: T8 lamps
2 Lighting: T5 lamps
3 Lighting: High Bay Fixture Replacement
4 Lighting: CFLs
5 Lighting: Controls / Occupancy sensors
6 Lighting: LED lamps
7 Cooling: Unitary/Split Air Conditioning System
8 HVAC: Packaged Terminal air conditioners or heat pumps
9 Cooling: Room air conditioners

10 Heating: Furnace
11 Heating: Boiler
12 Variable Frequency Drives (VFD/VSD) on HVAC Motors
13 Programmable Thermostat
14 Refrigeration LED Case Lighting
15 Refrigeration EC motor for cooler/freezer
16 Wall or roof insulation
17 New windows
18 Water heater
00 Other, specify
96 Didn't implement any measures
98 Don't know
99 Refused

SP5 I have a few questions about the FIRST measure that you installed. (If needed, read back measure: <SP2 RESPONSE>) [OPEN END]
a. Why did you not receive an incentive for this measure?
b. Why did you not install this measure through the <UTILITY> Program?
c. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.
d. Please describe the EFFICIENCY of this measure.
e. How many of this measure did you install?

SP5g. How significant was your experience in the <UTILITY> Program in your decision to implement this Measure, using a scale of 0 to 10, where 0 is not at all significant and 10 is extremely significant? [SCALE 0-10; 98=Don't Know; 99=Refused]

[SKIP SP5h IF SP5g = 98, 99]
SP5h. Why do you give it this rating? [OPEN END]

SP5i. If you had not participated in the <UTILITY> program, how likely is it that your organization would still have implemented this measure, using a 0 to 10, scale where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure? [SCALE 0-10; 98=Don't Know; 99=Refused]

[SKIP SP6-SP7i IF SP3=96, 98, 99]
SP6 I have a few questions about the SECOND measure that you installed. (If needed, read back measure: <SP3 RESPONSE>) [OPEN END]
a. Why did you not receive an incentive for this measure?
b. Why did you not install this measure through the <UTILITY> Program?
c. Please describe the SIZE, TYPE, and OTHER ATTRIBUTES of this measure.
d. Please describe the EFFICIENCY of this measure.
e. How many of this measure did you install?

SP6g. How significant was your experience in the <UTILITY> Program in your decision to implement this Measure, using a scale of 0 to 10, where 0 is not at all significant and 10 is extremely significant? [SCALE 0-10; 98=Don't Know; 99=Refused]

[SKIP SP6h IF SP6g = 98, 99]

SP6h. Why do you give it this rating? [OPEN END]

SP6i. If you had not participated in the <UTILITY> program, how likely is it that your organization would still have implemented this measure, using a 0 to 10, scale where 0 means you definitely WOULD NOT have implemented this measure and 10 means you definitely WOULD have implemented this measure? [SCALE 0-10; 98=Don't Know; 99=Refused]

PROCESS MODULE

I'd now like to ask you a few general questions about your participation in the Small Business Energy Savings program.

Program Processes and Satisfaction

S0 How did you first hear about the Small Business program?

1. ComEd Account Manager
2. ComEd Website
3. Program Energy Advisor
4. Contractor/Trade Ally
5. Email
6. Friend/colleague/word of mouth

00. Other, specify
98. Don't know
99. Refused

S1b Who explained the program requirements to you?

1. ComEd Account Manager
2. ComEd Website
3. Program Energy Advisor
4. Contractor/Trade Ally
5. Email
6. Friend/colleague/word of mouth

00. Other, specify
98. Don't know
99. Refused

S1c How would you rate the application process? Please use a scale of 0 to 10 where 0 is "very difficult" and 10 is "very easy". [SCALE 0-10; 98=Don't know, 99=Refused]

[ASK S1d IF S1c<4]

S1d Why did you rate it that way?

1. Difficult to understand
2. Long process
00. Other, specify
98. Don't know
99. Refused

SKIP TO S11 IF DI ONLY PARTICIPANT

Contractor Relationship

ASK IF CONTRACTOR INSTALLED LIGHTING AND NON LIGHTING MEASURES

S1 Was more than one contractor involved in installing your energy efficient equipment?

1. Yes
2. No
98. Don't know
99. Refused

S2 Would you describe the contractor who did most of the work as a lighting contractor or not?

1. Lighting contractor
2. Not a lighting contractor
98. Don't know
99. Refused

ASK IF S2 = 2

S2A What type of contractor was he?

1. HVAC
2. Plumber
3. Other (Describe_____

S3 Would you describe the second contractor as a lighting contractor or not?

1. Lighting contractor
2. Not a lighting contractor
98. Don't know
99. Refused

ASK IF S3 = 2

S3A What type of contractor was he?

1. HVAC
2. Plumber
3. Other (Describe_____

ASK IF S2=2 OR S3 = 2. ELSE SKIP TO S5. (check programming here in next program year)

S4 How would you rate the non-lighting contractor's ability to meet your needs in terms of implementing your project? Please use a scale from 0 to 10, where 0 is "not at all able to meet needs" and 10 is "completely able to meet needs"? [SCALE 0-10; 98=Don't know, 99=Refused]

S4a On a scale of 0 to 10, where 0 is very dissatisfied and 10 is very satisfied, how would you rate your overall satisfaction with your non-lighting contractor? [SCALE 0-10; 96=not applicable, 98=Don't know, 99=Refused]

S5a Would you recommend this contractor to other people or companies?

1. Yes [GO TO S5 IF S1 =1]
2. No
8. Don't know [GO TO S5 IF S1 =1]
9. Refused [GO TO S5 IF S1 =1]

Ask S5b if S5a=2.

S6b Why not?

1. Too small
2. Did not complete the work
3. Did not clean-up work area
4. Poor quality work
5. Did not complete in a timely manner
00. Other, specify
98. Don't know
99. Refused

ASK IF S2 OR S3 = 1.

S5 How would you rate the lighting contractor's ability to meet your needs in terms of implementing your project? Please use a scale from 0 to 10, where 0 is "not at all able to meet needs" and 10 is "completely able to meet needs"? [SCALE 0-10; 98=Don't know, 99=Refused]

S5a On a scale of 0 to 10, where 0 is very dissatisfied and 10 is very satisfied, how would you rate your overall satisfaction with your lighting contractor? [SCALE 0-10; 96=not applicable, 98=Don't know, 99=Refused]

S6a Would you recommend this contractor to other people or companies?

1. Yes
2. No
8. Don't know
9. Refused

Ask S6b if S6a=2.

S6b Why not?

1. Too small

2. Did not complete the work
3. Did not clean-up work area
4. Poor quality work
5. Did not complete in a timely manner
00. Other, specify
98. Don't know
99. Refused

S7 BLANK

S8 During the course of your participation in the program, did you place any calls to the Smart Ideas for Business Call Center?
1. Yes
2. No
8. Don't know
9. Refused

[ASK S9 IF S8=1]

S9 On a scale of 0 to 10, where 0 is "very dissatisfied" and 10 is "very satisfied;" how would you rate your satisfaction with the Call Center's ability to answer your questions? [SCALE 0-10; 98=Don't know, 99=Refused]

[ASK S10 IF S9<4]

S10 Why did you rate it that way?
1. Provided inconsistent information
2. Didn't understand the question
3. Hard to reach the right person/person with the answer
00. Other, specify
98. Don't know
99. Refused

[ASK OF ALL RESPONDENTS]

S11 On a scale of 0 to 10, where 0 is very dissatisfied and 10 is very satisfied, how would you rate your satisfaction with… [SCALE 0-10; 96=not applicable, 98=Don't know, 99=Refused]
a. The incentive amount
b. The communication you had with the Smart Ideas program staff
c. The measures offered by the program (If needed: this is the equipment that is eligible for an incentive under the program)
d. The Small Business Energy Savings program overall
e. ComEd overall
g. Nicor/Integrys overall

[ASK S12a IF S11a<4]

S12a You indicated some dissatisfaction with the incentive amount, why did you rate it this way? [*Record/answer* UP TO 3]

1. Better rebates in other states
2. Too small
3. Equipment didn't qualify
00. Other, specify
98. Don't know
99. Refused

[ASK S12b IF S11b<4]

S12b You indicated some dissatisfaction with the communication you had with the Smart Ideas staff, why did you rate it this way?

1. Provided inconsistent information
2. Didn't understand the question
3. Hard to reach the right person/person with the answer
00. Other, specify
98. Don't know
99. Refused

[ASK S12b IF S11c<4]

S12c You indicated some dissatisfaction with the measures offered by the Smart Ideas program, why did you rate it this way? [OPEN END; 98=Don't know, 99=Refused]

[ASK S12d IF S11d<4]

S12d You indicated some dissatisfaction with the Smart Ideas Program overall, why did you rate it this way?

1. Not as easy as other states
2. No clear guidance
00. Other, specify
98. Don't know
99. Refused

[ASK S12e IF S11e<4]

S12e You indicated some dissatisfaction with [ComEd/Nicor/Integrys] overall, why did you rate it this way?

1. Rates are too high
2. Took too long to get rebate
3. Poor customer service
4. Poor power supply/service
00. Other, specify
98. Don't know
99. Refused

Marketing and Outreach

MK0 I'm now going to ask you about several specific ways in which you might have seen or heard information about the Small Business Energy Savings program. Have you ever… [1=Yes, 2=No, 8=(Don't know), 9=(Refused)]

a. Received information about the program in your monthly utility bill?
b. Attended a ComEd/Nicor/Integrys customer event where the program was discussed?
c. Discussed the program with a ComEd Account Manager?
d. Discussed the program with a Contactor or Trade Ally?
e. Seen information about the program on the ComEd Website?
f. Received information about the program in an Email?
g. Heard about the program from a colleague, friend or family member?
h. Attended a meeting, seminar or workshop where the program was presented?
i. Attended a webinar where the program was discussed?
j. Read about the program in a ComEd Newsletter?
k. Been directly contacted by a Nexant/Franklin Energy outreach staff?

MK1b How useful were the program's marketing materials in providing information about the program? Would you say they were…

1. Very useful
2. Somewhat useful
3. Not very useful
4. Not at all useful
8. Don't know
9. Refused

ASK MK1c IF MK1b=3,4]

MK1c What would have made the materials more useful to you? [*Record/answer* UP TO 3]

1. More detailed information
2. Where to get additional information
00. Other, specify
98. Don't know
99. Refused

MK2 In general, what is the best way of reaching companies like yours to provide information about energy efficiency opportunities like the Small Business Energy Savings program? [*Record/answer* UP TO 3]

1. Bill inserts
2. Flyers/ads/mailings
3. E-mail
4. Telephone
5. ComEd Account Manager
6. Nexant/Franklin Energy advisor
8. Trade allies/contractors
00. Other, specify
98. Don't know
99. Refused

Benefits and Barriers

B1a What do you see as the main benefits to participating in the Small Business Energy Savings program? [*Record/answer* UP TO 3]

1. Energy Savings/Saving money
2. Good for the Environment
3. Lower Maintenance Costs
4. Better Quality/New Equipment
5. Rebate/Incentive
9. Able to make improvements sooner
00. Other, Specify
98. Don't know
99. Refused

B1b What do you see as the drawbacks to participating in the program? [*Record/answer* UP TO 3]

1. Paperwork too burdensome
2. Incentives not high enough/not worth the effort
3. Program is too complicated
4. Cost of equipment
5. No drawbacks
00. Other, specify
98. Don't know99. Refused

Feedback and Recommendations

R2 How would you improve the Small Business Energy Savings Program? [*Record/answer* UP TO 4]

1. Higher incentives
2. More measures
3. Greater publicity
4. Better Communication/Improve Program Information
8. Simplify application process
11. Quicker processing times
00. Other, specify
96. No recommendations
98. Don't know
99. Refused

Firmographics

I only have a few general questions left.

F1 What is <COMPANY>'s business type? (PROBE, IF NECESSARY; IF MANUFACTURING, PROBE IF IT IS LIGHT INDUSTRY OR HEAVY INDUSTRY)

1. (K-12 School)
2. (College/University)
3. (Grocery)
4. (Medical)
5. (Hotel/Motel)
6. (Light Industry)
7. (Heavy Industry)
8. (Office)
9. (Restaurant)
10. (Retail/Service)
11. (Warehouse)
15. (Property Management/Real Estate)
00. (Other, specify)
98. (Don't know)
99. (Refused)

F2 Which of the following best describes the ownership of this facility?

1. <COMPANY> owns and occupies this facility
2. <COMPANY> owns this facility but it is rented to someone else
3. <COMPANY> rents this facility
8. Don't know
9. Refused

F6 And which of the following best describes the facility? This facility is…

1. <COMPANY>'s only location
2. One of several locations owned by <COMPANY>
3. The headquarters location of <COMPANY> with several locations
8. Don't know
9. Refused

F7a And which of the following best describes the ownership of the lighting system in this building?

1. My company owns the lighting system
2. The owner of the building owns the lighting system
3. Other _Specify
8. Don't know
9. Refused

F7b And which of the following best describes the ownership of the HVAC system in this building?

1. My company owns the HVAC system
2. The owner of the building owns the HVAC system
3. Other _Specify
8. Don't know
9. Refused

F4a How old is this facility? [NUMERIC OPEN END, 0 TO 150; 998=Don't know, 999=Refused]

F5a How many employees, full plus part-time, are employed at this facility? [NUMERIC OPEN END, 0 TO 2000; 9998=Don't know, 9999=Refused]

That brings us to the end of my questions for you. On behalf of [ComEd/Nicor or ComEd/Peoples Gas and North Shore 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]