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

Evaluation Report:
Nicor Gas
Business Energy Efficiency Rebate Program

FINAL

Presented to
Nicor Gas

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E. Executive Summary

E.1 Evaluation Objectives

The Business Energy Efficiency Rebate (BEER) program provides incentives to increase the market share in businesses of new, highly efficient space heating, water heating, and commercial kitchen equipment as well as cost-effective improvement and additions to existing equipment. Participants must purchase and install equipment covered by the program. A rebate form must be filled out and submitted within 90 days of installation. Customers may receive a rebate without pre-approval for participation.

The objectives of the Nicor Gas BEER Program evaluation for the first plan year (GPY1) were to: (1) quantify net savings impacts from the program; (2) identify ways in which the program can be improved, and (3) determine process-related program strengths and weaknesses. Evaluation efforts in PY2 and PY3 will build upon findings from the GPY1 evaluation.

E.2 Evaluation Methods

The key evaluation activities to assess gross and net impacts of the BEER Program were:

- Verification of claimed savings
  - Engineering review of project-level tracking data and the algorithms used by the program to calculate energy savings for all measures and the assumptions that feed those algorithms
- In-depth interviews
  - Program implementation contractor
  - Program trade allies/program stakeholders
- Program materials review
- Participant telephone surveys via a computer assisted telephone interview (CATI) system

This program has not been fully evaluated before[1] and so according to the Net-to-Gross (NTG) Framework,[2] the net-to-gross ratio (NTGR) determined from the GPY1 evaluation research is to

[1] This program's Rider 29 predecessor was evaluated; however, focused net-to-gross research was not conducted.

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

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 — 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 Impact Findings and Recommendations

As shown in Table E-1, savings verification of the GPY1 BEER Program found that verified gross energy savings were consistent with the ex ante gross savings reported in the implementation contractor's (IC's) tracking system, resulting in a realization rate of 1.00 (realization rate = evaluation verified gross / ex-ante gross from the tracking system). Table E-1 provides the evaluation research findings net energy savings based on a NTG ratio of 0.73 calculated from GPY1 evaluation research.

Table E-1. GPY1 Natural Gas Savings Estimates

Category	Nicor Gas Energy Savings (Therms)
Ex Ante Gross Savings	1,742,478
Ex Ante Net Savings	1,400,675
Verified Gross Savings[3]	1,742,478
Verified Net Savings	1,272,009
Verified Net-to-Gross Ratio	0.73

Navigant Analysis of Nicor Gas tracking database (10/06/2012 data extract)

The mean verified gross realization rate for the BEER Program was 1.00 at a zero (0.0%) relative precision at a 90% confidence level. A NTGR of 0.73 was estimated for the BEER Program at a relative precision of ±9 % at a 90% confidence level.

Comparing initial program planning net therm savings with evaluation estimated net therm savings, Navigant found that Nicor Gas BEER Program achieved 128% (1,272,009 therms) of

[3] The September 14, 2012 final version of the first State of Illinois Energy Efficiency Technical Reference Manual (TRM) (effective as of June 1, 2012) has been agreed to by Illinois Stakeholder Advisory Group (SAG) participants and has been approved by the Illinois Commerce Commission in Docket No. 12-0528 as of the date of this report. The verified gross savings shown in Table E-1 assumes that gas measures covered by the TRM are deemed for implementation and evaluation purposes in GPY1, after the ICC approval of the TRM and TRM Policy Document for use in GPY1. For the BEER Program, evaluation research findings for gross savings that do not assume deemed status of TRM measures in GPY1 were identical to verified gross savings with deeming.

the initial planned net savings for the BEER Program. The planned net energy savings goals for GPY1 were 991,607 net therms with a NTGR of 0.80.

The Navigant team also assessed the progress of the Nicor Gas BEER Program by comparing impact results from the Rider 29 program to the Rider 30 GPY1 impact results. Although program participation in Rider 30 GPY1 was not significantly different from that of the Rider 29 pilot program, the Rider 30 GPY1 program achieved over 318% (1,742,478 therms) of Rider 29 gross savings (547,787 therms). Net savings increased by approximately 299% from 426,071 therms to 1,272,009 therms. Further, these gains were achieved by expending incentives equivalent to only 88% of Rider 29 incentives. The difference in savings and incentives was due to higher than projected installations of relatively low-incentive industrial high pressure steam traps.

The primary impact findings and recommendations are as follows:

Finding: Navigant found that steam trap measures represent approximately 85% of the total reported gross therm savings. Much of the program's ability to achieve its goal can be attributed solely to steam trap measures. Navigant acknowledges that new programs sometimes rely on just a few measures to achieve savings and then diversify over time.

Recommendations:

- The program should work to diversify the registered trade ally pool to include additional types of equipment/measures.
- Future evaluations should include secondary research on commercial and industrial steam trap measures to ensure prescribed savings are accurate.

Finding: Upon reviewing the program tracking database, Navigant found that certain key variables that aid in the evaluation process were not included in the tracking data provided for review, although it is the understanding of the evaluator that this data is tracked.. The Implementation Contractor (IC) provided unit measure savings estimates for program qualifying measures. Navigant performed a review and verification of the algorithms and assumptions. Our estimates from the TRM were in agreement with those provided in the IC's documentation. The IC's estimates were considered accurate for GPY1 application.

Recommendations:

- The IC should ensure that unique project identifiers are provided in the tracking system for review by the evaluator.
- The IC should ensure information provided in hardcopy or handwritten applications are accurately transferred into the tracking system. The IC should

ensure the type of business or facility type indicated in the project application is provided in the tracking system.

- The IC should also ensure all relevant contact information for both program participants and trade allies is provided in the tracking database. At a minimum, contact name, telephone number, and participant address should be provided for all program participants. A primary contact name and telephone number should be provided for trade allies.

E.4 Key Process Findings and Recommendations

The primary process findings and recommendations are as follows:

Finding
Overall, customers appear to be very satisfied with the BEER Program; 94% of the customers surveyed reported being satisfied with the program overall. Most customers (88%) reported being satisfied with the incentive amount; while 84% reported being satisfied with the incentivized measures/equipment offered by the program.

Finding
Evidence from the program tracking system shows incomplete applications and denials are a challenge to the program implementation.

Recommendation:

- The program implementation team should work with the participating trade allies to streamline and simplify the application process; including providing additional information about qualifying units before the energy efficient projects are undertaken, in order to reduce the number of rejected applications.

Finding
Navigant found that during the Rider 29 evaluation, program participation and savings did not meet initial program planning goals. In GPY1 of Rider 30, program staff took steps to increase program marketing and outreach efforts and added new program measures (steam traps and commercial kitchen measures) to achieve program goals. Navigant found that the program made successful modifications to achieve the savings goals and at a lower than projected incentive cost.

Finding: Navigant found that significant efforts have been made to improve on the program marketing and outreach activities to trade allies since the beginning of Rider 30. The IC increased the total registered trade allies from 1,000 to 4,169. Only 41% of the survey respondents reported that they used a program-qualified trade ally.

This suggests that both the program and the trade allies may not be promoting the program-qualified trade ally status feature to the fullest extent possible.

Recommendation:

- Navigant recommends that the IC continue to train and recruit new trade allies to aid in the promotion of the BEER program. Because the participation of trade allies is vital to both program promotion and to facilitating the program application process, Navigant also suggests that the IC implement additional incentives for trade allies, such as rewarding higher trade ally volume through such means as listing on Nicor Gas website based on cumulative savings brought in.
- Although contractors are encouraged to participate in co-branding of their company's website and marketing material, it may also be effective to encourage trade allies to promote their program-qualified status to participating and potential customers. By informing customers of their status (either vocally or through marketing material) as a registered Trade Ally with Nicor Gas, customers may be more comfortable participating in future program offerings.

In January 2013, Nicor Gas implemented a web-based tool that allows customers to find Contractor Circle/registered trade allies that provide service to their county, customer segment (i.e. residential, large commercial, small commercial), and the type of service required (e.g. commercial boiler installation, central air conditioning installation, etc.). This tool should facilitate customers' ability to find program affiliated contractors.

Finding: Participation in the participant survey did not meet the designed sample size of 75 completes. Although Navigant contacted 146 participants, only 34 agreed to participate in the survey. Although there were few outright refusals to participate in the survey, many participants indicated that they did not have time and calling back at a later time would be better. Many of the later callbacks did not result in the customer's participation, but rather another refusal to participate. It should be noted that while the sample of 34 participants represented 13% of the population, it accounted for approximately 80% (or 1,392,269 therms) of the ex-ante gross savings claimed.

Recommendations:

- Improve the quality of the customer contact name and telephone number data in the tracking system so the correct survey contact can be targeted from the outset.
- Discuss the verification obligation with customer contacts at the time of project implementation activity – note that there is a requirement to participate in a brief survey, if contacted.
- Include a note of obligation to participate in verification, if contacted, with the rebate check payment letter.
- Send out a reminder note of the verification obligation in post-project follow-up communication with the customer.

- On the application form Terms and Conditions, state that, if contacted, responding to verification interviews is a requirement of program participation. Navigant recommends changing the current wording from:

  "Current C&I PY2 Application Forms Terms & Conditions: Verification: Any customer receiving a rebate check may be contacted by an evaluator to verify service/equipment installation or be asked to complete a customer survey."

  to

  "Verification: Any customer receiving a rebate check may be contacted by an evaluator to verify service/equipment installation or be asked to complete a customer survey. If contacted, your participation is required."

1. Introduction to the Program

1.1 Program Description

The GPY1 Nicor Gas BEER Program provides incentives to increase the market share in businesses of new, highly efficient space heating, water heating, and commercial kitchen equipment as well as cost-effective improvement and additions to existing equipment. Participants must purchase and install equipment covered by the program. A rebate form must be filled out and submitted within 90 days of installation. Customers may receive a rebate without pre-approval for participation. A glossary of common terms used throughout this report can be found in Appendix 5.1.

This evaluation builds on Navigant's 2011 evaluation of the Rider 29 BEER Program. During Rider 29, program participation did not meet initial program planning goals. Program staff took steps to increase program marketing and outreach efforts for the Rider 30 program period. Therefore, a key element of Navigant's Rider 30 evaluation is to gauge whether the program was able to increase participation in the current economic environment, which is likely creating a barrier to participation for some trade allies and potential customers. The BEER Program is a large part of Nicor Gas' GPY1 energy efficiency portfolio, so identifying strategies to meet targets is critical.

The BEER Program works closely with the Nicor Gas Business Custom Program and the other business programs within the portfolio to target both end-use customers and trade allies. The BEER Program relies on wholesale and retail trade allies to assist in the marketing of this program. Trade ally support and engagement is considered to be key to this program's success. To increase measure uptake in any period, the Rebate Program may provide incentives to trade allies for specific, limited-time promotions.

The initial program implementation period is three years, which began in June 2011. The planned net energy savings goals for GPY1 are 991,607 net therms with a NTGR of 0.80.Table 1- provides the program GPY1 budget and goals for the BEER Program.

Table 1-. BEER Program Savings Goal and Budget

Category	Incentives Budget	Participation Goal (Measures)	Ex Ante Gross Savings Goal	Ex Ante Net Savings Goal	Planned Net-to-Gross Ratio
Total	$1,291,863	3,430	1,075,101	991,607	0.80

Source: Nicor Gas Monthly Report - GPY1, May 2012; Rider 30 EEP Program Portfolio Operating Plan.

Navigant worked with program management and implementation staff to develop a model of the program logic. This effort leveraged any existing models, both internal to Navigant and from the implementation contractor. The related deeper understanding of the program logic may lead to a proposed change in Navigant's approach to evaluating the program and or to suggesting some program modifications. Details of the program theory and logic model, and Navigant's related memo are attached as Appendix 5.2.

1.2 Evaluation Questions

The evaluation sought to answer the following key researchable questions.

1.2.1 Impact Questions

1. What is the level of gross annual energy (therms) savings induced by the program?
2. What are the net impacts from the program? What is the level of free ridership associated with this program and how can it be reduced? What is the level of spillover associated with this program?
3. Did the program meet its energy savings goals? If not, why not?
4. Are the assumptions and calculations in compliance with the statewide TRM? If not, what changes are required?

1.2.2 Process Questions

1. Has the program been successful in recruiting additional participants?
2. Has the program been successful in recruiting additional trade allies?
3. How has the program changed its marketing and outreach strategies since Rider 29?
4. Are customers satisfied with the program? In what ways can the program improve the customer experience?
5. Are trade allies satisfied with the program? In what ways can the program improve the trade ally experience?
6. Is the program successfully referring customers to the other Business programs? Can program coordination be improved?

2. Evaluation Methods

This section describes the analytic methods and data collection activities implemented as part of the GPY1 impact and process evaluation of the BEER Program, including the data sources and sample designs used as a base for the data collection activities.

2.1 Primary Data Collection

Navigant undertook the following key evaluation activities to estimate the evaluation verified gross energy savings of the BEER Program:

- Reviewed tracking data and deemed savings assumptions used by the program to assess correct implementation of deemed values in the ex-ante gross savings estimates;
- Requested from the IC, the application files of 20 Business Rebate projects, and reviewed project documents to support the gross impact verification efforts;
- Implemented a stratified random sampling design to select 75 projects from the population of BEER Program project applications for the participant telephone survey, completing 34 interviews after attempting contact with 146 (a census of the program) of GPY1 participants; and
- Conducted an engineering review of the tracking database entries and telephone responses for CATI respondents.

The process analysis was conducted following completion of the telephone surveys of program participants. Free ridership and participant spillover were calculated using an algorithm approach based on survey self-report data only. Navigant completed telephone interviews with 34 GPY1 Business Rebate project contacts to support net impact research.

These activities are summarized in the Table 2- below.

Table 2-. BEER Program Evaluation Data Collection Research Methodologies

Collection Method	Subject Data	Quantity	Gross Impact	Net Impact	Process
In-depth Interview	Program administrators and implementation contractor staff	1			X
In-depth Interview	Participating Trade Allies	5			X
Engineering Review	Program tracking database	34	X		X
Deemed Savings Review	Deemed savings estimates	All	X		
Telephone Survey	Program participants	34	X	X	X

2.2 *Additional Research*

To support the BEER Program impact and process evaluation efforts, the evaluation team conducted verification and due diligence of the program implementation activities, and reviewed project files and the program tracking system. Detailed findings and recommendations to improve the program operations and tracking database are documented in section 3. Navigant's full due diligence procedure review memo can be found in the Appendix 5.3.

Under this task, the Navigant team reviewed the quality of processes established to track program progress and recorded data. This review included researching the following questions:

- Whether eligibility criteria have been met, applications completed and supporting documentation identified;
- Whether the quality assurance and quality control activities are adequate and unbiased; and
- Whether savings are calculated correctly and project information entered accurately.

Additional research efforts included a review of the BEER Program default savings estimates for GPY1, using the Illinois Technical Reference Manual (TRM)[4]. Nicor Gas adopted the directives from the Illinois Commerce Commission (ICC) to apply the algorithms and assumptions from the TRM to estimate ex-ante gross measure savings in GPY1 or GPY2. Navigant's review efforts were designed to identify whether the algorithms and assumptions were adequately applied and if there were discrepancies that needed correction. The results of our findings are presented in Section 3 and in Appendix 5.3

The evaluation team also reviewed program activities to determine if desired outcomes where being met. Navigant reviewed the linkages between program activities, outputs, and outcomes, and identified potential external influences. Appendix 5.2 contains the program theory and logic model memo that describes the resources, activities, outputs, outcomes, and associated measurement indicators associated with the BEER Program.

2.3 Impact Evaluation Methods

This section describes the analytic methods implemented as part of the GPY1 impact evaluation of the BEER Program. The key evaluation activities to assess gross and net impacts of the program were:

- Engineering review of the program tracking data and the program calculated unit measure savings, using the Illinois TRM assumptions and algorithms for deemed measures;
- Conducted engineering file reviews of 20 Business Rebate projects to verify invoices, measure specifications, installed quantities, and project savings claimed;
- Completed computer assisted telephone interviews (CATIs) with 34 Business Rebate project participant contacts to support the gross and net impact analysis approach[5]; and
- Analyzed responses from the sample of 34 Business Rebate projects from the participant telephone survey to establish if the reported measure types or specifications were confirmed by the customers, and that installed measures were operational and producing savings. The evaluation team considered measure-level gross impact adjustments and applied any changes to the individual projects.

[4] Illinois_Statewide_TRM_Effective_060112_Final_091412_Clean.docx
[5] We targeted a 90/10 level of confidence and relative precision for the population of the BEER Program.

2.3.1 Gross Program Savings

To estimate the verified gross savings and gross realization rates from the relatively small population of GPY1 Nicor Gas Business Rebate projects, Navigant attempted to contact all GPY1 participants. Interviews were completed with a sample of 34 participants. Table 2- provides a summary of the gross impact of the sample for the BEER Program in comparison with the program population. A sample of 34 participants were surveyed which represented 13% of the population, but approximately 80% (or 1,392,269 therms) of the ex-ante gross savings claimed.

It should be noted that participation in the Participant Survey did not meet the designed sample of 75 completes. Although Navigant contacted all 146 participants, only 34 agreed to participate in the survey. Navigant recommends the following actions be taken to increase participant involvement in future program surveys:

- Improve the quality of the customer contact name and telephone number data in the tracking system.
- Discuss the verification obligation with customer contacts at the time of project implementation activity – note that there is a requirement to participate in a brief survey, if contacted.
- Include a note of obligation to participate in verification, if contacted, with the rebate check payment letter.
- Send out a reminder note of the verification obligation in post-project follow-up communication with the customer.
- On the application form Terms and Conditions, state that, if contacted, responding to verification interviews is a requirement of program participation. Navigant recommends changing the current wording from:

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  to

  "Verification: Any customer receiving a rebate check may be contacted by an evaluator to verify service/equipment installation or be asked to complete a customer survey. If contacted, your participation is required."

Table 2-. Profile of GPY1 Gross Impact Sample

Population Summary		Sample			
Number of Projects (N)	Ex Ante Therms	n	Ex Ante Therms	Sampled Project % of Population	Sampled Therms % of Population
267	1,742,478	34	1,392,269	13%	80%

Source: Navigant analysis of program tracking database (10-06-2012 data extract); analysis of CATI respondents

The key evaluation activities to estimate the verified gross energy savings of the BEER Program considered two types of adjustments to ex ante gross savings:

- ***Adjustment to Measure Gross Unit Savings***. Navigant reviewed the tracking data and assumptions for TRM deemed per unit measure gross savings values used by the program, to assess correct implementation of the values in the ex-ante gross savings estimates and where necessary make measure-level adjustments; and

- ***Adjustment to Measure Count/Type from CATI Responses***. Navigant conducted a review of the energy savings estimates of 34 sampled participant telephone survey respondents, to assess the need for measure or savings adjustment based on participant responses to questions on measure eligibility, quantity, and conditions of operation.

The method used to calculate the sample verified gross savings is presented below. Navigant multiplied the reported ex ante gross savings from each measure within the sample of 34 projects by the adjusted measure gross unit savings realization rate and the adjusted measure count/type realization rate. The result is the verified gross savings for the measure, which we then summed to the project level to get the verified gross savings estimation for respective projects in the sample. The calculation is as follows[6]:

Verified Gross Savings = (Ex Ante Gross Savings) * (Measure Unit Savings RR) *(Measure Count &Type RR)

Navigant estimated the verified gross realization rate for the sample (which is the ratio of the verified gross savings to the reported ex ante gross savings) and applied the verified sample gross realization rate to the population to estimate the program level verified gross energy savings.

[6] This formula estimates savings by taking ex-ante values from the tracking database for sample measures and using adjustment values from Table 3-and Table 3-.

A simple ratio estimation technique was used to analyze the sample project ex-ante and the verified gross savings to estimate the achieved relative precision at a 90% level of confidence for the sample of Business Rebate projects. Details of the ratio estimation technique are provided in Appendix 5.4.

2.3.2 Net Program Savings

The net-to-gross analysis was conducted following completion of the telephone survey of program participants and interviews of trade allies. Free ridership was calculated using the enhanced self-report approach based on interview results from both participating customers and the associated trade allies. Specifically, if the participant survey revealed that the trade ally was highly influential on the customer's decision to participate in the program, Navigant attempted to contact the associated trade ally to conduct an in-depth project-specific NTG survey. Also consistent with the Commonwealth Edison (ComEd) research approach, in those cases where the trade ally could not be reached, free ridership was calculated using the participant rating since all trade allies are program-registered contractors. Participant spillover was examined using participant survey self-report data only. Navigant's detailed methodology is provided in Appendix 5.5

The program falls under the following condition from the NTG Framework[7]: "*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*[8] *— 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.*"

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

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

3. Evaluation Results

3.1 Impact Evaluation Results

This section presents the BEER Program impact evaluation results. Included in the impact evaluation results are a verification and due diligence procedure review and tracking system review. A gross impact parameter estimate and gross impact results are also provided below.

3.1.1 Verification and Due Diligence Procedure Review

Overall, most of the quality assurance and verification procedures in place for the BEER Program, as outlined in the Rider 30 Program Portfolio Operating Plan, and the program Implementation Policies and Procedures[9], provide detailed QC/QA procedures for verifying measure and customer eligibility, application process, and onsite inspections for qualifying project installations. These QA/QC measures are found to meet or exceed quality assurance expectations. Key findings and recommendations from the due diligence and verification procedures review task are provided in the Appendix 5.3.

3.1.2 Tracking System Review

The evaluation team performed an independent review of the program tracking database to determine whether the database included appropriate levels of inputs, outliers, and missing variables. Navigant found that the structure of the tracking database provides adequate descriptions of the installed measures, savings input assumptions, measure specifications (including the make and model, efficiency, type and size), equipment purchase dates, and installation dates.

The gross impact evaluation efforts were based on reviewing the tracking database extract delivered by the IC to the evaluation team on 10/06/2012. This dataset included ex ante gross and net therm savings estimated based on the Illinois TRM gross savings assumptions and algorithms, and measure-level NTGRs from planning assumptions made by the IC for GPY1. Navigant performed an initial review and verification of the algorithms and assumptions. Our initial TRM-based estimates matched those provided in the IC document and the measure per unit default savings values in the tracking database are accurate.

Recommendations:

- Navigant recommends that unique project identification numbers should be implemented and included in the program tracking database. Navigant observed project "rebate numbers" assigned to applications in the tracking system of

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differing formats (e.g. "1-20120227-20161" or N700026" formats). The evaluation team recognizes that this was a carryover from Rider 29 formatting, and that all project rebate numbers will be consistent moving forward.

- The tracking system should be updated to track pre and post-inspection findings and inspection dates.

- The tracking system should provide measure cost information such as equipment cost, installation cost, and incremental cost, and the measure useful life. This information is useful for evaluating measure and program cost effectiveness analysis.

- The tracking system provided to the evaluator should include the business/building type descriptions in the tracking system. Currently, only the related numerical codes are provided. Navigant also found that some project applications provided the type of business/building, but these data were not appropriately recorded in the tracking database (these were instead shown as "OTR"). Navigant understands that the IC does track these parameters and they will be provided in subsequent tracking datasets.

- The IC should ensure information provided on hardcopy or handwritten applications is accurately transferred into the tracking system.

3.1.3 Gross Program Impact Parameter Estimates

The program parameters used for evaluating the program are summarized in Table 3-.

Table 3-. GPY1 Gross Program Impact Parameter Estimates

Parameter	Value	Deemed or Evaluated?	Source Notes
		Verification Report	Verification Report
Verified Realization Rate on Ex-Ante Gross Savings	1.00	Evaluated	GPY1 EM&V analysis based on program tracking data and participant CATI responses
Measure Type and Eligibility	Varies by measure type	Evaluated	GPY1 EM&V analysis based on program tracking data and participant CATI responses
Quantity	Varies by measure type	Evaluated	GPY1 EM&V analysis based on program tracking data and participant CATI responses
Gross Savings per Unit Measure	Varies by measure type	Deemed and Evaluated (non-deemed measures)	State of Illinois TRM and GPY1 EM&V analysis based on program tracking data

Source: Navigant Analysis

3.1.4 Gross Program Impact Results

Measure Gross Unit Savings Verification and Adjustments

The evaluation team verified and adjusted the per-unit savings values for measures in the sample and then applied the calculated realization rate to the population. The verified average per unit savings values for GPY1 measures are presented in Appendix 5.5. Navigant concluded that the IC sufficiently applied the TRM assumptions and algorithms. The differences between tracking unit savings and the verified values were not significant, and the per unit savings values in the tracking database are accurate. The realization rates based on measure unit savings were determined to be 1.00.

Additional Project File Reviews

The project file review effort was completed to ascertain the level of accuracy of records in the tracking database versus the project application documentation. The 20 projects were randomly selected and stratified based on business category and measure type. Generally, all 20 project files contained relevant information needed to review the project applications. The following were findings from the file review task:

- Verified that all 20 reviewed projects were completed within the GPY1 timeline;
- Verified that all project applications included invoices with measure specifications;
- Verified total quantity of 162 measures recorded in the project applications matched records in the tracking database; and
- Verified that the correct TRM values and assumptions were applied.

Based on the file review findings, no adjustments were applied, hence the realization rates for the sample of 20 file review projects was determined to be 1.00, as shown in Table 3-.

Table 3-. Project File Review Findings and Realization Rates

Sampled Measure Type	Verified Sample Measure Quantity	Verified Unit Gross Savings RR	Verified Measure Quantity RR
Boiler Tune-Up	10	1.00	1.00
Commercial Steam Trap	7	1.00	1.00
Industrial Steam Trap	109	1.00	1.00
Condensing Boilers	4	1.00	1.00
Combined HE Boiler & DHW	2	1.00	1.00
EStar Convection Oven	1	1.00	1.00
Infrared Heaters	2	1.00	1.00
Programmable Thermostat	19	1.00	1.00
Furnaces, 95%+AFUE	3	1.00	1.00
Water Heater, 88% TE	1	1.00	1.00
Pre-Rinse Spray Valve	2	1.00	1.00
Hydronic Boilers	2	1.00	1.00

Source: Evaluation findings from GPY1 project file reviews

Gross Impact Adjustments Triggered by the Participant Phone Survey

A brief set of questions in the CATI survey were asked to support the savings verification gross impact evaluation, regarding installed measures, existence of maintenance contracts, removed equipment, and temperature settings for programmable thermostats. Table 3- shows the primary measure type, the respondent count and the adjustment applied after reviewing the telephone survey responses. Participants confirmed they implemented these measures within the GPY1 period. In GPY2, Navigant will consider including additional batteries to the survey guide to verify the quantity of each measure installed by survey participants.

Table 3-. Participant Reponses to CATI Impact Questions and Realization rates

Primary Measure Type	Respondent Count	Verified/ Adjusted Measure Therms RR
Boiler Reset Control	2	1.000
Boiler Tune-Up	3	1.000
Combination Boiler	1	1.000
Commercial Steam Trap Replacement	3	1.000
HE Boiler - >/= 85%	1	1.000
HE Boiler - >/= 90%	2	1.000
HE Furnace - >/= 92% AFUE	2	1.000
HE Furnace - >/= 95% AFUE	8	1.000
Programmable Thermostat	3	1.000
High Pressure Steam Trap	3	1.000
Infrared Heating	9	1.000
Storage Water Heater - 88% TE	1	1.000
Total	**39**	**1.000**

Navigant analysis of participant CATI survey responses (11-27-2012)
** includes respondents who mentioned more than one measure.*

Using the methodology described in Section 2.3.1, Navigant determined the verified gross savings for each sampled project. Table 3- presents the overall total verified gross savings of 1,392,269 therms for the sample of 34 projects, with a verified gross realization rate of 1.00.

Table 3-. Gross Impact Realization Rate Results for the Prescriptive Sample

Sample (n)	Sample-Based Ex Ante Gross Savings Claimed (Therms x 1,000)	Sample-Based Verified Gross Savings (Therms x 1,000)	Sample-Based Verified Realization Rate
34	1,392	1,392	1.00

Source: Navigant analysis

Realization Rates for the Prescriptive Program

Using a simple ratio estimation technique, Navigant determined the sampled gross realization of the verified gross savings versus the reported ex ante gross savings, and analyzed the variance in the ratio estimation of the gross realization rate to determinate the confidence interval and precision. Details of the ratio estimation approach are discussed in Appendix 5.4. The standard error was used to estimate the error bound around the estimate of verified gross therms. The results are summarized in Table 3-. The mean verified gross realization rate for the

sample was 1.00 at zero (0.0 %) relative precision at 90% confidence level. A zero relative precision was achieved based on the fact that there was no variation in the ex ante gross savings and the verified gross savings for each individual measure or project, resulting in a realization rate of 1.00 at the project level and at the program level.

Table 3-. Gross Therms Realization Rate and Relative Precision at 90% Confidence Level

Sampling Strata	Relative Precision at 90% Level of Confidence (± %)	Low	Mean	High	Standard Error (±)
Overall Verified Gross Savings RR	0.0%	1.00	1.00	1.00	0.00

Navigant analysis

The sample 1.00 verified gross realization rate was applied to the population to achieve the program level verified gross savings as shown in Table 3-.

Table 3-. Gross Parameter and Savings Estimates at the Program Level

Program	Paid Incentives	Measures	Ex Ante Gross Energy Savings (Therms x 1,000)	Verified Gross Energy Savings (Therms x 1,000)	Gross Realization Rate
Total	$372,058	1,621	1,742	1,742	1.00

Navigant analysis

Some general observations from the gross impact analysis include:

- Three projects contributed 77% of total GPY1 gross impact. These projects were among the 34 customers who participated in the CATI survey. The total savings from the 34 survey respondents is approximately 80% of total GPY1 gross savings.
- Approximately 85% of GPY1 gross savings came from the application and installation of steam trap measures. Industrial high pressure steam traps contributed about 97% of the total savings from steam traps. Navigant acknowledges that new programs sometimes rely on just a few measures to achieve savings and then diversify over time.

As mentioned above, the NTGR for the GPY1 BEER Program was estimated using an enhanced customer self-report approach. This approach relied on responses provided by 34 program participants and 3 trade allies during the CATI telephone survey to determine the fraction of

measure installations that would have occurred by participants in the absence of the program (free-ridership).

If the customer had additional projects at other sites covering the same end-use, the survey asked whether the responses also apply to the other projects. If that is the case, the additional projects are given the same NTG score and included in the sample. Table 3- shows the research findings net impact parameter estimates for GPY1.

Table 3-. GPY1 Verified Net Impact Parameter Estimates

Parameter	Value	Deemed or Evaluated?	Source Notes
		Verification Report	Verification Report
Participant Surveys	34	Evaluated	GPY1 EM&V analysis based on participant CATI responses
Free-ridership	0.27	Evaluated	GPY1 EM&V analysis based on participant CATI responses
Research Findings Overall NTG Ratio	0.73	Evaluated	GPY1 EM&V analysis based on participant CATI responses

Navigant conducted spillover research through both the participant and trade ally interviews. Trade allies did not identify any potential spillover. Navigant's qualitative analysis of spillover identified through the participant telephone survey yielded four of the 34 participants reporting possible spillover. Navigant's subsequent questioning, however, indicated that none of the identified projects qualified as program spillover due either to lack of program influence or lack of program qualification

Program participants were asked about any additional efficiency measure they may have installed since their participation, both at the participating facility and at any other facility within Nicor Gas service territory. All four of the participants responded that they had installed additional measures for which they did not receive any rebates. The installed measures included: a T8 lighting system, an efficient gas water heater, an infrared heating system, roof membrane system, and a programmable thermostat. While several of the measures would not have been eligible for any rebates, when asked why they did not receive an incentive for these measures that may have been eligible, one participant said that "It was urgent, the one we had broken. The one we chose was one that didn't meet Nicor's requirements for an incentive.", while another participant said that "I wasn't aware of any Nicor programs that covered this".

When asked about whether or not their participation in the BEER Program influenced the adoption of additional energy efficiency measures, all respondents reported that the effect of the program was not at all significant. When asked the likelihood of installing the measure in the absence of the program, all 4 potential spillover respondents indicated that they definitely would have implemented the measure.

3.1.5 Net Program Impact Results

Once gross program impacts have been estimated, net program impacts are calculated by multiplying the project verified gross realization rate estimate by the program NTGR. Table 3- provides the program gross and net savings. The relative precision at a 90% confidence level is provided in Table 3-. Based on the completion of 34 participant surveys, Navigant estimated a NTGR of 0.73 for the BEER Program at a relative precision of 9% at 90% confidence level. It should be noted that this estimation is based on CATI survey responses with program participants and may not be reflective of the true NTGR, particularly given the lesser than ideal sample.

Industrial steam trap measures contributed to an overall lower free ridership, thus increasing the NTGR, while other measures, such as boilers, furnaces, and boiler tune-ups had a higher free ridership, contributing to a lower NTGR.

In addition to the above, the Program Score (i.e. If the program had not been available, what is the likelihood that a participant would have installed exactly the same item/equipment) and the Program Influence Score (i.e. did a participant learn about the program before or after they decided to implement the measure that was installed?) contributed to lowering the overall NTGR with averages of 0.45 and 0.47 respectively. The Timing and Selection Score for the participants surveyed contributed to a higher NTGR with a simple average of 0.75.

Table 3-. PY1 Program Gross and Net Energy Savings Estimates

Program	Ex Ante Gross Energy Savings (Therms x 1,000)	Verified Gross Energy Savings (Therms x 1,000)	Verified Gross Realization Rate	Verified Net Energy Savings (Therms x 1,000)	Verified Net-to Gross Ratio
Total	1,742	1,742	1.00	1,272.4	0.73

Source: Navigant analysis

Table 3-. NTG Ratio and Relative Precision at 90% Confidence Level

Project Population (N=267)	NTG Interviews (n=34)	NTG Sample* (n=39)	Relative Precision (± %)	Low	Mean	High
267	34	39	9%	0.67	0.73	0.80

Source: Navigant analysis
** - includes multiple projects*

Steam trap measures represented 85% of the program gross therm savings. Two participants represented roughly 75% of the program savings. Much of the program's ability to achieve its goal can be attributed solely to steam trap measures. However, we acknowledge that new programs sometimes rely on just a few measures to achieve savings and then diversify over time.

One solution would be to diversify the trade ally pool to include other measure categories/technologies.

One respondent (with an individual NTGR of 53%) mentioned they would like to see the incentives be more attuned to the level of savings being achieved for each sector/industry. As an example, this participant mentioned that schools and industrial process facilities receive the same $200/trap incentive, which didn't seem reasonable to him, as he felt industrial applications would yield higher savings. A solution suggested by the participant would be to base the incentive on the size of the steam trap. Smaller steam traps (equaling fewer therm savings) would receive smaller incentives, and vice versa.

Comparing initial program planning net therm savings with evaluation estimated net therm savings, Navigant found that Nicor Gas BEER Program achieved 128% of the initial planned net savings for the BEER Program, as indicated in Table 3-.

Table 3-. GPY1 Program Net Energy Savings Vs. Planned Net Savings

Program	Net Therms Achieved (Therm x 1,000)	GPY1 Planned Net Therms (Therms x 1,000)	% Net Therms Achieved
Total	1,272.4	991.6	128%

Source for planned net savings: Rider 30 EEP Program Portfolio Operating Plan

The Navigant team assessed the progress of the Nicor Gas BEER Program by comparing impact results from the Rider 29 program to the Rider 30 GPY1 impact results. Table 3- compares the Rider 29 and Rider 30 GPY1 BEER Program gross and net impact parameters.

Table 3-. BEER Program Results from Rider 29 and Rider 30 GPY1

Program Result	Rider 29	Rider 30 (GPY1)	R30/R29
Ex Ante Gross Therms (x 1,000)	547.8	1,742.5	318%
Verified Gross Therms (x 1,000)	547.8	1,742.5	318%
Gross Realization Rate	1.00	1.00	100%
Ex Ante Net Therms (x 1,000)	426.1	1,400.7	329%
Verified Net Therms (x 1,000)	426.1	1,272.0.4	299%
Net-to-Gross Ratio[10]	0.78	0.73	94%
Participation (measure count)	1,679	1,621	97%
Incentives Paid ($)	421,580	372,058	88%

Source: Rider 30 Evaluation analysis, and Nicor Gas Rider 29 Prescriptive Rebate program report.

Although program participation in Rider 30 GPY1 has not been significantly different from that of the Rider 29 pilot program, the Rider 30 GPY1 program achieved over 318% of Rider 29 gross savings. Net savings increased by approximately 299%. Further, these gains were achieved by expending incentives equivalent to only 88% of Rider 29 incentives. The difference in savings and incentives was due to increased installations of industrial high pressure steam traps.

3.2 Process Evaluation Results

The process evaluation of the BEER Program focused on answering the following research questions:

1. Has the program been successful in recruiting additional participants?
2. Has the program been successful in recruiting additional trade allies?
3. How has the program changed its marketing and outreach strategies since Rider 29?
4. Are customers satisfied with the program? In what ways can the program improve the customer experience?
5. Are trade allies satisfied with the program? In what ways can the program improve the trade ally experience?
6. Is the program successfully referring customers to the other Business programs? Can program coordination be improved?

[10] In Rider 29, the evaluation did not adjust program planning net-to-gross ratio, but the Rider 30 GPY1 NTG ratio is based on research findings from free-ridership analysis.

The process evaluation results are organized by the process research questions. The primary data sources for the process evaluation included the telephone survey with 34 survey participants and in-depth interviews with market actors and implementation staff. The surveys were conducted October through December, 2012. In addition to the aforementioned surveys, Navigant also conducted surveys with five participating trade allies. The results of these surveys are summarized below, while detailed results can be found in Appendix 5.6.

3.2.1 Has the program been successful in recruiting additional participants?

Finding

In terms of project or measure participation, it does not appear the program in Rider 30 GPY1 period achieved significant progress in recruiting additional participants, when compared to the Rider 29. Under Rider 30 in GPY1, 237 customers participated and implemented 1,621 measures, compared to 333 customers who implemented 1,679 measures in the Rider 29 pilot program[11]. On the other hand, the program achieved or exceeded its planned gross savings goal in the Rider 30 GPY1 period compared to the Rider 29. This was partly due to introduction of new measures and provision of incentives for the measure mix, including steam traps. In PY1, program staff also took steps to increase program marketing and outreach. On this basis, Navigant concludes that the program made successful modifications to achieve the savings goals without increasing participation.

Recommendation

- Navigant suggests that Nicor Gas consider increasing the amount of advertising done directly to customers, through methods such as email blasts, and bill inserts. This will both increase program participation, and increase the number of participating trade allies, as customers make their contractors aware of the program.

3.2.2 Has the program been successful in recruiting additional trade allies? How has the program changed its marketing and outreach strategies since Rider 29?

Finding

Navigant found that significant efforts have been made to improve the program marketing and outreach activities since the beginning of Rider 30. Notable among them is the continued recruitment of trade allies and organizing trade ally meetings and training, the introduction of the "big check event", and the "E-blast" announcement for promoting newly introduced C&I

[11] Copy of Rider 29 Portfolio Summary Spreadsheet v3 (FINAL 9-23-11).xlsx (The 333 customers in Rider 29 included 75 customers from the Rockford Small Business pilot program, who installed 323 measures).

prescriptive measures. Although customers were not contacted directly during the Rider 29 cycle, information gathered from the program staff and from the current Rider 30 GPY1 participant telephone survey provides a strong indication that the contractor/trade ally channel is being well utilized by the program, followed by the Nicor Gas website and through e-mails.

During Rider 29, there were 1,000 registered trade allies. The IC did a commendable job in recruiting trade allies to the program, increase the total registered trade allies to 4,169. Sixty-nine (69%) of survey respondents used a contractor for their project, 36% reported that they did not know if their contractor was a program-qualified trade ally. Only 41% of the survey respondents reported that they did use a program-qualified trade ally. This suggests that the trade allies may not be promoting their status as program-qualified trade allies to the fullest extent possible.

Recommendation

- The program should continue to provide training and support to trade allies. Continuing recruitment efforts of new trade allies to the program is also recommended.
- The program should continue to recruit trade ally involvement and encourage trade allies to market the program to their customer base.
- Navigant suggests that Nicor Gas continue to work with trade allies to develop marketing materials for trade allies to use to promote the program to their customers.

3.2.3 Are customers satisfied with the program? In what ways can the program improve the customer experience?

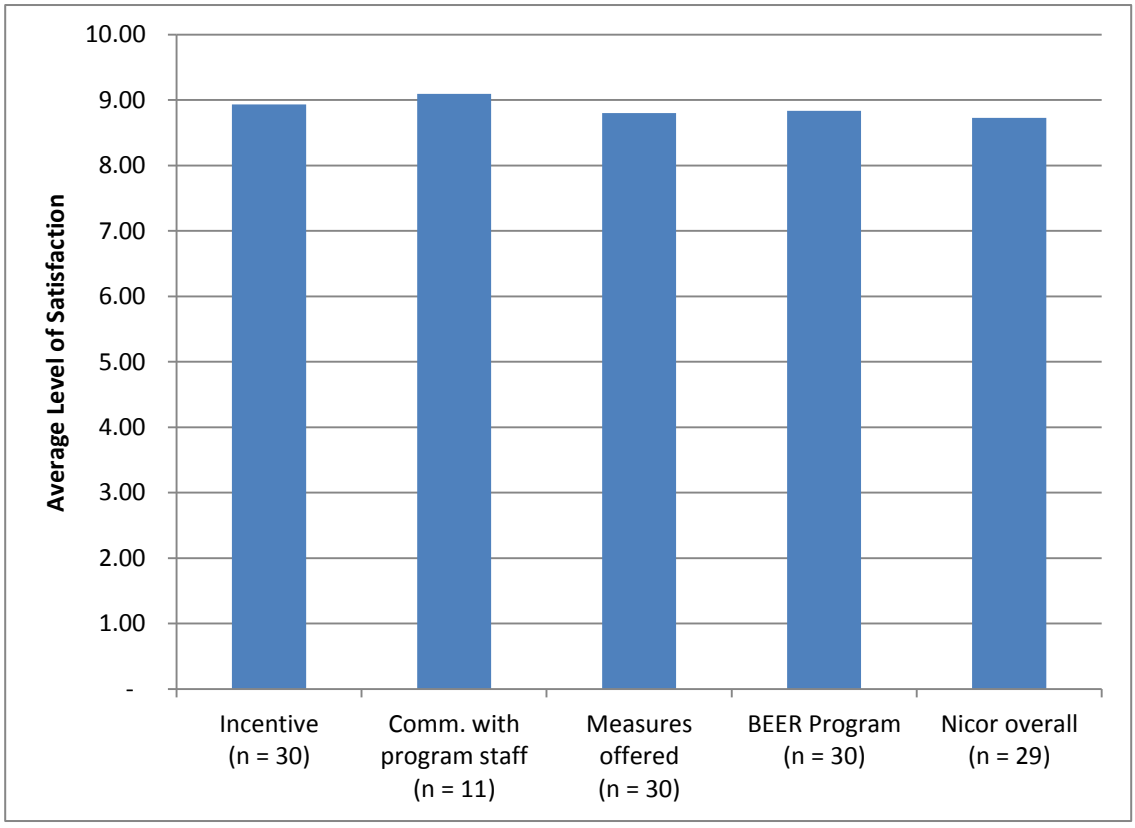
Finding

As part of the participant survey, the evaluation team spoke with customers about their satisfaction with the BEER Program. Satisfaction data was collected using a 0 to 10 point scale and recoded into the three analysis categories: dissatisfied (0-3), neutral (4-6) and satisfied (7-10). With this approach the evaluation team sought to address the key evaluation question on customer satisfactions and ways to improve on the customer experience.

Overall, participating customers appear to be very satisfied with the BEER Program; 94% of the customers surveyed reported being satisfied with the program overall. All the participants who had contact with the Nicor Gas staff were satisfied with their experience, and rated it at 7 or above (or then 0 to 10 scale). Only 38% of survey respondents had contact with the Nicor Gas staff and were able to answer this satisfaction question. Since minimal contact between customers and Nicor Gas staff is typical, this is not an unexpected result. The average level of satisfaction among respondent who were able to answer the question was 9, indicating that they were very satisfied with their experience. Customer satisfaction with the program attributes is reported in Figure 3..

When asked if they plan to participate in the BEER Program again in the future, a majority (65%) of participants responded in the affirmative, and additional 26% indicated they may participate again in the future. Although some (44%) participants could offer no recommendations for improving the program, of those who did, more than a quarter (29%) called for higher incentives for program measures.

Figure 3. Satisfaction with Program Attributes



Source: Participant survey

3.2.4 Are trade allies satisfied with the program? In what ways can the program improve the trade ally experience?

Finding

All five trade allies interviewed were satisfied with the program and its role in their businesses. Some participants indicated that the program has become an asset to their sales pitch and in one instance increased their business.

The trade ally that provided a partial survey discussed their working relationship with Nicor Gas as very positive, and how much they prefer to work with Nicor Gas rather than the other

regional utilities. From the paperwork, to staff accessibility, and the open dialogues, this trade ally is very satisfied working with Nicor Gas.

All trade allies have found that their customers are very satisfied with the program. One trade ally indicated that they are finding it increasingly confusing to navigate programs, not with Nicor Gas specifically, but with all the available rebate programs. As a result, they feel they cannot provide their customers with rebate program information that is specific to that customer and types of equipment they could qualify for. One trade ally concluded that Nicor Gas took more pride and ownership in their incentive programs, and as a result, their relationship reflected better in their service and the influence they had with their customer.

Trade allies also unanimously agreed that the program has given them an increased level of customer service without compromising services in other areas of their business. Very significantly, two trade allies indicated that their sales have increased within the past two years and are attributed to the program. Although small, 5% and 15% respectively, this finding indicates that the Program has helped these businesses develop through difficult economic times. All trade allies plan on participating in the program next year.

Recommendation

- Navigant recommends that the IC continue to conduct a focus group with trade allies to determine what marketing material they find to be the most effective in recruiting new and repeat customers.
- Similar to the participant survey, Navigant was unable to obtain a high success rate when attempting to conduct the process survey with participating trade allies. Navigant recommends that Nicor Gas encourage trade allies to participate in surveys conducted. One method would be to conduct the survey shortly after rebates have been paid. Another potential solution would be to add additional language to the trade ally contract.

3.2.2 Is the program successfully referring customers to the other business programs? Can program coordination be improved?

Finding

From program staff interviews and program documentation, Navigant established that customer referrals are happening between the BEER Program and the Small Business and Custom Programs. The IC reports program referrals in weekly and monthly reports to the utility. ..

Recommendation

- The BEER Program through coordination with other Business programs should continue to coordinate efforts in tracking referrals to and from the programs.

4. Findings and Recommendations

4.1 Key Impact Findings and Recommendations

The primary impact findings and recommendations are as follows:

Finding: Navigant found that steam trap measures represent approximately 85% of the total reported gross therm savings. Much of the program's ability to achieve its goal can be attributed solely to steam trap measures. Navigant acknowledges that new programs sometimes rely on just a few measures to achieve savings and then diversify over time.

Recommendations:

- The program should work to diversify the registered trade ally pool to include additional types of equipment/measures.
- Future evaluations should include secondary research on commercial and industrial steam trap measures to ensure prescribed savings are accurate.

Finding: Upon reviewing the program tracking database, Navigant found that certain key variables that aid in the evaluation process were not included in the tracking data provided for review, although it is the understanding of the evaluator that this data is tracked. The Implementation Contractor (IC) provided unit measure savings estimates for program qualifying measures. Navigant performed a review and verification of the algorithms and assumptions. Our estimates from the TRM were in agreement with those provided in the IC's documentation. The IC's estimates were considered accurate for GPY1 application.

Recommendations:

- The IC should ensure that unique project identifiers are provided in the tracking system for review by the evaluator.
- The IC should ensure information provided in hardcopy or handwritten applications are accurately transferred into the tracking system. The IC should ensure the type of business or facility type indicated in the project application is provided in the tracking system.
- The IC should also ensure all relevant contact information for both program participants and trade allies is provided in the tracking database. At a minimum, contact name, telephone number, and participant address should be provided for all program participants. A primary contact name and telephone number should be provided for trade allies.

4.2 *Key Process Findings and Recommendations*

The primary process findings and recommendations are as follows:

Finding
Overall, customers appear to be very satisfied with the BEER Program; 94% of the customers surveyed reported being satisfied with the program overall. Most customers (88%) reported being satisfied with the incentive amount; while 84% reported being satisfied with the incentivized measures/equipment offered by the program.

Finding
Evidence from the program tracking system shows incomplete applications and denials are a challenge to the program implementation.

Recommendation:

- The program implementation team should work with the participating trade allies to streamline and simplify the application process; including providing additional information about qualifying units before the energy efficient projects are undertaken, in order to reduce the number of rejected applications.

Finding
Navigant found that during the Rider 29 evaluation, program participation and savings did not meet initial program planning goals. In GPY1 of Rider 30, program staff took steps to increase program marketing and outreach efforts and added new program measures (steam traps and commercial kitchen measures) to achieve program goals. Navigant found that the program made successful modifications to achieve the savings goals and at a lower than projected incentive cost.

Finding: Navigant found that significant efforts have been made to improve on the program marketing and outreach activities to trade allies since the beginning of Rider 30. The IC increased the total registered trade allies from 1,000 to 4,169. Only 41% of the survey respondents reported that they used a program-qualified trade ally.

This suggests that both the program and the trade allies may not be promoting the program-qualified trade ally status feature to the fullest extent possible.

Recommendation:

- Navigant recommends that the IC continue to train and recruit new trade allies to aid in the promotion of the BEER program. Because the participation of trade allies is vital to both program promotion and to facilitating the program application process, Navigant also suggests that the IC implement an additional set of incentives for trade allies, such as rewarding higher trade ally volume through such means as listing on Nicor Gas website based on cumulative savings brought in.
- Although contractors are encouraged to participate in co-branding of their company's website and marketing material, it may also be effective to encourage

trade allies to promote their program-qualified status to participating and potential customers. By informing customers of their status (either vocally or through marketing material) as a registered Trade Ally with Nicor Gas, customers may be more comfortable participating in future program offerings.

In January 2013, Nicor Gas implemented a web-based tool that allows customers to find contractors with the contractor circle that provides service to their county, customer segment (i.e. residential, large commercial, small commercial), and the type of service required (e.g. commercial boiler installation, central air conditioning installation, etc.). This tool should facilitate customers' ability to find program affiliated contractors.

Finding: Participation in the participant survey did not meet the designed sample size of 75 completes. Although Navigant contacted 146 participants, only 34 agreed to participate in the survey. Although there were few outright refusals to participate in the survey, many participants indicated that they did not have time and calling back at a later time would be better. Many of the later callbacks did not result in the customer's participation, but rather another refusal to participate. It should be noted that while the sample of 34 participants represented 13% of the population, it accounted for approximately 80% (or 1,392,269 therms) of the ex-ante gross savings claimed.

Recommendations:

- Improve the quality of the customer contact name and telephone number data in the tracking system so the correct survey contact can be targeted from the outset.
- Discuss the verification obligation with customer contacts at the time of project implementation activity – note that there is a requirement to participate in a brief survey, if contacted.
- Include a note of obligation to participate in verification, if contacted, with the rebate check payment letter.
- Send out a reminder note of the verification obligation in post-project follow-up communication with the customer.
- On the application form Terms and Conditions, state that, if contacted, responding to verification interviews is a requirement of program participation. Navigant recommends changing the current wording from:

  "Current C&I PY2 Application Forms Terms & Conditions: Verification: Any customer receiving a rebate check may be contacted by an evaluator to verify service/equipment installation or be asked to complete a customer survey."

  to

  "Verification: Any customer receiving a rebate check may be contacted by an evaluator to verify service/equipment installation or be asked to complete a customer survey. If contacted, your participation is required."

5. Appendix

5.1 Glossary

5.1.1 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 GPY1 Nicor's deemed parameters were defined in its filing with the ICC *[add footnote to the source]*. The Gas utilities agreed to use the parameters defined in the TRM, which came into official force for EPY5/GPY2. *[Is there a document we can footnote for this agreement?]*
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.)

5.1.2 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	Evaluation-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	Evaluation-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

N	Term Category	Term to Be Used in Reports‡	Application†	Definition	Otherwise Known As (terms formerly used for this concept)§
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	Evaluation-verified net savings	Verification	Evaluation-verified gross savings * NTGR	Ex post net
3	Net Savings	Research Findings net savings	Research	Research findings gross savings * NTGR	Ex post net
4	Net Savings	Evaluation Net Savings	Non-Deemed	Evaluation-Adjusted gross savings * 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. Because of that they should not be used in the reports (unless they appear in the "Terms to be Used in Reports" column).

5.1.3 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 Nicor Gas 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 Nicor Gas 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 the evaluation subsequently adjusts this value. This is designated with the superscript "AV" as in X^{AV}

5.1.4 Incorporated From the TRM

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

> **Custom:** Measures whose energy savings algorithm and/or inputs, or metering results apply only to the individual customer who is implementing them and has no deemed measure.
>
> **Prescriptive:** Measures whose energy savings algorithm and inputs are fixed within the TRM and may not be changed by the Program Administrator. Two subcategories of prescriptive measures are included in the Illinois 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.

5.2 *Program Theory and Logic Model Review*

Program Theory

Program theory is essentially a structured description of the various elements of a program's design: goals, motivating conditions/barriers, target audience, desired actions/behaviors, strategies/rationale, and messages/communications vehicles. The following subsections describe the Business Prescription program in these terms.

Program Goals

The goal of the Business Prescription program is to produce long-term natural gas energy savings in the business sector by promoting the purchase and installation of prescriptive measures by commercial and industrial customers that would not have upgraded to high-efficiency equipment in the absence of the program. The immediate objectives to achieve this goal are:

- Increase the market share of commercial-grade high-efficiency technologies sold through market channels.
- Increase the installation rate of high-efficiency technologies in business facilities by businesses that would not have done so in the absence of the program.
- Improve operating energy efficiency of existing long-life equipment to ensure peak operating efficiency for business customers.

An additional, secondary objective of the Prescriptive program is to identify energy saving opportunities that are not standard and channel those opportunities to the Custom program.

Motivating Conditions/Barriers

Potential barriers for the program include a lack of awareness of energy efficiency opportunities, for both trade allies (HVAC and water heating distributors, retail contractors, engineering firms and select retailers) and commercial and industrial customers (facilities operators and energy managers).

A secondary set of barriers include financial concerns, such as the increased incremental cost of more energy efficient measures and lack of financing for said measures.

Target Audience

The target audience for this program is commercial and industrial customers with more complex facilities who are planning to purchase new equipment and replace equipment in their existing business, who would benefit from a custom approach.

Desired Actions/Behaviors

The program encourages the purchase and installation of specifically prescribed high-efficiency measures, and will attempt to transform the commercial market by seeding the

market for efficient gas measures. The installation of prescriptive measures as well as any participant/non-participant spillover will achieve savings for this program.

Strategies/Rationale
The main strategy of the Business Energy Efficient Rebate Program is to influence trade allies to promote and install qualifying measures with Nicor Gas' commercial and industrial customers. Nicor Gas will develop an outreach program targeting the trade allies and leveraging relationships from the pilot year of the program. Nicor Gas will also incent trade ally training and in order to increase the availability of knowledgeable contractors that can install and service qualifying equipment that could be incentivized by the program. Primarily, however, the program will offer incentives for efficient equipment to alleviate the barrier of higher first-cost purchase prices of qualifying equipment.

Messages/Communications Vehicles
The Business Prescription program primarily relies on trade allies to promote the program to Nicor Gas' commercial and industrial customers. As a result, much of Nicor Gas' marketing for this program is focused on trade allies that service commercial and industrial facilities. Nicor Gas provides trade allies with educational materials intended to be shared with their customers such as program marketing materials and application forms, and life cycle cost analysis and worksheets.

Additionally, the program will undertake direct marketing to customers through coordination with the Nicor Gas Business Customer Support (BCS) team by creating simple messages for the BCS to present to customers. Also, the program website will provide all of the necessary information to promote the program, including a program handbook designed to help customers determine their eligibility and complete the application process.

Program Logic
This section presents how the Business Prescriptions program activities logically lead to desired program outcomes. presents the Nicor Gas Business Prescription program logic model diagram showing the linkages between activities, outputs, and outcomes, and identifying potential external influences. The diagram presents the key features of the program. The logic diagram presented here is at a slightly higher level than the tables in the report, aggregating some of the outcomes in order to provide an easier-to-read logic model.

The remainder of this chapter presents the resources, activities, outputs, outcomes, and associated measurement indicators associated with the Business Prescriptions Program.

Resources
The ability of the Business Prescriptions program to generate the outputs and outcomes likely to result in the program reaching its goals depends in part on the level and quality/effectiveness of inputs (resources) that go into these efforts. There are also external

influences that can help or hinder achieving anticipated outcomes. Key program inputs and potential external influences are shown in .

Table 5-.Program Inputs and Potential External Influences

Program Inputs
• Nicor Gas ratepayer funds • Nicor Gas staff resources • Implementer staff resources and experience • Utility knowledge of the target market
External Influences and Other Factors
• Economic environment • Natural gas prices • Customer and trade ally awareness of energy efficiency options

Activities

The purpose of the Business Prescription program is to educate and assist eligible non-residential customers with making their facilities more energy-efficient. The program will reach eligible customers through activities designed to generate energy savings over the longer term (see). These activities are as follows:

- Develop informational and marketing collateral
- Develop outreach to potential program participants
- Develop outreach to program trade allies
- Educate trade allies
- Provide rebates for qualifying projects

Figure 5. Program Logic Model

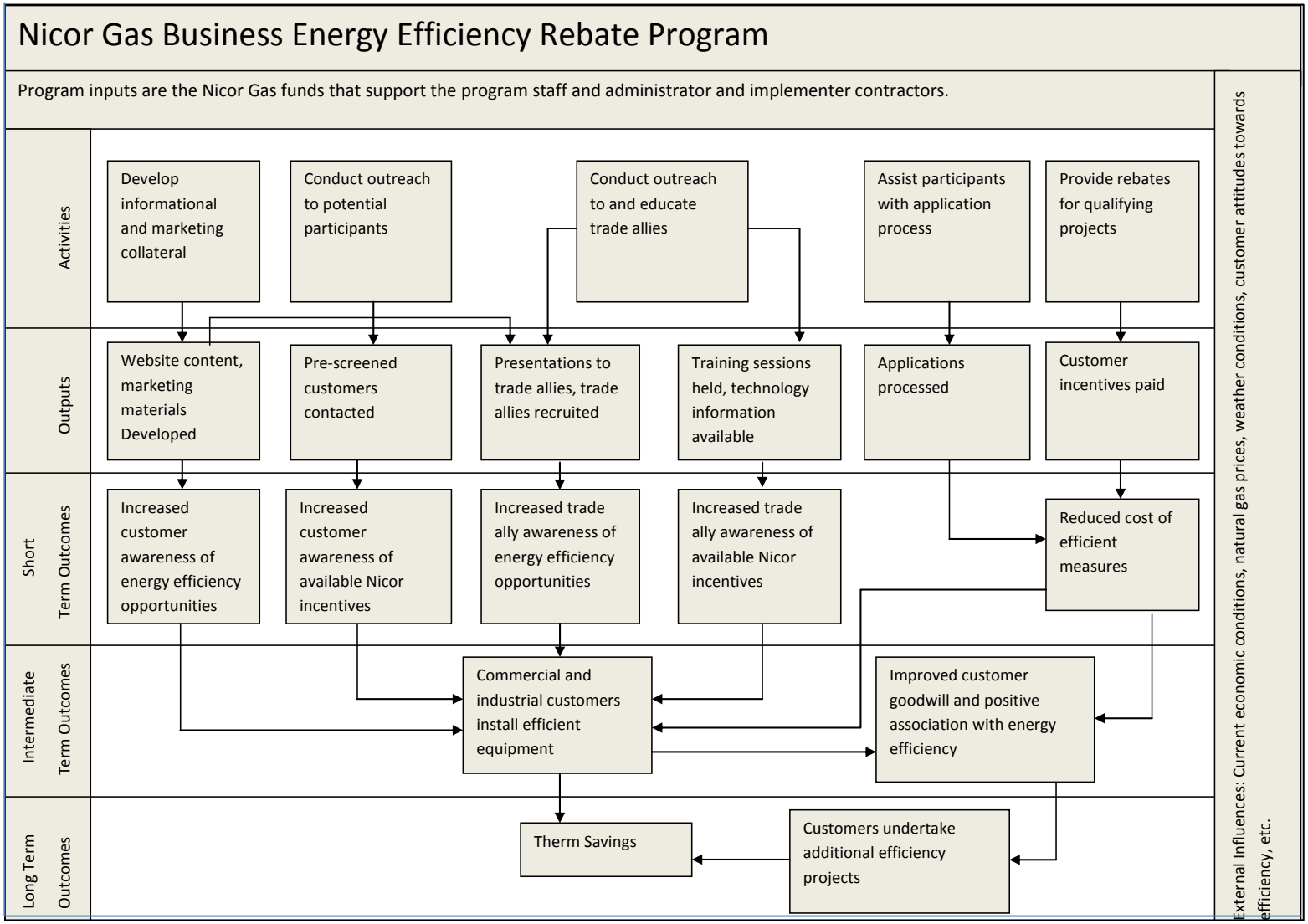


Table 5-. Business Prescriptions Activities

Develop informational and marketing collateral
• Update website with information on programs and informational materials
Develop outreach to program participants
• Identify eligible customers • Conduct outreach activities to pre-screened customers
Develop outreach to trade allies
• Develop materials to market program to potential trade allies • Participate in events such as industry trade shows and conferences
Educate trade allies
• Provide program training for all trade allies, including presentations • Prepare marketing materials to provide to trade allies for their customers, such as brochures.
Assist participants with application process, pre- and post-inspection visits
• Assist customers with the applications process • Conduct pre- and post-inspection visits where deemed appropriate
Provide rebates for qualifying projects
• Maintain energy savings and rebate calculators • Maintain tracking system to reserve and track incentives

Outputs, Outcomes, and Associated Measurement Indicators

It is important to distinguish between outputs and outcomes. For the purposes of this logic document, outputs are defined as the immediate results from specific program activities. These results are typically easily identified and can often be counted by reviewing program records. Outcomes are distinguished from outputs by their less direct (and often harder to quantify) results from specific program activities. Outcomes represent anticipated impacts associated with Nicor Gas' program activities and will vary depending on the time period being assessed. An example would be therm savings. On a continuum, program activities will lead to immediate outputs that, if successful, will collectively work toward achievement of anticipated short, intermediate, and long-term program outcomes.

The following tables list outputs () and outcomes (), taken directly from the logic model, and associated measurement indicators. For each indicator, a proposed data source or collection approach is presented.

Table 5-. Program Outputs, Associated Indicator and Potential Data Sources

Outputs	Indicators	Data Sources and Potential Collection Approaches
Outreach to commercial and industrial customers	List of potential customers Number of end-users contacted	Interviews with program staff Program records
Website content, informational pamphlets, print advertisements	Number and type of print materials developed. Content of website.	Interviews with program staff, electronic copies of print materials
Presentations to key trade allies, outreach to others	Number of presentations made. Presentation documents developed for meeting. Number of allies and auditors contacted	Interviews with program staff.
Training for trade allies, providing technical support	Number of training sessions held, technical information made available to trade allies	Interviews with program staff Lists of training attendees
Customer rebates	Number of rebates offered and amount.	Interviews with program staff Program tracking data

Table 5-. Program Outcomes, Associated Indicators and Potential Data Sources

Outcomes	Indicators	Data Sources and Potential Collection Approaches
Short-Term		
Increased customer awareness and knowledge of efficiency programs	Percent of commercial and industrial customers aware of rebate Nicor Gas program	Customer surveys
Growing number of knowledgeable trade allies	Number of trade ally contacts made Number of participating trade allies	Interviews with program staff, trade allies and tracking system.
Customers are aware of the many potential efficiency projects	Number of participants	Interviews with program staff Tracking system
Reduced cost of efficient equipment	Percent of incremental cost paid by incentive	Program tracking data
Intermediate-Term		
Network of trade allies working to promote energy efficiency in commercial and industrial customers	Number of participating allies	Interviews with program staff Trade ally surveys Tracking system
Increased customer goodwill towards Nicor Gas and its programs	Customer satisfaction with incentive and experience	Customer surveys
Longer-Term		
Commercial and industrial customers install efficient equipment and receive rebates	Number of rebates issued, total therms saved	Program tracking data
Program participants undertake additional efficiency projects	Percent of customers installing efficient measures	Tracking data Customer surveys

5.3 VDDTSR Memo

To: **James Jerozal, Dan Rourke; Nicor Gas Program Managers**

Copy: **Jennifer Hinman, David Brightwell; ICC**
Randy Gunn, Julianne Meurice, Laura Agapay; Navigant, Inc.

From: **Nick Beaman and Charles Ampong; Navigant, Inc.**

Date: **July 25, 2012**

Re: Verification, Due Diligence and Tracking System Review of Nicor Gas Rider 30 Business Energy Efficiency Rebate Program

This memo provides the results from Navigant's verification and due diligence review of the quality assurance, program tracking, and savings verification procedures of the Nicor Gas Business Energy Efficiency Rebate Program (BEER Program), during the Rider 30 program's first year. Navigant reviewed the program tracking data and application documentation for five projects comprising of forty installed measures. The verification and due diligence recommendations are based on findings from interviews with program staff, the implementation contractor (IC), documentation and tracking data review, and comparing the BEER Program's activities to national best practices. The primary areas of inquiry of this task were to determine:

- Appropriate eligibility criteria have been adhered to and applications were appropriately completed and documented;
- The QA/QC activities were adequate and unbiased (i.e., did samples meet statistical criteria, was there incorrect sampling that skewed results, etc.);
- Savings were calculated correctly compared with program assumptions;
- Project information was entered in the tracking system in an accurate and timely manner; and
- The data needed for program evaluation were thoroughly captured by the program tracking system during program year 1 (GPY1).

Overview of Findings

Verification and Due Diligence

Overall, most of the quality assurance and verification procedures in place for the BEER Program, as outlined in the Rider 30 Program Portfolio Operating Plan, and the program Implementation Policy provide detailed QC/QA procedures for verifying measure and customer eligibility, application process, and onsite inspections for qualifying project installations. These QA/QC measures are found to meet or exceed quality assurance expectations.

The BEER Program relies heavily on active trade ally participation to recruit customers. The program implementation contractor (Resource Solutions Group—RSG) utilizes field representatives (i.e. outreach leads and specialists) to facilitate the recruitment and building relationships with trade allies, installers and business associations to encourage active participation in the program. The program sponsors Trade Ally Focus Group meetings mostly on bi-monthly basis to discuss the program and the market, and how

to help direct the program's growth. The program provides the opportunity for trade allies to become members of the Nicor Gas Contractor Circle, to allow them to offer the rebate to their customers as an instant discount, guarantees a business listing on the Nicor Gas EEP website, and also ensures that trade allies receive regular program updates. Customer participation in the program has been impressive and continues to grow with increasing market penetration (from the 5/31/2012 tracking database there are 218 customers with paid incentives, 1,621 measure installations, achieving 161% savings compared to program GPY1 goals).

Navigant reviewed the application procedures for the BEER Program and determined that the measure application forms provide sufficient information for customers to submit completed applications to qualify for incentives through the BEER Program. Each measure application form requires customer and contractor business addresses and site contact information, utility type, building/business type and whether existing building or new construction, equipment specifications, and other terms and instructions for rebate application. The application form should include a field to record gross estimates of expected savings. Additionally, adding a requirement on applications that a customer participate (if contacted) in evaluation activities, such as telephone surveys, may be beneficial to the program. Navigant recommends including a clause in the Terms in Conditions section of the application stating: "Participants agree to cooperate with the Nicor Gas Energy Efficiency Program or Program representatives in evaluation activities, including, but not limited to telephone surveys and on-site inspections."

Navigant reviewed the documentation regarding program changes to service, deemed savings and incentive offerings for additional new measures not included in the Nicor Gas compliance filing. Three new measures including steam boilers, pool covers and pipe insulation were approved and introduced into the program in October 2011. Additionally, the rebate structure of the steam trap measure was revised to incorporate additional tiers to capture available higher level savings. Navigant verified that the market reach for these additional tiers is significant to justifying the approach to capture another level of savings. Navigant verified the IC has documented the program responses to these changes including updating program application forms and work papers, as well as the tracking system. Navigant observed the market segmentation fact sheets and the outreach E-blast announcements appear to be effective communication and marketing tools to increase program awareness and promotion, especially when a new business prescriptive measure is approved and introduced into the program.

Navigant reviewed the IC work paper algorithms and the default savings assumptions for the qualified product list. Navigant will provide inputs to the program default savings and make recommendations in a separate memo to be addressed to the program staff. The memo will take into account the default values from the Illinois Statewide Technical Reference Manual.

Navigant verified that incomplete applications and denials continue to be major challenge for the BEER Program implementation. The program denial rate of submitted applications stands at about 10% by the end of GPY1, although the program exceeded the GPY1 savings goal. The program staff has indicated that the customer eligibility requirements and denial codes are being reviewed to address the denial rates for eligible customers submitting applications for eligible equipment.

The IC has designed guidelines for post installation on-site inspections, and have hired an independent subcontractor to perform 3% post on-site inspections of installed measures (inspect 3% of each installed measure type as opposed to 3% of the total units, to guarantee inspections across all measure types). Since March of 2012, the program has introduced a web based Business Customer Experience survey. Navigant reviewed a spreadsheet extract of customer responses from the customer survey. Since the

data was in a raw format, Navigant was unable to verify how the responses from the survey are used to generate a scoring scale to determine customer satisfaction and overall customer perception about the BEER Program.

Reporting and Tracking Findings

Navigant reviewed the data fields and data input into the Business Rebate tracking database (year end 5/31/2012 extract) and found that overall, the program tracking database captures the vital information that enables accurate tracking of the program's participation and claimed savings. The structure of the database is simple and the inputs provide clear descriptions of the installed efficient measures, information about paid projects, status of pipeline projects, and number of incomplete and rejected applications. The tracking database has records of installed efficient measure specifications including the make and model, efficiency, type and size, equipment purchase dates, installation and check payment dates. Navigant observed that both measure application forms and the tracking system do not have data fields for recording the specifications of the replaced baseline equipment. Although the rebate number appears to be used as customer ID, it appears a unique project ID is still needed for each customer (assuming customers can have different projects at different locations or facility).

The tracking system accurately records program default gross and net savings of installed measures. Navigant identified several instances where it appears customer rebates estimates were not properly transferred into the tracking system; many of the per unit measure rebates recorded in the tracking system do not match with program offering incentives. Such inconsistencies were observed for steam traps and boiler measures. Details are provided in the tracking system review section of this report.

Navigant reviewed project documentation of five samples chosen for project engineering file review and compared with corresponding entries in the program tracking system. Navigant verified that these projects were paid and the documentation included filled and signed application forms, itemized invoices, measure specifications, incentive request worksheets, and copies of paid checks. Overall, it appears the IC adequately reviews paper applications and accurately transfers the information into the program tracking system. We observed in some cases customer/measure information were not adequately documented. It was found from the file review that two out of five customers did not specify the equipment purchase date on the application forms, and in two out of five files, the measure installation date shown in the application forms did not match with records in the tracking system. Navigant noticed the program Applications Forms can be updated to have fields to record gross estimates of customer energy savings.

Overall, the IC appears to be doing well in meeting the QC/QA performance metrics. From the review of the 5/31/2012 tracking database and monthly delivery report for March, 2012, it appears the IC accomplishes rebate processing within the 14 days target. Significant outreach efforts were made, achieving 124% of the monthly goal within the same period. A Business Customer Experience Survey has been initiated to solicit customer and trade ally satisfaction with the BEER Program. Navigant will review the progress of the survey as part of the overall program process evaluation efforts.

Summary of Recommendations

Based on review of the Nicor Gas Business Rebate planning documents, the current tracking system implementation, and general best practices for program management, the Navigant EM&V team offers the following recommendations to enhance current quality assurance and verification activities:

- Navigant acknowledges that the program staff is reviewing the customer eligibility requirements and denial codes in the tracking system to address the denial rates for eligible customers submitting applications for eligible equipment. The denial rate was estimated by WECC to be approximately 10% by May 31, 2012. We are hopeful the program staff will resolve any barriers and fine tune the application process to reduce the denial rates.
- Measure application forms should document the condition of the baseline equipment and provide customers with information not only about the rebate offering, but also about how much energy savings they can result in. In this case the application form can be updated to enable customers to record estimates of expected gross savings from the installed measures.
- Navigant acknowledges that the design and implementation of the Customer Experience Survey was introduced late into GPY1. Navigant recommends the response tracking spreadsheet should be designed to generate the scoring and overall program customer satisfaction scaling. Customer survey responses should be linked with the customer ID or rebate number, and properly linked with the customer data in the tracking system. A similar approach is necessary for dealing with information gathered from the Complaint Tracker/Logging database.
- The IC should inspect the first few projects submitted by a newly recruited trade ally, or the first few instances of a new measure in the program (e.g. steam boilers). Inspection of measures with small per customer rebates but are high impact measures that account for a large proportion of program savings is also recommended.
- Information on boiler sizes and efficiencies, as shown in the program Operating Plan, may need revising to reflect updates in the current application forms. Boiler size above 299 MBH should be 85% thermal efficiency (TE) or 90% TE, instead of 85% or 90% AFUE. As found in the Operating Plan, showing the boiler sizes as <500 MBH or <1000 MBH could be misleading, keeping in mind the program offering for boilers with sizes up to 299 MBH. Instead, these should be designated respectively as 300- 499 MBH or 500-999 MBH. The Operating Plan should be updated to account for all Steam Trap measure types, savings and incentive offerings (especially for industrial/process steam traps at different pressure sizes).

Navigant offers the following recommendations to improve on data tracking system and reporting for the BEER Program:

- Navigant recommends that in addition to the dedicated Rebate Numbers assigned to applications in the tracking system, the program should develop a unique Project Identification Number for each project implemented by customers. The rebate numbers are not very handy, for example a rebate number is shown in the format "1-20120227-20161" (other numbers are one digit shorter e.g. 1-20111108-6244), and another is shown in the format "N700026".
- The IC should ensure program incentives are accurately applied to respectful measures. The tracking system must be updated regularly as program changes and new measures are introduced (boiler sizes should be updated so that 300- 499 MBH is updated to 301- 499 MBH, or the "up to 300 MBH" should instead read "up to 299 MBH").

- The IC should consider including additional project information in the program files and tracking system, such as a unique numeric project identification number. The post inspection checklist should be designed such that inspection findings can be easily transferred into the tracking system. Customer survey and complaint resolution tools should record project IDs assigned to customers in the tracking system, and responses should be linked to customer data in the tracking system.
- The IC should develop a tracking database field dictionary that will provide clarification for how the rebate numbers are generated, define terms like "AFUE as yet undefined" and "Savings as yet undefined", and provide lookup definitions in the tracking system for the business building types numbered from 1 to 15. Navigant observed in addition to the 15 building types, the tracking system contain "OTR" to mean "other buildings" or miscellaneous.
- With the exception of the rebate cost, the tracking system does not record any cost information associated with the measures installation such as equipment cost, installation cost, incremental or total cost, measures useful life etc. The IC should track the cost data, some of which are provided in the customer application documents. This information is needed for the BEER Program cost-benefit analysis.
- Navigant observed that the 5/31/2012 tracking database extract has savings and rebate estimates recorded for several measures/projects which applications were denied. While this may be for recording purposes, it may be misleading for program staff unfamiliar with the tracking system to assume these were realized savings. The other option would be to zero off these values in the tracking system.

Data Collection

Navigant collected data for this verification and due diligence task through interviews with program implementation staff and reviewing program documentation covering the period from April through June 2012. Navigant's findings and recommendations were based on reviewing the following program activities and materials:

- Interview program managers and implementers
- Review program documentation (Applications, Operating Plan, Implementation Policy, etc.)
- Review marketing and outreach efforts
- Desk review of project files
- Review program operating procedures
- Review program tracking system
- Compare program activities and materials to national best practices

Interview with Program Managers and Implementer

Navigant conducted a telephone interview with representatives from Nicor Gas, the program administrator (Wisconsin Energy Conservation Corporation—WECC), and the implementation contractor (Resource Solutions Group—RSG), to review the program's accomplishments and challenges to date. The telephone interview included prepared question topics such as program administration, program outreach and marketing, program delivery mechanisms, customer satisfaction, and implementation challenges. At the conclusion of each interview, Navigant provided extra time to discuss any questions or raise additional topics that were not already covered in the telephone interview.

Review Program Documentation

The program documentation reviewed by Navigant included the Rider 30 program's Operating Plan[12], Implementation Policies and Procedures[13], Nicor Gas Compliance Filling[14], Quality Assurance/Quality Control Plan[15], and the Rebate Processing Manual and Program Guidance[16]. Other documentation included reviewing the program tracking database (year end extract 5/31/2012), measure applications forms, monthly program delivery report, measure work papers, and marketing materials. The program's Operating Plan and the Implementation Policies clearly describe the program logic and key performance indicators, and provide detailed QA/QC procedures and program guidelines for measure and customer eligibility, reviewing customer applications, and processing customer incentives. The BEER Program's measure work papers contain engineering assumptions and the methodology used to estimate default savings for many of the eligible measures. The program monthly delivery report highlights potential and realized energy savings, program performance and challenges. The marketing and outreach documents included newsletters and marketing fact sheets, trade ally focus group meetings and training notes, and the E-blast announcement information for promoting newly introduced C&I prescriptive measures. Navigant found that the Rebate program's marketing and outreach materials were generally consistent with the program's marketing goals.

Desk Review Projects Files

Navigant requested from the IC and reviewed the project documentation of five samples chosen for project engineering file review[17]. We verified that these projects were paid and the documentation included filled and signed application forms, itemized invoices, measure specifications, incentive request worksheets, and copies of paid checks. We observed minor instances where customers did not specify the equipment purchase date on the application forms (observed from rebate numbers "N700021" and "1-20120203-17429"). We observed that the measure installation date shown in the application forms for rebate number "1-20120203-17429 and rebate number "1-201111221-11842", do not match records in the tracking system.

Review of Program Operating Procedures and Tracking System

Navigant examined the BEER Program's operating procedures as outlined in the program operating plan. Below is the BEER Program customer process flow. Navigant identified the following as key elements leading to final project approval and incentive payment.

- Application Submittal and Pre-Review
- Incentive Approval and Payment
- Inspection and Verification

12 Nicor Gas Rider 30 EEP Program Portfolio Operating Plan (Version 1.1)

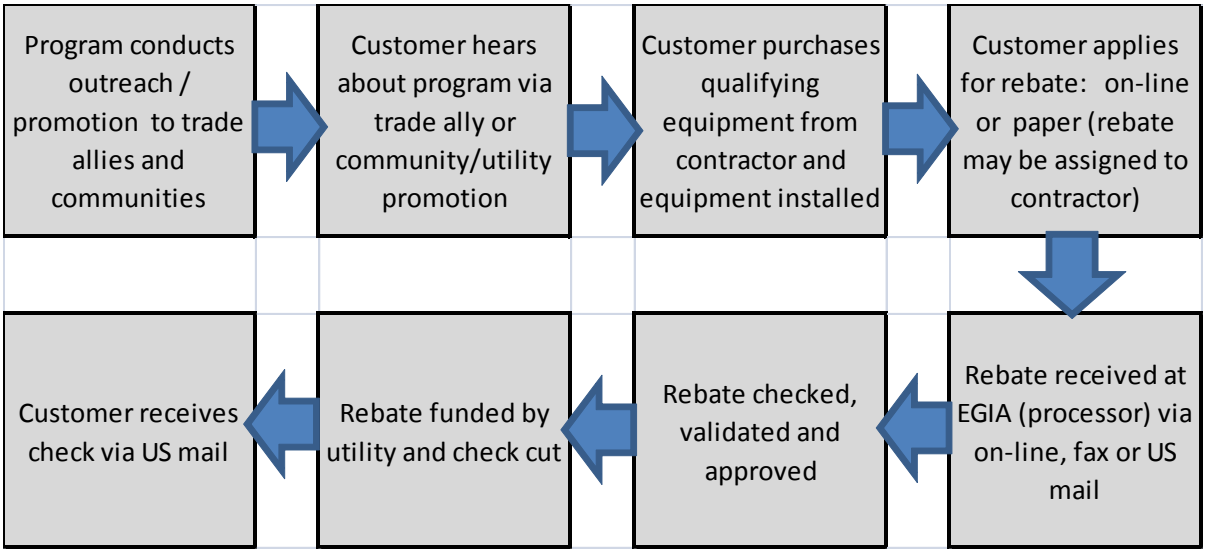
13 Nicor Gas Business EE Rebate Program Policies and Procedures (August 1, 2011)

14 Nicor Gas EEP 2011-2014 Revised Plan Filed Pursuant to Order Docket No. 10-0562 (May 24, 2011)

15 Business EE Rebate & Business Custom Incentive Programs QC/QA Plan. Statement of Work deliverable – Task 2 (8/1/2011)

16 Nicor Gas Business EE Rebate Program Rebate Processing Resources & Call Center Script (10/06/2011)

17 Rebate Numbers reviewed were N700021; N400003; 1-20111221-11842; 1-20120203-17429; and 1-20111219-11566



BEER Program Customer Process Flow (Source: Nicor Gas Rider 30 EEP Program Portfolio Operating Plan

Application Submittal and Review

The Rebate program provides options for Nicor Gas customers to submit online applications or mail-in applications. Generally, after a customer installs a project that includes pre-approved equipment on the BEER Program's qualified product list, the customer (or trade ally on behalf of the customer) submits an application and supporting documentation to the program. Program technical staff reviews a customer's application to confirm that the customer and the installed equipment are eligible for the program. Program staff also verify that the application and accompanying information is complete by verifying the customer's contact information (to determine whether the customer is serviced by Nicor Gas), technical specifications for installed equipment, invoices or proof of purchase receipts for the installed equipment and compliance with other program rules. The technician then assigns a dedicated Rebate Number for each submitted project and inputs the data into the program tracking system. The program allows customers up to 120 days following installation to submit applications and supporting documentation. If an application meets all requirements, but the installed equipment/product is not on the qualified product list, the product is reviewed manually by the program subcontracted Rebate Processor (EGIA) for eligibility. If an application does not meet all of the requirements, with the exception of the qualified product, the application status is updated to "Denied" in the program tracking system, and a Denial Letter is then mailed to the applicant, detailing the reason for denial. Applicants have 14 business days to submit any additional information that may prove eligibility. If no response is received within this period, the application is denied and no further action is taken by the Rebate Processor unless the applicant contacts the IC directly.

Incentive Approval and Payment

If the customer's application is approved for an incentive, the program staff notifies the customer of the approved incentive payment. Incentives are targeted at an average of 30-40% of incremental measure costs. Depending on the amount of the incentive check, one or more program managers from Nicor Gas or WECC must approve the project file prior to issuance. Upon sending the incentive check to the customer, program staff marks the project as "Paid" and uploads the scanned check(s) and documentation to the program tracking system. If the applicant receives a rebate check and disputes the amount of the rebate paid, the resolution is processed via the Rebate Discrepancy Resolution procedures outlined in the program Implementation Policies and Procedures.

Inspection and Verification

The post-installation and verification activities are focused on ensuring the QA/QC performance metrics for measure installation were followed. The Nicor Gas BEER Program does not require pre-inspection, but after receiving a final project application, a program staff or a subcontractor returns to the project site and conducts a post-installation inspection. The IC has designed guidelines for post installation on-site inspections, and have hired an independent subcontractor to perform 3% post on-site inspection of installed measures (inspect 3% of each installed measure type as opposed to 3% of the total units, to guarantee inspections across all measure types).The independent subcontractor is developing standardized inspection checklists to record whether the measure is installed as described in the application, whether model and serial numbers matches specification, measure is operational as required, the inspection date and inspector name, and also that the quantity of installation matches the application files.

Tracking System Review

Navigant reviewed the data fields and data input into the Business Rebate tracking database (year end 5/31/2012 extract). The structure of the database is simple and the inputs provide clear descriptions of the installed efficient measures, information about paid projects, status of pipeline projects, and numbers of incomplete and rejected applications. The tracking database has records of installed efficient measure specifications including the make and model, efficiency, type and size, equipment purchase dates, installation and check payment dates. Navigant observed that both measure Application Forms and the tracking system do not have data fields for recording the specifications of the baseline or replacement equipment. The baseline specifications could aid evaluation verification of existing equipment efficiency, age and operating condition, and help to determine whether measure replacement was reasonably based on program requirements.

The savings description field in the tracking system needs to be updated to change "300- 499 MBH" to instead "301- 499 MBH", and "up to 300 MBH" should read "up to 299 MBH". While the rebate number appears to be used as the main customer ID, these numbers are not handy and unique in terms of format and digits. Some rebate number is shown in the format "1-20120227-20161" (other numbers are one digit shorter e.g. "1-20111108-6244"), and another is shown in the format "N700026". The program should consider developing unique project IDs for each customer to enable easy tracking and verification of customer project data.

We compared the measure default savings as recorded in the tracking system to values from the program Operating Plan and default changes since the introduction of new GPY1 measures. We verified that the tracking system accurately records program default gross and net savings for the installed qualifying measures. Navigant observed what appear to be data entry errors for several calculated measure rebates; the calculation of measure rebates do not match the program incentives. For example, for steam traps, whiles the default savings are accurately tracked, the tracking rebate amounts do not match the program incentives. Similar inconsistencies were found for boiler measures. For example, rebate number "N700026" (condensing boiler 1000 - 1700 MBH, 90% TE) was credited with $5,000 in rebates in the tracking database instead of the program default $7,500 rebate. Customer with measure rebate number "N700044" (hydronic boilers with <300 MBH) was assigned a $1,500 rebate instead of a $400 rebate. In another case, a hydronic boiler (1000-1700 MBH, 85% TE) was supposed to have a default $1,750 in rebates instead of $5,000 in rebates shown in the tracking database.

Navigant compared information in the customer project documentation with corresponding entries in the program tracking system. It appears the IC is adequately reviewing paper applications and transferring information into the program tracking system. This include transferring installed equipment

specifications such as the type, make and model, efficiency, size, equipment purchase dates, installation and check payment dates, and customer and contractor contact address into the tracking system. Navigant observed the tracking system tracks savings and rebate estimates for measures/projects for which applications were denied. While this may be for record purposes, it may be misleading for program staff unfamiliar with the tracking system to assume this to be realized savings. The other option would be to zero off these values in the tracking system. The tracking system would need to be updated for additional project information that would be useful for evaluation, such as pre- and post-inspection findings, inspection dates, make and model of the replaced baseline equipment, measure life and cost

With the exception of the rebate cost, the tracking system does not record any cost information associated with the measures installation, such as equipment cost, installation cost, incremental or total cost, measures measure useful, etc. Navigant observed some of this information was recorded in the customer application forms. This information is needed for the BEER Program cost-benefit analysis.

Benchmarking

To conduct the best practices benchmarking assessment, the evaluation team compared the program implementer's practices (shown as a bullet list) with the *Best Practices Self-Benchmarking Tool*[18] from the *National Energy Efficiency Best Practices Study* (numbered items in *italic* font) for C&I prescriptive programs. The benchmarking categories used were Quality Control and Verification, and Reporting and Tracking.

Table 5-. Comparison of Implementation Contractor Practices to Best Practices Tool

ID	Best Practice	Score
1	Assure quality of product through independent testing procedures	Meets best practice.
2	Use measure product specification in program requirements and guidelines.	Meets best practice.
3	Use incremental costs to benchmark and limit payments, and set an incentive strategy to maximize net not gross program impacts.	Meets best practice
4	Develop inspection and verification procedures during the program design phase.	Meets best practice
5	Implement a contractor screening/certification/training process.	Meets best practice
6	Conduct independent on-site post-installation inspections.	Meets best practice
7	Always inspect the first job submitted by a new vendor or Contractor	Needs some improvement.
8	Tie staff performance to independently verified results.	Meets best practice
9	Assess customer satisfaction with the product through evaluation.	Meets best practice

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

Quality Control and Verification

1. *Assure quality of product through independent testing procedures.*
   - The BEER Program verifies that each product on which incentives are paid meets the prescribed efficiency standards using third-party databases (i.e. ENERGY STAR, GAMA, and AHRI). Products that cannot be verified using a credible third-party database are considered on a case-by-case basis where efficiencies are verified by a qualified engineer.

2. *Use measure product specification in program requirements and guidelines.*
   - The program's Operating Plan outlines the eligible measures and the qualifying efficiency standards. The Application Forms contain specification sheets with equipment eligibility requirements for the program's qualified product list.

3. *Use incremental costs to benchmark and limit payments, and set incentive strategy to maximize net not gross program impacts.*
   - Payments and C&I prescriptive 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.

4. *Develop inspection and verification procedures during the program design phase.*
   - The IC has designed standardized quality control and quality assurance plan for project inspection and verification. Post installation inspections are scheduled to start in July, 2012 (although late after GPY1).

5. *Implement a contractor screening/certification/training process.*
   - The BEER Program recruits trade allies, installers, and business associations, and sponsor Trade Ally Focus Group meetings to discuss the program and market opportunities. The program provides opportunity for trade allies to become members of the Nicor Gas Contractor Circle and ensures that trade allies receive regular program updates.
   - The IC organizes PEEZZA training sessions on monthly bases to provide training for new and existing trade allies or contractors. The IC is considering the possibilities for incorporating more sophisticated content in the PEEZZA Sessions and/or creating a certification/qualification component to trainings.

6. *Conduct independent on-site post-installation inspections.*
   - The BEER Program is required to conduct random selection and 3% post-installation inspections to verify installations and match equipment models and serial numbers with those provided on the rebate claims.
   - The IC has hired an independent subcontractor to perform 3% post on-site inspections of installed measures (inspect 3% of each installed measure type as opposed to 3% of the total units, to guarantee inspections across all measure types).

7. *Always inspect the first job submitted by a new vendor or Contractor*
   - Post-installation inspection guidelines do not clarify whether program staff should invite the contractor/trade ally during onsite post-installation inspection. The guidelines do not specify if post inspection is a requirement for new trade allies or contractors.

8. *Tie staff performance to independently verified results.*
   - It is unclear how staff performance is evaluated with regard to independently verified results. The Implementation Contractor's performance is based on the program evaluator's independently verified results.

9. *Assess customer satisfaction with the product through evaluation.*
   - Navigant is conducting an evaluation for the program that includes process evaluation and impact evaluation. Navigant's process evaluation efforts will access customer satisfaction with the BEER Program.

Table 5-. Comparison of IC Reporting and Tracking Practices to Best Practices Tool

ID	Best Practice	Score
1	Define and identify key information needed to track and report early in the program development process	Meets best practice
2	Use automated or otherwise regularly scheduled notification to achieve close monitoring and management of project progress.	Meets best practice
3	Design program tracking system to support the requirements of evaluators as well as program staff.	Needs some improvement.
4	Develop accurate algorithms and assumptions on which to base savings estimates.	Meets best practice
5	Integrate or link with other appropriate systems such as cross-program databases, customer information systems (CIS) and marketing or customer relationship management (CRM) systems	Needs some improvement.
6	Verify accuracy of invoices to ensure the reporting system is recording actual product installations by target market.	Meets best practice

Data Reporting and Tracking Benchmarking

10. *Define and identify key information needed to track and report early in the program development process*
    - The BEER Program data requirements were defined early in the program development process and are tracked in the program tracking database.

11. *Use automated or otherwise regularly scheduled notification to achieve close monitoring and management of project progress.*
    - The IC reports once a month to NICOR on all projects. These reports are not automatically generated. The report highlights potential and realized energy savings, summarizes program key performance and application and marketing challenges.

12. *Design program tracking system to support the requirements of evaluators as well as program staff.*
    - The tracking system is fully electronic, but it does not allow real-time reporting of routine functions like monthly portfolio and program reports, and financial tracking. Automated reporting and web-based communications tracking should be pursued, as the program gains penetration in the marketplace to increase staff efficiency.
    - The data tracking system is well designed for use by program staff and review by program evaluators. It tracks customer and contractor, and impact data. The IC and the evaluation team can track the timeline of each project and more easily pinpoint dates when projects passed important milestones in the process.
    - The IC should consider including additional project information in the tracking system, such as post inspection findings, inspection dates, make and model of baseline equipment, measure life and cost information for benefit cost analysis.

13. *Develop accurate algorithms and assumptions on which to base savings estimates.*
    - The IC has developed workpapers with measure savings algorithms, that use empirical data from recent evaluations and are based on acceptable deemed savings approaches. Program default savings may be revised for PY2 after reviewing the Illinois Statewide Technical Reference Manual.

14. *Integrate or link with other appropriate systems such as cross-program databases, customer information systems (CIS) and marketing or customer relationship management (CRM) systems*
    - Most of customer contact information and project details are kept in the tracking database, but additional customer and marketing information is tracked separately. Customer survey responses and complaint logging spreadsheets are not linked to the tracking system.

15. *Verify accuracy of invoices to ensure the reporting system is recording actual product installations by target market.*
    - Customers or contractors are required, as part of the BEER Program terms and conditions, to submit copies of all invoices or other reasonable documentation of the costs associated with purchasing the incentivized equipment. As part of the application review process, program staff compares invoices and purchase orders to the application information to verify measure installation.

5.4 Sampling Details

Verified gross program savings impacts were determined from reviewing program default savings and analysis of sample of participant responses to the telephone survey. Shown in is the profile of the gross impact of the sample participant survey for the BEER Program in comparison with the program population.

Table 5-. Profile of GPY1 Gross Impact Sample

Population Summary		Sample			
Number of Project (N)	Ex Ante Therms	N	Ex Ante Therms	Sampled Project % of Population	Sampled Therms % of Population
267	1,742,478	34	1,392,269	13%	80%

Source: Navigant analysis of program tracking database (10-06-2012 data extract); analysis of CATI respondents.

Navigant employed the ratio estimation of the population mean technique[19] (approximate variance of the ratio estimate) to analyze the sample reported savings and the verified gross savings. To determinate the confidence interval and precision, the team analyzed the variance in the ratio estimation of the gross realization rate. The standard error was used to estimate the error bound around the estimate of verified gross therms. The results are summarized in .

Table 5-. Gross Therms Realization Rate and Relative Precision at 90% Confidence Level

Sampling Strata	Relative Precision at 90% Level of Confidence (± %)	Low	Mean	High	Standard Error (±)
Overall Verified Gross Savings RR	0.0%	1.00	1.00	1.00	0.00

Navigant analysis

The mean verified gross realization rate for the sample was 1.00 at zero (0.0%) relative precision at a 90% confidence level. A zero relative precision was achieved based on the fact that there was no variation in the ex ante gross savings and the verified gross savings for each individual measure or project, resulting in a realization rate of 1.00 at the project level and at the program level.

Below are the statistical formulas used to achieve the verified gross realization rate and precision.

$$V\left(\hat{R}\right) \doteq \frac{1-f}{n\bar{X}^2}\left[\frac{\sum_{i=1}^{N}(y_i - Rx_i)^2}{N-1}\right]$$

[19] *Source: Wiley Series in Probability and Mathematical Statistics – Sampling Techniques (2 Ed., 1962, pages 158-159)*

$$V(\hat{R}) = \frac{1-f}{n\bar{X}^2}(S_y^2 + R^2 S_x^2 - 2R\rho S_y S_x)$$

Where:
$V(\hat{R})$ = variance in the realization rate estimation
$f = n/N$ is the sampling fraction
n = sample size
N = population size
R = Realization Rate (ratio estimation)

$\bar{X}^2$ = population ex ante mean

S_y^2 = the variance of the sample verified gross savings

S_x^2 = the variance of the sample ex ante gross savings

$\rho S_y S_x$ = covariance between the sample ex ante gross savings and the verified gross savings

5.5 *Detailed impact results*

As of May 31, 2012, the Nicor Gas BEER Program reported estimated ex-ante gross savings of 1,742,478 therms (1,400,675 therms, ex ante net), through participation of 1,621 measures (from 267 paid projects)[20].

Tables 5-1 and 5-2 provide details of the reported measures installed and the distribution of ex ante gross savings for GPY1 compared with BEER Program planning goals. indicates the BEER Program overall achieved 162% of GPY1 planning gross savings. Planning gross savings estimates were exceeded by a few measures only, including Energy Star Fryer (200%), Programmable Thermostats (148%), and most notably by Industrial High Pressure Steam Traps (973%).

Table 5-. GPY1 BEER Program Participation and Gross Savings Estimates

Category	Incentive Paid	Projects*	Measures Installed	Ex Ante Gross Energy Savings (Therms)	GPY1 Gross Energy Saving Goal	% Gross Savings Goal Achieved	Ex Ante Net Savings
Total	372,058	267	1,621	1,742,478	1,075,101	162%	1,400,675

Navigant Analysis of Nicor Gas tracking database (10/06/2012 data extract)
**- 267 projects were counted from unique project rebate numbers, but 237 unique participants and addresses were identified.*

[20] Measures marked as "paid" in the 10-06-2012 tracking data extract were assumed to have met program eligibility requirement, and were included in the PY1 population for the ex ante gross impact analysis. A total of 237 unique business participants and addresses were identified from 267 projects participation.

Table 5-. Profile of Measure Participation and Savings

Savings Measure Description	Savings Unit	Installed (Savings Quantity)	GPY1 Measure Goal	% Measure Goal Achieved	Ex Ante Gross Energy Savings	GPY1 Energy Savings Goal	% GPY1 Savings Goal Achieved
Boiler Reset Controls	Unit	7	50	14%	6,722	43,350	16%
Hydronic Boilers	Unit	5	35	14%	2,594	36,630	7%
Condensing Boilers	Unit	43	40	108%	37,949	45,425	84%
Infrared Upright Broiler	Unit	1	2	50%	1,089	2,178	50%
Boiler Tune-Up	Unit	109	300	36%	33,521	90,900	37%
Boiler Combined with WH unit	Unit	5	25	20%	1,230	6,150	20%
Energy Star Fryer	Unit	18	10	180%	10,100	5,053	200%
Furnaces 90%-94% Afue	Unit	118	225	52%	23,590	49,050	48%
Furnaces 95%+Afue	Unit	74	225	33%	24,432	53,552	46%
Infrared Heaters (All Sizes)	Unit	80	125	64%	36,080	56,150	64%
Energy Star Convection Oven	Unit	4	5	80%	1,224	1,518	81%
Conveyor Oven	Unit	2	2	100%	1,466	1,466	100%
Indoor Pipe HW/Steam Insulation	Linear foot	4,183	15,030	28%	41,830	78,334	53%
Programmable Thermostat	Unit	222	150	148%	39,516	26,700	148%
Infrared Salamander Broiler	Unit	2	5	40%	478	1,147	42%
Commercial Steam Trap	Unit	558	1,400	40%	49,662	64,400	77%
Steam Trap, Industrial high pressure	Unit	326	63	517%	1,424,072	146,375	973%
Steam Trap, Industrial low pressure	Unit	2	100	2%	1,272	63,481	2%
Pre-Rinse Spray Valve	Unit	33	149	22%	3,894	39,064	10%
Water Heater 88% TE	Unit	7	29	24%	1,757	7,379	24%
Total		**5,799**	**17,970**		**1,742,478**	**818,302**	**213%**

Navigant Analysis of Nicor Gas tracking database (10/06/2012 data extract)

shows the breakdown of the GPY1 ex ante gross savings by rebate measure type. Steam Trap measures were the single most installed measure in GPY1, contributing to about 85% of the total GPY1 ex ante gross savings. The remaining 15% ex ante gross savings were shared among the other measures installed.

provides details of the contribution of the types of Steam Trap measures to the GPY1 gross savings. Industrial High Pressure Steam Traps contributed to about 95% of the total savings from Steam Traps.

Table 5-. GPY1 Ex Ante Gross Savings by Measure Kind

Rebate Measure Kind	Measures (Rebate Quantity)	Ex Ante Gross Energy Savings	% GPY1 Gross Savings	Planning Net-to-Gross Ratio	Ex Ante Net Energy Savings
Boiler Controls	7	6,722	<1%	0.8	5,378
Boilers	47	39,899	2%	0.8	31,919
Water heaters	8	2,401	<1%	0.8	1,921
Commercial Kitchen	62	18,251	1%	0.8	14,601
Boiler Tune-up	109	33,521	2%	0.8	26,817
Space Heating	85	37,310	2%	0.8	29,848
Furnaces	192	48,022	3%	0.8	38,418
Pipe Insulation	3	41,830	2%	0.96	40,157
Programmable Thermostats	222	39,516	2%	0.8	31,613
Steam Traps	886	1,475,006	85%	0.8	1,180,005
Total	**1,621**	**1,742,478**	**100%**		**1,400,675**

Source: Navigant analysis of Nicor Gas tracking database (10/06/2012 data)

Table 5-. GPY1 Ex Ante Gross Savings from Steam Trap Measures

Rebate Measure Kind	Measures (Rebate Quantity)	Ex Ante Gross Energy Savings	% GPY1 Gross Savings	Net-to-Gross Ratio	Ex Ante Net Energy Savings
Steam Trap, Commercial	94	8,366	1%	0.8	6,693
Commercial Replace - Any Pressure	464	41,296	3%	0.8	33,037
Industrial/Process Low Pressure	2	1,272	<1%	0.8	1,018
Steam Trap, Industrial Medium Pressure =30 <75 psig	25	21,350	1%	0.8	17,080
Steam Trap, Industrial High Pressure =75 <125 psig	62	182,342	12%	0.8	145,874
Steam Trap, Industrial High Pressure =125 <175 psig	130	578,370	39%	0.8	462,696
Steam Trap, Industrial High Pressure =175 <250 psig	109	642,010	44%	0.8	513,608
Total	**886**	**1,475,006**	**100%**		**1,180,005**

Source: Navigant analysis of Nicor Gas tracking database (10/06/2012 data)

summarizes the distribution of GPY1 participants, projects, and energy savings by business sector. A total of 237 business participants completed 267 projects that accounted for 1,742,478 therms of ex ante gross savings. GPY1 participants represent a range of business sectors. Overall, there were 1.13 projects per business participant with an average of 6,526 therms per project.

Table 5-. Participants, Projects, and Ex Ante Gross Savings by Business Sector

Business Sector	Projects		Business Participants		Projects/ Part.	Ex Ante Gross Energy Savings		Therms/ Project
	Count	%	Count	%		Therm	%	
Assembly	30	11%	30	13%	1.00	29,513	2%	984
Health/Medical - Hospital	18	7%	17	7%	1.06	10,953	1%	609
Hotel/Hospitality	5	2%	4	2%	1.25	1,474	<1%	295
Manufacturing - Light Industrial	27	10%	18	8%	1.50	945,405	54%	35,015
Multi-Family	13	5%	13	5%	1.00	30,783	2%	2,368
Office < 60,000 Sq. Ft.	22	8%	22	9%	1.00	8,701	<1%	396
Office >/= 60,000 Sq Ft	6	2%	6	3%	1.00	4,526	<1%	754
Restaurant - Fast Food	7	3%	7	3%	1.00	8,080	<1%	1,154
Restaurant - Sit Down	3	1%	3	1%	1.00	1,685	<1%	562
Retail	13	5%	13	5%	1.00	5,539	<1%	426
Schools - Post Secondary	4	1%	4	2%	1.00	4,153	<1%	1,038
Schools - Primary/Secondary	1	0%	1	<1%	1.00	6,112	<1%	6,112
Storage	3	1%	3	1%	1.00	3,370	<1%	1,123
Other	115	43%	96	41%	1.20	682,184	39%	5,932
TOTAL	**267**		**237**		**1.13**	**1,742,478**		**6,526**

Source: Navigant analysis of Nicor Gas tracking database (10/06/2012 data)

Key observations, by business sector, are:

- The light industry sector accounts for the most energy savings (54%), the highest number of projects per participant (1.50), and the largest therms per project (35,015 therms). This sector also had the third largest share of participants (10%) and two of the five largest prescriptive projects in GPY1.
- The assembly sector accounts for the second largest share of projects (13%) and the second largest share of participants (11%), but contributed only 2% of total GPY1 gross savings.
- Overall impact from the office sector was 10% of projects and 12% of business participation (with 1.0 projects per participant), but less than 2% of the total gross savings.
- Miscellaneous business buildings had the highest number of projects (43%), the third largest number of projects per participant (1.20), and 39% of GPY1 gross savings.
- As mentioned before, the Navigant team identified during the project file reviews that not all of the business/building types recorded in the applications are transferred into the tracking system or are inappropriately designated as "OTR". The team recommends that RSG tracks the building/business types as found on the project applications.

The evaluation team performed engineering estimates to verify the accuracy of the program estimated default savings from the TRM. We reviewed the underlying algorithms, assumptions, and calculated default savings from the TRM proposed by RSG for GPY1.

As shown in , the evaluation team identified 25 different measure types that were installed by participants. From the results of our engineering review, Navigant concluded that the implementation contractor sufficiently applied the TRM assumptions and algorithms, and that the measure per unit default savings values in the tracking database are reasonable. The realization rates based on measure unit savings were determined to be 1.00.

Table 5-. Profile of Measures and Unit Savings in Tracking Database

Measure Description	Unit	Tracking Ex Ante Unit Gross Savings (Therms)	Evaluation Verified Unit Gross Savings (Therms)	Verified Gross Realization Rate	Evaluation Comments
Boiler Reset Controls	MBH	1.163	1.163	1	Averaged. Acceptable as is.
Boiler Tune-Up	MBH	0.234	0.234	1	Averaged. Acceptable as is.
Combined HE Boiler & Water Htg. Unit, >=90% AFUE	Boiler	246	246	1	Not in TRM. Used GPY1 value. from Program Operating Plan
Condensing Boilers, 301 To 1700 Mbh, >=90% TE	MBH	1.686	1.686	1	Averaged. Acceptable as is.
Condensing Boilers, Up To 300 Mbh, >=90% AFUE	MBH	2.385	2.385	1	Averaged. Acceptable as is.
Convection Oven, EStar, E>40%	Oven	306	306	1	Averaged. Acceptable as is.
Fryer, EStar E>50%	Fryer	505	505	1	Averaged. Acceptable as is.
Furnaces, Up To 150 Mbh, 90%-94% AFUE	MBH	1.96	1.96	1	Averaged. Acceptable as is.
Furnaces, Up To 150 Mbh, 95%+AFUE	MBH	2.44	2.44	1	Averaged. Acceptable as is.
HE Conveyor Oven Large (>=25-In Conveyor Width)	Oven	733	733	1	Averaged. Acceptable as is.
Pre-Rinse Spray Valve	Sprayer	118	118	1	Averaged. Acceptable as is.
Hydronic Boilers, 1000 To 1700 Mbh, >=85% TE	MBH	0.855	0.855	1	Averaged. Acceptable as is.
Hydronic Boilers, Up To 300 Mbh, >=85% AFUE	MBH	0.855	0.855	1	Averaged. Acceptable as is.
Indoor Pipe HW/Steam Insulation	Linear Foot	10.47	10.47	1	Not in TRM. Used GPY1 value from Program Operating Plan
Industrial/Process Low Pressure Steam Trap	Steam Trap	636	636	1	Averaged. Acceptable as is.
Infrared Heaters (All Sizes), Low Intensity	Infrared Heater	451	451	1	Averaged. Acceptable as is.
Infrared Salamander Broiler	Broiler	239	239	1	Averaged. Acceptable as is.
Infrared Upright Broiler	Broiler	1,089	1,089	1	Averaged. Acceptable as is.
Programmable Thermostat	Thermostat	178	178	1	Averaged. Acceptable as is.

Steam Trap, Commercial	Steam Trap	89	89	1	Averaged. Acceptable as is.
Steam Trap, Industrial High Pressure =125 <175 psig	Steam Trap	4,449	4,449	1	Averaged. Acceptable as is.
Steam Trap, Industrial High Pressure =175 <250 psig	Steam Trap	5,890	5,890	1	Averaged. Acceptable as is.
Steam Trap, Industrial High Pressure =75 <125 psig	Steam Trap	2,941	2,941	1	Averaged. Acceptable as is.
Steam Trap, Industrial Medium Pressure =30 <75 psig	Steam Trap	854	854	1	Averaged. Acceptable as is.
Water Heater (Large), 88% TE	Water Heater	251	251	1	Averaged. Acceptable as is.

Navigant analysis of Nicor Gas tracking database (10/06/2012 data extract)

and provide the verified gross savings and gross realization rates for each measure type. No adjustments were made to measure savings or quantities of measures installed. Hence the verified gross savings was 1,742,478 therms and the gross realization rate was 1.00.

Table 5-. Verified Gross Savings by Measure Type (Consolidated)

Savings Measure Description	Measure Unit	Measures (Savings Quantity)	Ex Ante Gross Energy Savings (Therms)	Verified Gross Energy Savings (Therms)	Verified Gross Realization Rate
Boiler Reset Controls	Unit	7	6,722	6,722	1.00
Hydronic Boilers	Unit	5	2,594	2,594	1.00
Condensing Boilers	Unit	43	37,949	37,949	1.00
Infrared Upright Broiler	Unit	1	1,089	1,089	1.00
Boiler Tune-Up	Unit	109	33,521	33,521	1.00
Boiler Combined with Water Heater (WH) unit	Unit	5	1,230	1,230	1.00
Energy Star Fryer	Unit	18	10,100	10,100	1.00
Furnaces 90%-94% AFUE	Unit	118	23,590	23,590	1.00
Furnaces 95%+AFUE	Unit	74	24,432	24,432	1.00
Infrared Heaters (All Sizes)	Unit	80	36,080	36,080	1.00
Energy Star Convection Oven	Unit	4	1,224	1,224	1.00
Conveyor Oven	Unit	2	1,466	1,466	1.00
Indoor Pipe HW/Steam Insulation	Linear foot	4,183	41,830	41,830	1.00
Programmable Thermostat	Unit	222	39,516	39,516	1.00
Infrared Salamander Broiler	Unit	2	478	478	1.00
Commercial Steam Trap	Unit	558	49,662	49,662	1.00
Steam Traps, Industrial high pressure	Unit	326	1,424,072	1,424,072	1.00
Steam Traps, Industrial low pressure	Unit	2	1,272	1,272	1.00
Pre-Rinse Spray Valve	Unit	33	3,894	3,894	1.00
Water Heater 88% TE	Unit	7	1,757	1,757	1.00
Total		**5,799**	**1,742,478**	**1,742,478**	**1.00**

Navigant analysis

Table 5-. Gross Parameter and Savings Estimates at the Program Level

Program	Ex Ante Gross Energy Savings (Therms)	Verified Gross Energy Savings (Therms)	Verified Gross Realization Rate
Nicor Gas BEER Program	1,742,478	1,742,478	1.00

Navigant analysis

Navigant used the verified gross energy savings numbers derived from the sampling to estimate the population and the program level verified gross energy savings, and applied that to estimate the program level net energy savings.

5.5.1 Research Report of Non-deemed Estimate of Ex post Net Program-Level Savings

The primary objective of the net savings analysis for the BEER Program was to determine the program's net effect on customers' natural gas usage. After gross program impacts have been assessed, net program impacts are derived by estimating a Net-to-Gross ratio (NTGR) that quantifies the percentage of the gross program impacts that can be reliably attributed to the program.

For GPY1, the net program impacts were quantified to reflect both the estimated level of free-ridership and participant spillover. Quantifying free-ridership requires estimating what would have happened in the absence of the program. For most of the projects, a basic rigor self-report analysis was conducted, as described shortly. The enhanced self-report method was used for the largest project in this program, which accounted for 37% of savings. For this project, a participant telephone interview was conducted. Then, since the customer indicated strong trade ally influence (a score greater than 7), trade ally input on program influence was overlaid on the participant self-report responses.

The existence of participant spillover was quantitatively examined by identifying spillover candidates through questions asked in the participant telephone interviews. If the response provided evidence of participant spillover and the participant was willing to have a follow-up interview by an engineer, an attempt was made to estimate the spillover impacts.
Once free-ridership and participant spillover have been estimated the NTGR is calculated as follows:

NTGR = 1 – Free-ridership Rate + Participant Spillover

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 the following three items:

- A **Timing and Selection** score that reflected 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 captured 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 they learned about the program after they decided to implement the measures; and
- 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 identical to that used for the ComEd and Ameren Illinois C&I rebate programs.

Additional survey batteries examine other project decision-making influences including the age, and condition of existing equipment, corporate policy for efficiency improvements and open-ended responses.

Participant Spillover

For the GPY1 Nicor Gas BEER Program evaluation, a battery of questions was asked to identify spillover candidates and to encourage spillover candidates to participate in a follow-up interview by an engineer to quantify spillover savings. Below are paraphrased versions of the spillover questions that were asked:

1. Since your participation in the Nicor Gas BEER Program, did you implement any ADDITIONAL energy efficiency measures at this facility or at your other facilities within Nicor 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 Nicor Gas BEER Program influence your decision to install high efficiency equipment on your own?
3. Why do you give the Nicor Gas BEER Program this influence rating?

If the response to question 2 was given a score of 7 or higher, the team judged the respondent to be a spillover candidate. Unfortunately, due to the low response rate that the Prescriptive participant survey received, Navigant was unable to identify any participants who experienced spillover as a result of their participation in the program. In GPY2, the evaluation team will continue to attempt to identify participants who experienced spillover, and will ask the following additional question during the CATI survey:

> "Thank you for sharing this information with us. We may have follow-up questions about the equipment you installed outside of the program. Would you be willing to speak briefly with a member of our team?"

All respondents who answer "yes" indicating that they would be willing to speak with a member of our team would be contacted by an engineer. The follow-up engineering interview attempts to confirm that spillover had occurred and estimate the energy savings.

The evaluation team also conducted in-depth interviews with five participating trade allies, and questioned them on any market effects that they may have witnessed in their unique position in the market as a result of the program.

Of the five trade allies, three indicated that the program was very influential in driving their customer base to implement other energy efficiency measures, suggesting potential non-participant spillover. Additional equipment installed included humidifiers, air conditioners (after furnaces were installed), and burners. Of the trade allies, three indicated that the majority of their customers did not apply for an incentive. One trade ally indicated that their customer base was not aware of the program, with another trade ally indicating that time constraints, and not being approved within those constraints, is the core reason why their customers did not apply for a rebate. This potential non-participant spillover will be researched further in PY2.

NTG Scoring

The net-to-gross scoring approach is summarized in .

Table 5-. Net-to-Gross Scoring Algorithm for the GPY1 Prescriptive Program

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) F. Information provided through technical assistance received from utility or Resource Solution Group (RSG) field staff G. Vendor Score (when triggered) H. Account Manager Score (when triggered)	Basic Rigor: Maximum of A, B, C, D, and E Standard Rigor: Maximum of A, B, C, D, E, F, G, and H
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)
GPY1 Project level Net-to-Gross Ratio (free-ridership only)	1 – Project level Free-ridership

As stated previously, Navigant used the enhanced self-report method to estimate the NTGR for the largest project. The calculation of the related vendor score is discussed in the following section.

The Vendor Score is the maximum (on a scale of 0 to 10) of the following four factors:

1. [Score= response, on scale of 0 to 10] On a scale of 0 to 10 where 0 is NOT AT ALL IMPORTANT and 10 is EXTREMELY IMPORTANT, how important was the

PROGRAM, including incentives as well as program services and information, in influencing your decision to recommend that <%CUSTOMER> install the energy efficiency MEASURE at this time?

2. [Score= 10 minus the response, on a scale from 0 to 10] And using a 0 to 10 likelihood scale where 0 is NOT AT ALL LIKELY and 10 is EXTREMELY LIKELY, if the PROGRAM, including incentives as well as program services and information, had not been available, what is the likelihood that you would have recommended this specific MEASURE to <%CUSTOMER>?
3. [Score = %NOW minus %BEFORE, converting delta percent to a scale of 0 to 10] How important, would you say, has the program been on how frequently you recommend high efficiency equipment to your commercial and industrial customers?
    a) Approximately, in what percent of sales situations did you recommend this MEASURE before you learned about the PROGRAM
    b) And approximately in what percent of sales situations do you recommend this MEASURE now that you have worked with the PROGRAM?
4. [Score = response converted to a 0 to 10 scale] What are the most important reasons that you recommend high efficiency equipment more often now? How important is the Nicor Gas BEER program in this change? *(Probe for specific program components: incentives, training, program website, vendor past participation in utility rebate program, other program components.)*

The algorithm above provides a Vendor Score on a scale of 0 to 10, where 10 is associated is with no free-ridership due to program influence on the vendor. The Vendor Score is then factored into the Timing and Selection Score of the net-to-gross ratio (NTGR) estimation.

The NTG ratio and relative precision at a 90% confidence level for the overall program and the net program savings estimates are provided in and .

Table 5-. NTG Ratio and Relative Precision at 90% Confidence Level

Project Population (N=267)	NTG Interviews (n=34)	NTG Sample* (n=39)	Relative Precision (± %)	Low	Mean	High
267	34	39	9%	0.67	0.73	0.80

Source: Navigant analysis
** - includes multiple projects*

Table 5-. GPY1 Program Gross and Net Energy Savings Estimates

Program	Ex Ante Gross Energy Savings (Therms)	Verified Gross Energy Savings (Therms)	Verified Gross Realization Rate	Verified Net Energy Savings (Therms)	Verified Net-to Gross Ratio
Total	1,742,478	1,742,478	1.00	1,272,009	0.73

Source: Navigant analysis

5.6 Detailed process results

The process evaluation of the BEER Program focused on answering the following research questions:

1. Has the program been successful in recruiting additional participants?
2. Has the program been successful in recruiting additional trade allies?
3. How has the program changed its marketing and outreach strategies since Rider 29?
4. Are customers satisfied with the program? In what ways can the program improve the customer experience?
5. Are trade allies satisfied with the program? In what ways can the program improve the trade ally experience?
6. Is the program successfully referring customers to the other Business programs? Can program coordination be improved?

The process evaluation results are organized by the process research questions. The primary data sources for the process evaluation included the telephone survey with 34 survey participants and in-depth interviews with market actors and implementation staff. The surveys were conducted October through December, 2012.

5.6.1 Has the program been successful in recruiting additional participants?

Finding

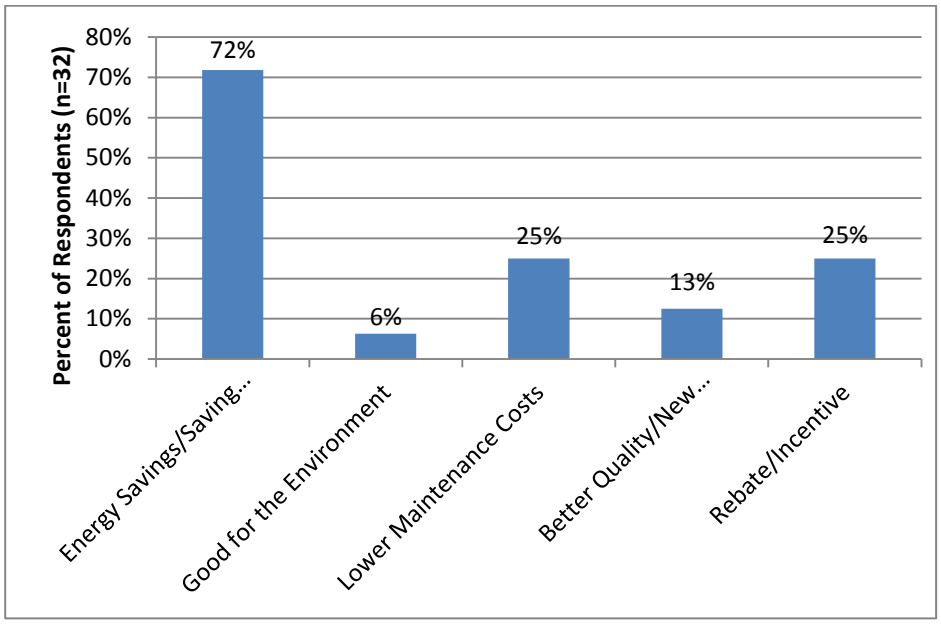
In terms of project or measure participation, it does not appear the program in Rider 30 GPY1 period achieved significant progress in recruiting additional participants, when compared to the Rider 29. Under Rider 30 in GPY1, 237 customers participated and implemented 1621 measures, compared to 333 customers who implemented 1679 measures in the Rider 29 pilot program[21]. On the other hand, the program achieved or exceeded its planned gross savings goal in the Rider 30 GPY1 period compared to the Rider 29 (partly due to introduction of new measures and provision of incentives for the measure mix, including steam traps and commercial kitchen measures). On this basis, Navigant concludes that the program made successful modifications to achieve the savings goals without increasing participation.

Although, customers were not contacted directly during the Rider 29, information gathered from the program staff during the Rider 30 GPY1 participant survey appears to shed light on the characteristics of participants of the BEER Program. Responses from the participant survey demonstrate strong customer satisfaction and willingness to participate in the BEER Program. Of the 34 respondents to the survey, 65% mentioned being influenced by a third party to identify and implement the projects, and 31% said they decided on their own to implement the projects. When asked if they will participate again in the future, 91% reported they were planning or it is possible they will participate again in the future.

Program participants were asked about what they perceive to be the main benefits of participation in the program, and the top three responses were energy savings (72% of respondents), the program rebate (25% of respondents) and lower maintenance cost (25% of respondents). Also mentioned was the ability to install new and/or better equipment (13% of respondents). illustrates customer responses of the main benefits to participating in the BEER Program.

[21] Copy of Rider 29 Portfolio Summary Spreadsheet v3 (FINAL 9-23-11).xlsx (The 333 customers in Rider 29 included 75 customers from the Rockford Small Business pilot program, who installed 323 measures).

Figure 5. Primary Benefit of Program Participation



Source: Participant survey

When asked about the drawbacks to participating in the program, 75% of participants reported they did not perceive any drawbacks, 6% respondents said program paperwork was too burdensome, and another 6% mentioned cost of equipment as the draw back to the program. No customer mentioned issues with program incentives as a drawback to the program. When customers were asked whether the scope of their project was limited by the program's incentive cap, 91% responded "No".

Recommendation

- Continue to work on minimizing incomplete applications and denials rate to improve on program participation.
- Establish a mechanism that will optimize the application verification process for past customers.

5.6.2 How has the program changed its marketing and outreach strategies since Rider 29? Has the program been successful in recruiting additional trade allies?

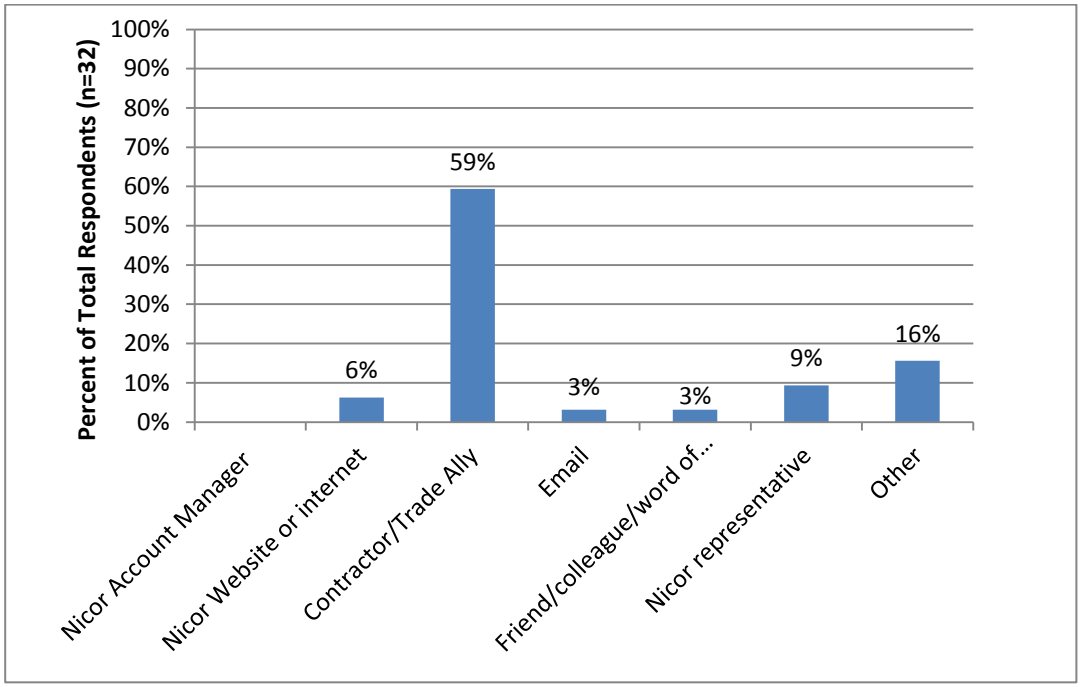
Finding

Navigant found that significant efforts have been made to improve on the program marketing and outreach activities since the beginning of Rider 30. Notable among them is the continued recruitment of trade allies and organizing trade ally meetings and training, the introduction of the "big check event", and the "E-blast" announcement for promoting newly introduced C&I prescriptive measures. Although, customers were not contacted directly during the Rider 29 cycle, information gathered from the program staff and from the current Rider 30 GPY1 participant telephone survey provides a strong indication that the contractor/trade ally channel is being well utilized by the program, followed by the Nicor Gas website and through emails.

From the 34 respondents of the GPY1 participant survey, most participants learn about the BEER Program through a discussion with a contractor or a trade ally (59%), Nicor Gas website or internet (6%), e-mails (3%), through a colleague, friend, or family member (3%). Other methods included Nicor Gas representative (9%), by an engineer (6%), meeting, seminar, or workshop (3%), or Nicor Gas mail-out (3%). illustrates these findings in detail.

When comparing the ways that customers reported wanting to learn about the program, the most popular method was through trade allies (72%), then Nicor Gas website (38%) e-mails (25%), newsletters (25%), and from colleague, friend, or family member (22%). Only 13% of customers indicated they preferred to learn about the program from Nicor Gas Account Managers.

Figure 5. Method of Initial Introduction to Program



Source: Participant Survey

Participants were also asked how useful program marketing materials are in providing information about the program. Only 16% of participants felt the materials are very useful, and additional 25% indicated the material was somewhat useful. Some respondents did report that they did not recall receiving any marketing materials. When asked about the best ways to reach companies regarding energy efficiency opportunities, the most cited method was e-mail, with 31% of respondents suggesting it as the method, followed by bill inserts (28%), and trade allies (19%), while 6% indicated contact from Nicor Gas Account Managers.

During Rider 29, there were 1,000 registered trade allies. The IC did a commendable job in recruiting trade allies to the program, increase the total registered trade allies to 4,169.

Sixty-nine (69%) of survey respondents used a contractor for their project, 36% reported that they did not know if their contractor was a program-qualified trade ally. Only 41% of the survey respondents reported that they did use a program-qualified trade ally. This suggests that the trade allies may not be promoting their status as program-qualified trade allies to the fullest extent possible. When asked to rate how important it is that their contractor is a program trade ally, on a scale from zero to ten, where zero is "not at all important" and ten is "very important", 22% of respondents reported a rating from 7 to 10. Additional 28% gave a rating from 5 to 6.

Recommendation

- The program should continue to improve on dissemination of marketing and outreach materials to increase program awareness through emails, bill inserts and newsletters.
- The program should continue to recruit trade ally involvement and encourage trade allies to market the program to their customer base.

Finding

More than two-third (69%) of the survey respondents reported that they themselves filled out the program application. Of those, over 90% reported that the application clearly explained the program requirements and how to participate. When asked to rate the application process on a scale from zero to ten, where zero is "very difficult" and ten is "very easy", 86% of respondents gave a score from 7 to 10. This high favorable response rate justifies customer position when many answered that application paperwork is not burdensome or a drawback to program participation.

Slightly over 22% of the survey respondents recalled placing telephone calls to the BEER Program Call Center, and 75% indicated they did not contact the Call Center. Of those who did, they all reported very high levels of satisfaction with the Program Call Center. On a scale of zero to ten, where zero is "not at all satisfied" and ten is "very satisfied", 100% of respondents gave 7 to 10 rating on their satisfaction of contacting the program Call Center.

Recommendation

- Customers have shown the program application process is not a drawback to their participation, however evidence from the program tracking system shows incomplete application and denials are major challenges to the program implementation. The program administration and implementation strategy should continue to improve on eliminating the bottlenecks, review the eligibility requirements and denial codes. These will be major factors to increase program participation in GPY2 and beyond.

5.6.3 Are customers satisfied with the program? In what ways can the program improve the customer experience?

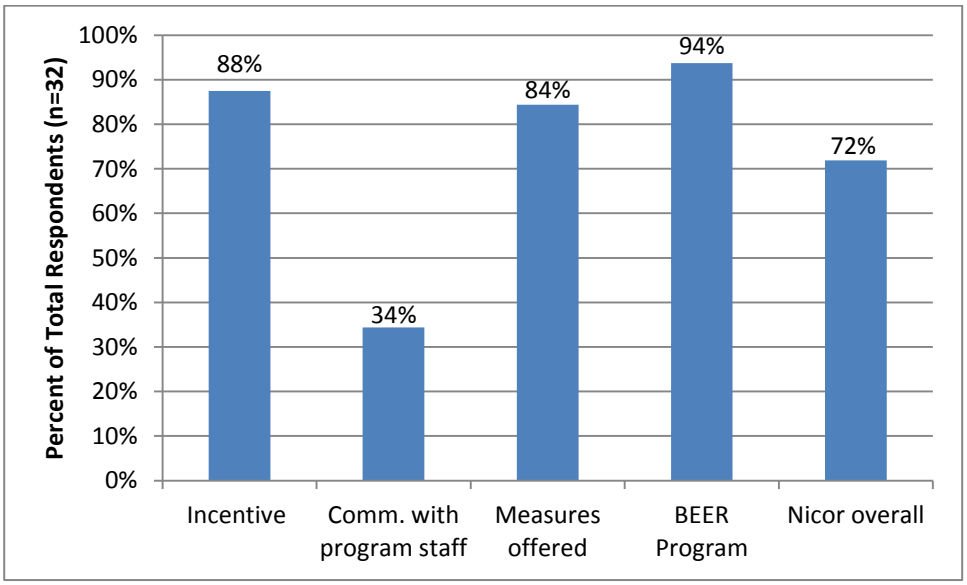
Finding

As part of the participant survey, the evaluation team spoke with customers about their satisfaction with the BEER Program. Satisfaction data was collected using a 0 to 10 point scale and recoded into the three analysis categories: dissatisfied (0-3), neutral (4-6) and satisfied (7-10). With this approach the evaluation team sought to address the key evaluation question on customer satisfactions and ways to improve on the customer experience.

Overall, participating customers appear to be very satisfied with the BEER Program; 94% of the customers surveyed reported being satisfied with the program overall. Most customers (88%) reported being satisfied with the incentive amount; while 84% reported being satisfied with the incentivized measures/equipment offered by the program. When asked to rate their satisfaction with communications with the program staff, only 34% reported being satisfied BEER Program (although participants had indicated strong satisfaction with contact with the program Call Center), and the majority indicated the question was not applicable or refused to respond. Customer satisfaction with the program attributes is reported in .

When asked if they plan to participate in the BEER Program again in the future, a majority (63%) of participants responded in the affirmative, and additional 28% indicated they may participate again in the future. Although some (44%) participants could offer no recommendations for improving the program, of those who did, more than a quarter (29%) called for higher incentives for program measures, and another 29% called for greater publicity, better communication and improvement in program information. Also, 21% of respondents suggested simplifying the application process; one customer mentioned that the program should accept other means of documentation when serial numbers and startup dates are not available; and another customer mentioned the program should minimize the duration of revising the application process for past customers.

Figure 5. Satisfaction with Program Attributes



Source: Participant survey

Recommendation

- Customers have shown the program application process is not a drawback to their participation, however evidence from the program tracking system shows incomplete application and denials are major challenges to the program implementation. The program administration and implementation strategy should continue to improve on eliminating the bottlenecks, review the eligibility requirements and denial codes. These will be major factors to increase program participation in GPY2 and beyond.

3.2.2 Is the program successfully referring customers to the other Business programs? Can program coordination be improved?

Finding

From program staff interviews and program documentation, Navigant established that customer referrals are happening between the BEER Program and the Small Business and Custom Programs. However, the evaluation team could not establish how many projects were referred during the GPY1 period as there is inadequate information or a database of the referral projects. There also appears to be a lack of coordination between utility programs to streamline the referral process.

Recommendation

- The BEER Program through coordination with other Business programs should create a central database system where referral projects are stored and can be accessed by respective program implementation contractors.

5.6.4 Trade Ally Survey Results

This section summarizes the results from the telephone survey conducted with five trade allies who participated in the BEER Program. The five trade allies were taken from the population size of 130 participating members, all of whom were contacted. A total of 65 calls were made in order to achieve five completed surveys, and one partially completed survey. The surveys were conducted October through December, 2012.

The trade ally survey component of the Business Rebate evaluation focused on:

- Program Marketing and Outreach Effectiveness
- Program Characteristics and Barriers to Participation
- Administration and delivery
- Participant satisfaction

The evaluation results are organized by the same process research questions that are grouped by the above themes. The primary data sources include the telephone survey with five trade allies.

Program Marketing and Outreach Effectiveness

Trade ally participants were asked a series of questions regarding program-specific marketing and marketing effectiveness. Four of the five trade allies were aware of other rebate programs; however none actively referred or marketed this, or other, inventive programs. Typically, these trade allies would refer their customers to utility websites only when an enquiry regarding incentive programs are made. Significantly, one trade ally viewed the Utility as an *'an Ally, rather than an adversary, like other utilities'* and referred to the Utility's seminars, programs, and marketing material in an extremely positive frame. Supporting this response, another trade ally found the online material was sufficient, and the only difficulty was verifying the customers' equipment eligibility.

Three participating trade allies have been aware of the program over the last two years, while another learned of the Program through their utility bill. Of the five trade allies, four indicated that the level of marketing material was sufficient, with the remaining participant indicating that they *'could promote it more'*. When probed further, the trade ally was unable to provide a clear strategy as to how to reach the right audience. Two trade allies indicated that the utility should take a larger role in the delivery and promotion of the program, due to contractor time constraints.

Program Characteristics and Barriers to Participation

Trade allies expressed varying responses to the program's characteristics and determined how it could overcome barriers to participation. One trade ally viewed the program as a sales tool for contractors, and did not fully understand why the program was offered. This response indicates that the contractor was unclear about the incentive program's purpose, and therefore, it is possible that the objectives of the utility, and its program, are not being passed on to the Contractor's customers.

One trade ally thought that all incentive programs – Nicor Gas programs and other utilities' – should be administered through a not-for-profit organization to minimize the confusion and provide a more effective platform to disseminate information of all rebate programs to customers.

All trade allies have used the website to find program information. One trade ally found the website not very useful, based on their earlier response regarding air conditioner eligibility that is only reserved for simultaneous installations.

Administration and Delivery

All five participants market the program to their customers; two do so actively, while three do not drive the program as the key plank in their selling. All trade allies incorporate the program into their proposals or into their sales proposal, but all unanimously agreed that the Program was not the core reason why their customers used their services.

All trade ally participants indicated that the current timeframe to schedule an installation was also sufficient, albeit highly variable and dependent on participants and manufacturers. Two trade allies indicated that in the past, and with other utilities, it has taken 8-12 weeks, which is largely seen as unsuitable.

Two trade ally participants indicated that they were offered training by the utility, with one finding it very useful. When probed further, the same trade ally indicated that another training session would be beneficial only if the program is modified significantly.

Participant Satisfaction

All five trade allies were satisfied with the program and its role in their businesses. Some participants indicated that the program has become an asset to their sales pitch and in one instance increased their business.

Although they are generally satisfied with the program, three trade allies indicated that there are certain aspects that could be addressed. One trade ally preferred when the Utility showed an estimate of the program's overall funds available on their website. The trade ally that provided a partial survey discussed their working relationship with Nicor Gas as very positive, and how much they prefer to work with Nicor Gas than competing utilities. From the paperwork, to staff accessibility, and the open dialogues, this trade ally is very satisfied working with Nicor Gas.

All trade allies have found that their customers are very satisfied with the program. One trade ally indicated that they are finding it increasingly confusing to navigate programs, not with Nicor Gas specifically, but with all the available rebate programs. As a result, they feel they cannot provide their customers with rebate program information that is specific to that customer and types of equipment they could qualify for. One trade ally concluded that Nicor Gas took more pride and ownership in their incentive programs, and as a result, their relationship reflected better in their service and the influence they had with their customer.

Trade allies also unanimously agreed that the program has given them an increased level of customer service without compromising services in other areas of their business. Very significantly, two trade allies indicated that their sales have increased within the past two years and are attributed to the program. Although small, 5% and 15% respectively, this finding indicates that the Program has helped these businesses develop through difficult economic times. All trade allies plan on participating in the program next year.

5.7 TRM Recommendations

- No adjustment is provided at this time for the TRM default measure savings and the application in GPY1.

- About 85% of GPY1 gross and net savings came from application and installation of steam trap measures. Industrial high pressure steam traps contributed to about 95% of the total savings from steam traps (and about 82% of total GPY1 net savings). The Navigant team is planning to conduct more research on the types and specifications of steam traps installed by customers in the Nicor Gas territory. This research is expected to include secondary research and, if feasible and cost-effective, lab testing. Findings from the research will provide recommendations which could be applied to the statewide TRM.

5.8 Data Collection Instruments

5.8.1 Participant Survey

Nicor Gas Business Energy Efficiency Rebate Program

PARTICIPANT SURVEY – COMMERCIAL & INDUSTRIAL (C&I) PRESCRIPTIVE REBATES

DRAFT August 23, 2012

Section	Topics	Questions
Screening		A0-A3c
Market Influencers	Who informed and influenced the incentive/rebate and incentive process and timing	MM1-MM3
Measure Loop	What were the steps in the incentive/installation process?	MS1-MS4
Free-ridership	Would business customers have installed the equipment without the program?	N00-N27
Spillover	About what percentage of customers have installed additional energy efficient equipment without an incentive?	SP1-SP5
Satisfaction	To what extent was the program satisfactory for the participant?	S0-S12
Marketing and Outreach	How well did the program marketing and outreach influence the participant?	MK0-MK2
Benefits and Barriers	What did the participant perceive to be the benefits and barriers to the program?	B1a-B3
Feedback and Recommendations	What feedback and recommendations do the participants offer?	R1 –R2
Firmographics	Firm-specific data for characterization	F1-F7

INTRODUCTION

[READ IF CONTACT=1]

Hello, this is _____ from _____ calling on behalf of Nicor Gas, your natural gas utility. This is not a sales call. May I please speak with <PROGRAM CONTACT>?

Our records show that <COMPANY> purchased energy efficient <ENDUSE>, which was recently installed and received an incentive of <INCENTIVE AMOUNT> from Nicor Gas. We are calling to do a follow-up study about <COMPANY>'s participation in this incentive program, which is called the Business Energy Efficiency Rebate 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 30 minutes. Is now a good time? [If no, schedule call-back]

[READ IF CONTACT=0]

Hello, this is _____ from _____ calling on behalf of Nicor Gas. I would like to speak with the person most knowledgeable about recent changes in energy-related gas equipment for your firm at this location.

[IF NEEDED] Our records show that <COMPANY> purchased energy efficient <ENDUSE>, which was recently installed and received an incentive of <INCENTIVE AMOUNT> from Nicor Gas. We are calling to do a follow-up study about your firm's participation in this incentive program, which is called the Business Energy Efficiency Rebate 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 30 minutes. Is now a good time? [If no, schedule call-back]

SCREENING QUESTIONS

A0 Which of the following statements best characterizes your relation to <COMPANY>?

1. I am an employee of <COMPANY> (THIS CATEGORY SHOULD INCLUDE THE OWNER/PRESIDENT/PARTNER ETC. OF THE COMPANY.)
2. My company provides energy-related services to <COMPANY>
3. I am a contractor and was involved in the installation of energy efficient equipment for this project

00. (Other, specify) (PUT OWNER/PRESIDENT/PARTNER ETC. OF THE COMPANY IN 1)

88. (Don't know)

99. (Refused)

[READ if S1<>1] This survey asks questions about the energy efficiency upgrades for which <COMPANY> received an incentive at <ADDRESS>. Please answer the questions from the perspective of <COMPANY>. For example, when I refer to "YOUR COMPANY", I am referring to <COMPANY>. If you are not familiar with certain aspects of the project, please just say so and I will skip to the next question.

A1. Just to confirm, between June 1, 2011 and May 31, 2012 did <COMPANY> participate in the Nicor Gas C&I Prescriptive Rebate Program at <ADDRESS>? (IF NEEDED: This is a program where your business received an incentive for installing one or more energy-efficient products.)

1 (Yes, participated as described)
2 (Yes, participated but at another location)
3 (NO, did NOT participate in program)
00 (Other, specify)
88 (Don't know)
99 (Refused)

[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)
88 (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=2,3,00,88,99: Thank and terminate. Record dispo as "Could not confirm participation".]

Before we begin, I want to emphasize that this survey will only be about the energy efficient <END USE> you installed through the C&I Prescriptive Rebate Program at <ADDRESS>.

A3. I'd like to confirm some information in the Nicor Gas database. Our records show that you implemented the following <ENDUSE> measures through the C&I Prescriptive Rebate Program. Is this correct?

[ASK A3a IF MEASD1 <> BLANK]

A3a <MEASD1>

1 (Yes)
3 (No, did not install)
88 (Don't know)
99 (Refused)

[ASK A3b IF MEASD2 <> BLANK]

A3b <MEASD2>

1 (Yes)
3 (No, did not install)
88 (Don't know)
99 (Refused)

[ASK A3c IF MEASD3 <> BLANK]

A3c <MEASD3>

1 (Yes)
3 (No, did not install)
88 (Don't know)
99 (Refused)

IF A3A=3,8,9 AND A3B=3,8,9 AND A3C=3,8,9: Thank and Terminate, Record Dispo as "Could Not Confirm Measures"

IF QA3A=1 OR 2 THEN MEAS1=1, IF QA3B=1 OR 2 THEN MEAS2=1, IF QA3C=1 OR 2 THEN MEAS3=1

MEASURE MODULE

MM1 Who was the most influential in identifying and recommending that you install the <ENDUSE> project you completed through the C&I Prescriptive Rebate Program?

1. (me/respondent)
2. (contractor)
3. (engineer)
4. (architect)
5. (manufacturer)
6. (distributor)
7. (Owner)
9. (Nicor Gas Representative/Program Staff)
10. (RSG Staff)
00. (Other, specify)
88. (Don't know)
99. (Refused)

MM2 And who informed you about the availability of an incentive through the Nicor Gas C&I Prescriptive Rebate Program?

1. (me/respondent "I contacted my utility as a matter of business to ask about their programs")
2. (contractor)
3. (engineer)
4. (architect)
5. (manufacturer)
6. (distributor)
7. (Nicor Gas Account Manager)
8. (owner/developer)
9. (project manager)
11. (Nicor Gas Representative/Program Staff)
12. (RSG Staff)

00. (Other, specify)
88. (Don't know)

99. (Refused)

MM3 When did you implement this project (IF NECESSARY, PROBE FOR BEST GUESS)
a Month [Precodes for Jan through Dec.]
b Year [Precodes for 2011 and 2012]

Measure Loop

[Loop 1: ASK IF MEAS1=1. Loop 2: ASK IF MEAS2=1. Loop 3: ASK IF MEAS3=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> installed through the C&I Prescriptive Rebate Program.

[IF MEASD1= BOILER TUNE-UP OR INDUSTRIAL BURNER 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
88. Don't know
99. Refused

NL5 Prior to receiving a boiler tune-up through this program, did <COMPANY> have a maintenance contract for the heating system equipment?
1. Yes
2. No
88. Don't know
99. Refused

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

REMOVED EQUIPMENT

MS1 Did the <MEASD1> you installed through the C&I Prescriptive Rebate 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)
88 (Don't know)
99 (Refused)

[IF MEASD1=PROGRAMMABLE THERMOSTAT, ASK NL11 AND NL12]

NL11 After installing the <MEASD1> device, have you or a contractor programmed the temperature settings?

1 (Yes)
2 (No)
88 (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) [End of Measure Loop; GO TO NEXT MEASURE]
88 (Don't know) [End of Measure Loop; GO TO NEXT MEASURE]
99 (Refused) [End of Measure Loop; GO TO NEXT MEASURE]

NL13 Is the current programmed temperature the originally programmed temperature or has the programmed temperature been changed since installation?

1 Original temperature [End of Measure Loop; GO TO NEXT MEASURE]
2 New temperature
88 Don't know [End of Measure Loop; GO TO NEXT MEASURE]
99 Refused [End of Measure Loop; GO TO NEXT MEASURE]

NL14 What was the originally programmed temperature and what is the new programmed temperature?

[ASK AS GRID]

Original	**New**
[RECORD NUMERIC RESPONSE]	[RECORD NUMERIC RESPONSE]
Don't know	Don't know
Refused	Refused

NL14 What was the reason for this the change in programmed temperature?

1 [RECORD OPEN-END RESPONSE]
88 (Don't know)
99 (Refused)

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

[End of Measure Loop; GO TO NEXT MEASURE] ELSE

[ASK NET-TO-GROSS MODULE, THEN RETURN]

NET-TO-GROSS MODULE

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)
Nicor Gas
<PROGRAM> (Name of energy efficiency program)
<ENDUSE> (Type of measure installed; from program tracking dataset)
<VEND1> (Contractor who installed new equipment, from program tracking dataset)
<TECH_ASSIST> (If participant conducted Feasibility Study, Audit, or received Technical Assistance through the program; from program tracking database)
<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 a measure of a different end-use type at the same facility; from program tracking database)
<FDESC> (Type of end-use of a different measure type at the same facility; from program tracking database)
<ACCT_REP> (Name of utility account manager, from program tracking database or program files if present)
<BONUS> (Equals 1 if any Prescriptive lighting measure in the overall project received an incentive bonus from the June 1, 2011 to March 31, 2012 offer)

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

N00 In deciding to do a project of this type, there are usually a number of reasons that it may be undertaken. In your own words, can you tell me the reasons that you decided to implement this project? Were there any other reasons?

DO NOT READ

1 To replace old or outdated equipment
2 As part of a planned remodeling, build-out, or expansion
3 To gain more control over how the equipment was used
4 The maintenance downtime and associated expenses for the old equipment were too high
5 Had process problems and were seeking a solution
6 To improve equipment performance
7 To improve the product quality
8 To comply with codes set by regulatory agencies
9 To comply with company policies regarding regular/normal maintenance/replacement policy
10 To get a rebate from the program

11 To protect the environment
12 To reduce energy costs
13 To reduce energy use/power outages
14 To update to the latest technology
00 Other (RECORD VERBATIM)
88 (Don't know)
99 (Refused)

N1 Does your company have an annual capital budget?

1 Yes
2 No (Skip to N1b)
88 (Don't know) (Skip to N1b)
99 (Refused) (Skip to N1b)

N1a Was the measure already part of that capital budget before you were aware of the Business Energy Efficiency Rebate Program? (NOTE TO INTERVIEWER: "this measure" refers to the specific energy efficient equipment installed through the program.)

1 (Before)
2 (After)
88 (Don't know)
99 (Refused)

N1b Did you learn of the Business Energy Efficiency Rebate Program before or after you began to THINK about the implementation of this measure?

1 (Before) (Skip to N3)
2 (After)
88 (Don't know)
99 (Refused)

[ASK N1b IF N1a or N1b=2, 8, 9]

N2 Did you learn about the Nicor Gas 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)
88 (Don't know)
99 (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; 88=Don't Know; 99=Refused]

(If needed: How important in your DECISION to implement the project was…)
[SKIP N3a IF NTG=B]
N3a. The age or condition of the old equipment
N3b. Availability of the PROGRAM incentive
[ASK IF N3b=8, 9, 10]
N3bb. What were the reasons that you gave it this rating?[OPEN END; 88=Don't know; 99=Refused]

[SKIP TO N3f IF NTG=B]
[ASK IF <TECH_ASSIST>=1, ELSE SKIP TO N3d]
N3c. Information provided through the technical assistance you received from Nicor Gas or RSG Energy field staff
[SKIP N3cc IF NTG=B]
[ASK IF N3c=8, 9, 10]
N3cc. What were the reasons that you gave it this rating?[OPEN END; 88=Don't know; 99=Refused]

N3d. Recommendation from an equipment vendor or contractor that helped you with the choice of the equipment
N3e. Previous experience with this type of equipment
N3f. Recommendation from a Nicor Gas program staff or RSG representative
[SKIP N3ff IF NTG=B]
[ASK N3ff IF N3f=8, 9, 10]
N3ff. Why do you give it this rating?

N3h. Information from C&I Prescriptive Rebate Program or Nicor Gas marketing materials

[SKIP N3hh IF NTG=B]
[ASK IF N3h=8, 9, 10]
N3hh. Why do you give it this rating?

[SKIP TO N3k IF NTG=B]
N3i. A recommendation from a design or consulting engineer
N3j. Standard practice in your business/industry
N3k. Endorsement or recommendation by a Nicor Gas account manager
[SKIP N3kk IF NTG=B]
[ASK IF N3k=8, 9, 10]
N3kk. What were the reasons that you gave that rating?

[SKIP TO N3n IF NTG=B]
N3l. Corporate policy or guidelines
N3m. Payback on the investment
N3n. Were there any other factors we haven't discussed that were influential in your decision to install this MEASURE?

00 Other [Record verbatim]
96 (Nothing else influential)
88 (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; 88=Don't Know; 99=Refused]

Thinking about this differently, I would like you to compare the importance of the PROGRAM with the importance of other factors in implementing the <ENDUSE> project.

[SKIP TO N3p IF NTG=B]

[READ IF (N3A, N3D, N3E, N3I, N3J, N3L, N3M, OR N3N)=8,9,10; ELSE SKIP TO N3p]

You just told me that the following other factors were important:
[READ IN ONLY ITEMS WHERE THEY GAVE A RATING OF 8 or higher]

(N3A) Age or condition of old equipment,
(N3D) Equipment Vendor recommendation
(N3E) Previous experience with this measure
(N3I) Recommendation from a design or consulting engineer
(N3J) Standard practice in your business/industry
(N3L) Corporate policy or guidelines
(N3M) Payback on investment
(N3N) Other factor

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; 8888=Don't Know; 9999=Refused]

[CALCULATE VARIABLE "OTHERPTS" AS: 100 MINUS N3p RESPONSE; IF N3p=8888, 9999, SET OTHERPTS=BLANK]

N3o And how many points would you give to other factors? [RECORD 0 to 100; 8888=Don't Know; 9999=Refused] [The response should be <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)
88 (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, AND N3k)=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 the reasons that was not that important?

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

[SKIP N4b IF NTG=B OR<TECH ASSIST>=0]

N4b When I asked you about THE INFORMATION PROVIDED THROUGH THE TECHNICAL ASSISTANCE, you gave a rating of ...<N3C RESPONSE> ... out of ten, indicating that the information provided was not that important to you. Can you tell me the reasons that provided was not that important?

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

N4c When I asked you about THE RECOMMENDATION FROM A Nicor Gas 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 the reasons that provided was not that important?

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

N4d When asked about THE INFORMATION from the <PROGRAM> or Nicor Gas 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 the reasons that this information was not that important?

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

[SKIP N4e IF N3k=96,88,99]

N4e When asked about THE ENDORSEMENT or RECOMMENDATION by YOUR UTILTY ACCOUNT MANAGER , you gave a rating of <N3K RESPONSE> ... out of ten, indicating that this Account manager endorsement was not that important to you. Can you tell me the reasons that this endorsement was not that important?

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

[ASK IF N3p<31 AND ANY ONE OF (N3b, N3c, N3f, N3h, OR N3k=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 the reasons that 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; 88=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]
88 (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)
88 (Don't know)
99 (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; 88=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"; 88=Don't know, 99=Refused]

[ASK IF N3j>7]
N6 In an earlier question, you rated the importance of STANDARD PRACTICE in your industry very highly in your decision making. Could you please rate the importance of the PROGRAM, relative to this standard industry practice, in influencing your decision to install this measure. Would you say the program was much more important, somewhat more important, equally important, somewhat less important, or much less important than the standard practice or policy?
1 (Much more important)
2 (Somewhat more important)
3 (Equally important)
4 (Somewhat less important)
5 (Much less important)
88 (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)
88 (Don't know)
99 (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
88 Don't know
99 Refused

[ASK N7b IF N7a=6]

N7b. What were the reasons that you do you think it would have been 4 or more years later?

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

PAYBACK BATTERY [ASK N8-N10e IF N3m=6,7,8,9,10]

I'd like to find out more about the payback criteria <COMPANY> uses for its investments.

N8 What financial calculations does <COMPANY> make before proceeding with installation of a MEASURE like this one?

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

N9 What is the payback cut-off point <COMPANY> uses (in months) before deciding to proceed with an investment? Would you say…

1 0 to 6 months
2 7 months to 1 year
3 more than 1 year up to 2 years
4 more than 2 years up to 3 years

5 more than 3 years up to 5 years
6 Over 5 years
88 (Don't know)
99 (Refused)

N10 Does your company generally implement projects that meet the required financial cut-off point?
1 (Yes)
2 (No)
88 (Don't know)
99 (Refused)

[ASK N10aa IF N10=2]
N10aa What are the reasons that your company generally doesn't implement projects that meet the required financial cut-off point?
00 [Record VERBATIM]
88 (Don't know)
99 (Refused)

N10a Did the rebate play a big role in moving your project within the acceptable payback cutoff point?
1 (Yes)
2 (No)
88 (Don't know)
99 (Refused)

CORPORATE POLICY BATTERY [ASK N11-N17 IF N3L=6,7,8,9,10]

N11 Does your organization have a corporate environmental policy to reduce environmental emissions or energy use? Some examples would be to "buy green" or use sustainable approaches to business investments.
1 (Yes)
2 (No)
88 (Don't know)
99 (Refused)

[ASK N12-N17 IF N11=1]

N12 What specific corporate policy influenced your decision to adopt or install the <ENDUSE> through the Nicor Gas program?

00 [RECORD VERBATIM]
88 (Don't know)
99 (Refused)

N13 Had that policy caused you to adopt energy efficient <ENDUSE> at this facility before participating in the Nicor Gas program?

1 (Yes)
2 (No)
88 (Don't know)
99 (Refused)

N14 Had that policy caused you to adopt energy efficient <ENDUSE> at other facilities before participating in the Nicor Gas Program?

1 (Yes)
2 (No)
88 (Don't know)
99 (Refused)

[ASK N15-N16 IF N13=1 OR N14=1]

N15 Did you receive an incentive for a previous installation of <ENDUSE>?

1 (Yes)
2 (No)
88 (Don't know)
99 (Refused)

[ASK N16 IF N15=1]

N16 To the best of your ability, please describe…. [Record VERBATIM; 88=Don't know; 99=Refused]

a. the amount of incentive received
b. the approximate timing
c. the name of the program that provided the incentive

[ASK N17 IF N13=1 OR N14=1]

N17 If I understand you correctly, you said that <COMPANY> 's corporate policy has caused you to install energy efficient <ENDUSE> previously at this and/or other facilities. I want to make sure I fully understand how this corporate policy influenced your decision versus the Nicor Gas program. Can you please clarify that?

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

STANDARD PRACTICE BATTERY [ASK N18-N22 IF N3j=6,7,8,9,10]

N18 Approximately, how long has use of energy efficient <ENDUSE> been standard practice in your industry?

M [00 Record Number of Months; 88=Don't know, 99=Refused]

Y [00 Record Number of Years; 88=Don't know, 99=Refused]

N19 Does <COMPANY> ever deviate from the standard practice?

1 (Yes)

2 (No)

88 (Don't know)

99 (Refused)

[ASK IF N19=1]

N19a Please describe the conditions under which <COMPANY> deviates from this standard practice.

00 [Record VERBATIM]

88 (Don't know)

99 (Refused)

N20 How did this standard practice influence your decision to install the <ENDUSE> through the <PROGRAM>?

00 [Record VERBATIM]

88 (Don't know)

99 (Refused)

N20a Could you please rate the importance of the <PROGRAM>, versus this standard industry practice in influencing your decision to install the <ENDUSE>. Would you say the <PROGRAM> was…

1 Much more important

2 Somewhat more important

3 Equally important

4 Somewhat less important

5 Much less important

88 (Don't know)

99 (Refused)

N21 What industry group or trade organization do you look to establish standard practice for your industry?

00 [Record VERBATIM]

88 (Don't know)

99 (Refused)

N22 How do you and other firms in your industry receive information on updates in standard practice?

00 [Record VERBATIM]

88 (Don't know)

99 (Refused)

DESIGN ASSISTANCE

N23 Who provided the most assistance in the design or specification of the <ENDUSE> you installed through the <PROGRAM>? (If necessary, probe from the list below.)

1 (Designer)
2 (Consultant)
3 (Equipment distributor)
4 (Installer)
5 (Nicor Gas account manager)
6 (<Nicor Gas PROGRAM> staff)
7 RSG Representative
00 (Other, specify)
88 (Don't know)
99 (Refused)

[SKIP N24 IF N23=88, 99]

N24 Please describe the type of assistance that they provided.

00 Record VERBATIM
88 Don't know
99 Refused

ADDITIONAL PROJECTS

[ASK N26 IF MSAME=1]
Our records show that <COMPANY> also received an incentive from Nicor Gas 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 Nicor Gas 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)
88 (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 Nicor Gas for a <FDESC> project at < ADDRESS >.

N27 Was the decision making process for the <FDESC> project 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)
88 (Don't know)
99 (Refused)

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 Nicor Gas program, did you implement any ADDITIONAL energy efficiency measures at this facility or at your other facilities within the Nicor Gas service territory that did NOT receive incentives through any utility or government program?

1 (Yes)
2 (No)
88 (Don't know)
99 (Refused)

[ASK SP2-SP7i IF SP1=1, ELSE SKIP TO S0]

SP2 What was the first measure that you installed or implemented? (IF RESPONSE IS GENERAL, E.G., "LIGHTING EQUIPMENT", PROBE FOR SPECIFIC MEASURE. PROBE FROM LIST, IF NECESSARY. IF RESPONDENT IS UNSURE OF DETAILS ASK THEM TO MAKE THEIR BEST GUESS OR OFFER ALTERNATIVE DESCRIPTION UNDER 00 - "OTHER")

1. HVAC Steam Trap Repairs (Low Pressure <15 psi)
2. HVAC Steam Trap Repairs (High Pressure > =15 psi)
3. HVAC Steam Trap Replacement (Low Pressure <15 psi)
4. HVAC Steam Trap Replacement (High Pressure > =15 psi)
5. HVAC Steam Trap Test
6. Industrial/Process Steam Trap (Low Pressure <15 psi)
7. Industrial/Process Steam Trap (High Pressure > =15 psi)
8. Industrial/Process Steam Trap Test
9. Space Heating Hot Water Boilers (< 300 MBH and Rated AFUE of 90% or Greater)
10. Space Heating Hot Water Boilers (>= 300 MBH and Rated Thermal Energy of 85% or Greater)
11. Space Heating Hot Water Boilers (>= 300 MBH and Rated Thermal Energy of 90% or Greater)
12. Space Heating Hot Water Boiler – Condensing Unite Heater (Rated Thermal Energy of 90% or Greater)
13. Space Heating Hot Water Boiler Cutout and Reset Controls
14. Boiler Tune up (Rated at >= 110MBH Output with a post tune-up increase in efficiency)
15. Industrial Burner Tune Ups (Rated at >= 110MBH Output with a post tune-up increase in efficiency)
16. Domestic Hot water Pipe Insulation (Pipe must be part of a domestic hot water distribution

system. Minimum pipe diameter of 0.5 inch Pipe insulation installed must be ≥ R-2)

17. Hot Water Boiler Pipe Insulation (Minimum pipe diameter of 1 inch)
18. Steam Boiler Pipe Insulation (Minimum pipe diameter of 1 inch)
19. Space Heating Furnaces (>92% to <95% AFUE)
20. Space Heating Furnaces (=> 95% AFUE)
21. Space Heating Furnaces (Infrared Heaters)
22. Natural Gas Water Heaters (<75 MBH Input and >= .67 Energy Factor)
23. Large Natural Gas Water Heater (=> 75 Input and >= 90% Thermal Efficiency)
24. Indirect Water Heater (Must be paired with a condensing, modulating hot water boiler rated at either ≥ 90% AFUE or ≥ 85% thermal efficiency)
25. Tankless Water Heater (Must be rated at < 200 MBH input and ≥ 0.82)
26. Programmable Thermostats
27. Indoor Pool or Spa Covers (must be rated by manufacturer as a pool or spa cover)
28. Food Service Equipment (Convection Oven – Energy Star or Fisher-Nickel)
29. Food Service Equipment (Combination Oven – Energy Star or Fisher-Nickel)
30. Food Service Equipment (Fryer – Energy Star or Fisher-Nickel)
31. Food Service Equipment (Upright Boiler with infrared burner)
32. Food Service Equipment (Large Conveyor Oven - Energy Star or Fisher-Nickel with conveyor belt => 25 inches)
33. Food Service Equipment (Pasta Cooker –infrared burner and designated as a pasta cooker by manufacturer)
34. Food Service Equipment (Rotisserie Oven)
35. Food Service Equipment (Salamander Broiler)
36. Food Service Equipment (Pre-Rinse Sprayers - Must have a flow rate of ≤ 1.6 GPM and replace a sprayer ≥ 2.2 GPM.)
37. Food Service Equipment (Steamer – Energy Star or Fisher-Nickel with minimum 5 pan capacity)
38. Food Service Equipment (Griddle – Energy Star or Fisher-Nickel)
39. Food Service Equipment (Rack Oven – Energy Star or Fisher-Nickel)

00. Other: (Specify)_____
96. None – Did not implement/install any additional measures
88. Don't know
99. Refused

[SKIP TO S0 IF SP2=96, 88, 99]

SP3 What was the second measure?

SP5 I have a few questions about the FIRST measure that you installed. (If needed, read back measure: <SP2 RESPONSE>) [OPEN END]

a. What were the reasons that you not receive an incentive for this measure?

b. What were the reasons that you did not install this measure through the Nicor Gas 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?

SP5f. Was this measure specifically recommended by a program related audit, report or program technical specialist?

1 (Yes)
2 (No)
88 (Don't know)
99 (Refused)

SP5g. How significant was your experience in the Nicor Gas 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; 88=Don't Know; 99=Refused]

[SKIP SP5h IF SP5g = 88, 99]

SP5h. What were the reasons that you gave it this rating?[OPEN END]

SP5i. If you had not participated in the Nicor Gas 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; 88=Don't Know; 99=Refused]

CONSISTENCY CHECK ON PROGRAM IMPORTANCE RATING VS. NO PROGRAM RATING

[ASK CC1a IF SP5g=0,1,2,3 AND SP5i =0,1,2,3]

CC1a When you answered ...<SP5g RESPONSE> ... for the question about the influence of the Nicor Gas Program on your decision to install this measure, I would interpret that to mean the Program was not very important to your decision. However, when you answered the previous question, it sounds like it was not very likely that you would have installed this measure had you not participated in the Nicor Gas Program. Can you please explain the role the program made in your decision to implement this measure?

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

[ASK CC1b IF SP5g=8,9,10 AND SP5i =8,9,10]

CC1b When you answered ...<SP5g RESPONSE> ... for the question about the influence of the Nicor Gas Program on your decision to install this measure, I would interpret that to mean the Program was quite important to your decision. However, when you answered the previous question, it sounds like it was very likely that you would have installed this measure had you not participated in the Nicor Gas Program. Can you please explain the role the program made in your decision to implement this measure?

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

[SKIP SP6-SP7i IF SP3=96, 88, 99]

SP6 I have a few questions about the SECOND measure that you installed. (If needed, read back measure: <SP3 RESPONSE>) [OPEN END]

a. What were the reasons that you did you not receive an incentive for this measure?

b. What were the reasons that you did not install this measure through the Nicor Gas 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?

SP6f. Was this measure specifically recommended by a program related audit, report or program technical specialist?

1 (Yes)
2 (No)
88 (Don't know)
99 (Refused)

SP6g. How significant was your experience in the Nicor Gas 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; 88=Don't Know; 99=Refused]

[SKIP SP6h IF SP6g = 88, 99]

SP6h. What were the reasons that you gave it this rating?[OPEN END]

SP6i. If you had not participated in the Nicor Gas 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; 88=Don't Know; 99=Refused]

CONSISTENCY CHECK ON PROGRAM IMPORTANCE RATING VS. NO PROGRAM RATING

[ASK CC2a IF SP6g=0,1,2,3 AND SP6i =0,1,2,3]

CC2a When you answered ...<SP6g RESPONSE> ... for the question about the influence of the Nicor Gas Program on your decision to install this measure, I would interpret that to mean the Program was not very important to your decision. However, when you answered the previous question, it sounds like it was not very likely that you would have installed this measure had you not participated in the Nicor Gas Program. Can you please explain the role the program made in your decision to implement this measure?

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

[ASK CC2b IF SP6g=8,9,10 AND SP6i =8,9,10]

CC2b When you answered ...<SP6g RESPONSE> ... for the question about the influence of the Nicor Gas Program on your decision to install this measure, I would interpret that to mean the Program was quite important to your decision. However, when you answered the previous question, it sounds like it was very likely that you would have installed this measure had you not participated in the Nicor Gas Program. Can you please explain the role the program made in your decision to implement this measure?

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

PROCESS MODULE

I'd now like to ask you a few general questions about your participation in the C&I Prescriptive Rebate Program .

Program Processes and Satisfaction

[IF S1<>1 SKIP TO S1A]

S0 How did you first hear about the C&I Prescriptive Rebate Program?

1. (Nicor Gas Account Manager)
2. (Nicor Gas Website)
4. (Contractor/Trade Ally)
5. (Email)
6. (Friend/colleague/word of mouth)
00. (Other, specify)
88. (Don't know)
99. (Refused)

S1a Did YOU fill out the application forms for the project? (Either the initial or the final program application)

1. (Yes)
2. (No)

88. (Don't know)
99. (Refused)

[ASK S1b IF S1a=1 ELSE SKIP TO S1e]

S1b Did the application forms clearly explain the program requirements and how to participate?

1. (Yes)
2. (No)
3. (Somewhat)
88. (Don't know)
88. (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; 88=Don't know, 99=Refused]

[ASK S1d IF S1c<4]

S1d What were the reasons that you gave that rating?

1. (Difficult to understand)
2. (Long process)
00. (Other, specify)
88. (Don't know)
99. (Refused)

[ASK S1e IF S1a=2]

S1e Who filled out the application forms for the project?

1. (Someone else at the facility)
2. (Someone else at the company)
3. (Trade Ally)
4. (Contractor)
5. (Supplier/Distributor/Vendor)
6. (Engineer)
7. (Consultant)
00. (Other, specify)
88. (Don't know)
99. (Refused)

[IF S1=3, SKIP TO S8]

S4a Did you use a contractor for your <ENDUSE> project?

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

[ASK S4b IF S4a=1]

S4b Was the contractor you used a Nicor Gas Trade Ally? (IF NEEDED: Was the contractor REGISTERED with the C&I Prescriptive Rebate Program?)

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

[ASK S5 IF S4a=1 ELSE SKIP TO S7]

S5 How would you rate the 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; 88=Don't know, 99=Refused]

S6a Would you recommend the contractor you worked with to other people or companies?

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

[ASK S6b IF S6a=2]

S6b What are the reasons that you would not recommend the contractor with whom you worked?

1. (Too small)
00. (Other, specify)
88. (Don't know)
99. (Refused)

S7 When implementing an energy efficiency project, how important is it to you that the contractor is a Nicor Gas Trade Ally? Please use a scale from 0 to 10, where 0 is "not at all important" and 10 is "very important"? [SCALE 0-10; 88=Don't know, 99=Refused]

S8 During the course of your participation in the program, did you place any calls to the C&I Prescriptive Rebate Program 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; 88=Don't know, 99=Refused]

[ASK S10 IF S9<4]

S10 What were the reasons that you gave it that rating?

1. (Provided inconsistent information)

2. (Didn't understand the question)
3. (Hard to reach the right person/person with the answer)
00. (Other, specify)
88. (Don't know)
99. (Refused)

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, 88=Don't know, 99=Refused]

a. the incentive amount
b. the communication you had with the C&I Prescriptive Rebate Program staff or RBS
c. the measures offered by the program (If needed: this is the equipment that is eligible for an incentive under the program)
d. the C&I Prescriptive Rebate Program overall
c. RSG Representative
e. Nicor Gas overall

[ASK S12a IF S11a<4]

S12a You indicated some dissatisfaction with the incentive amount, what are the reasons that you gave this rating? [MULTIPLE RESPONSE; UP TO 3]

1. (Better rebates in other states)
2. (Too small)
3. (Equipment didn't qualify)
00. (Other, specify)
88. (Don't know)
99. (Refused)

[ASK S12b IF S11b<4]

S12b You indicated some dissatisfaction with the communication you had with the C&I Prescriptive Rebate Program staff, what are the reasons that you gave this rating?

1. (Provided inconsistent information)
2. (Didn't understand the question)
3. (Hard to reach the right person/person with the answer)
00. (Other, specify)
88. (Don't know)
99. (Refused)

[ASK S12b IF S11c<4]

S12c You indicated some dissatisfaction with the measures offered by the C&I Prescriptive Rebate Program, what are the reasons that you gave this rating? [OPEN END; 88=Don't know, 99=Refused]

[ASK S12d IF S11d<4]

S12d You indicated some dissatisfaction with the C&I Prescriptive Rebate Program overall, what are the reasons that you gave this rating?

1. (Not as easy as other states)

2. (No clear guidance)
00. (Other, specify)
88. (Don't know)
99. (Refused)

[ASK S12e IF S11e<4]

S12e You indicated some dissatisfaction with Nicor Gas overall, what are the reasons that you gave this rating?

1. (Rates are too high)
2. (Took too long to get rebate)
3. (Poor customer service)
4. (Poor power supply/service)
00. (Other, specify)
88. (Don't know)
99. (Refused)

Marketing and Outreach

[IF S1<>1, SKIP TO B1A]

MK0 I'm now going to ask you about several specific ways in which you might have seen or heard information about the C&I Prescriptive Rebate 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 Nicor Gas customer event where the program was discussed?
c. Discussed the program with a Nicor Gas Account Manager?
d. Discussed the program with a Contactor or Trade Ally?
e. Seen information about the program on the Nicor Gas 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 Nicor Gas Newsletter?
k. Been directly contacted by a Nicor Gas or RSG Energy outreach staff?

How much did the information you received peak your interest and motivate you to find out more about the program?

MK1a How much did the information you received peak your interest and motivate you to find out more about the program?

1. Very useful
2. Somewhat useful
3. Not very useful
4. Not at all useful
8. (Don't know)
9. (Refused)

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? [MULTIPLE RESPONSE, UP TO 3]

1. (More detailed information)
2. (Where to get additional information)
00. (Other, specify)
88. (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 C&I Prescriptive Rebate Program? [MULTIPLE RESPONSE, UP TO 3]

1. (Bill inserts)
2. (Flyers/ads/mailings)
3. (e-mail)
4. (Telephone)
5. (Nicor Gas Account Manager)
8. (Trade allies/contractors)
00. (Other, specify)
88. (Don't know)
99. (Refused)

Benefits and Barriers

B1a What do you see as the main benefits to participating in the C&I Prescriptive Rebate Program? [MULTIPLE RESPONSE, 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)
88. (Don't know)
99. (Refused)

B1b What do you see as the drawbacks to participating in the program? [MULTIPLE RESPONSE, 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)
88. (Don't know)
99. (Refused)

B2 BLANK

B3 Was the scope of your project limited by the program's incentive cap?

1. Yes
2. No
00. (Other, specify)
88. (Don't know)
99. (Refused)

Feedback and Recommendations

R1 Do you plan to participate in the program again in the future?

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

R2 How could the C&I Prescriptive Rebate Program be improved? [MULTIPLE RESPONSE, 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)
88. (Don't know)
99. (Refused)

Firmographics

I only have a few general questions left.

F1 BLANK

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

F4a How old is this facility? [NUMERIC OPEN END, 0 TO 150; 8888=Don't know, 9999=Refused]

F5a How many employees, full plus part-time, are employed at this facility? [NUMERIC OPEN END, 0 TO 2000; 88888=Don't know, 999999=Refused]

[SKIP F7 IF F2=2]

F7 In comparison to other companies in your industry, would you describe <COMPANY> as…
1. A small company
2. A medium-sized company
3. A large company
4. (Not applicable)
8. (Don't know)
9. (Refused)

5.8.2 Trade Ally Survey

Nicor Gas Business Incentives Rebate Program Trade Ally
Contractor In-Depth Interview Guide

August 2012 Draft

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

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-Q10
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?	Q11-Q17
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?	Q18-Q21
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?	Q22-Q26

Section	Topics	Questions
Free Ridership and Spillover	Would 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)?	Q27-Q37

[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 [Nicor Gas] Business Energy Efficiency Rebate Program. At this time we are interested in asking you some questions about your experiences with the Business Energy Efficiency Rebate Program. The questions will only take about a half hour. Is this a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

This interview is about your experience with the Business Energy Efficiency Program, which I may refer to as the Business EER Program, or simple, the Program

Background

1. Can you briefly describe the company you work for and the type of business it conducts? How many are employed at your company? Who are your primary business customers?

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

3. How would you describe your familiarity with your company's relationship with the Nicor Gas Business Energy Efficiency Rebate Program?

Marketing and Participation

4. How and when did you (the contractor) become aware of the program? What other ways can the utilities and program implementers use to boost program awareness with contractors?

5. Are you aware of other Nicor Gas Energy Efficiency Programs? Have you referred any customers to other Nicor Gas business programs? Do you have any materials that you can leave with customers describing the full range of [Nicor Gas] Programs? (ASK SEPARATELY ABOUT EACH)

6. What kind of support, if any, does [Nicor Gas] provide to you for marketing the Business EER Program to your customers? Do you use utility-produced marketing materials?

7. Do you think the level of marketing and promotion of the Business EER Program has been appropriate so far? Do you think promotional efforts have been successful? Are there any that you feel have been especially successful in attracting businesses? Do you think they reach the right audience? If the utilities or implementers are missing areas of opportunity, what are those areas?

8. Have you noticed any spontaneous word- of- mouth marketing among Nicor Gas customers? For example, do customers know of other participating businesses before you contact them?

Program Characteristics and Barriers

9. In your opinion, what are the strengths of the Business EER program? What areas could be improved to create a more effective program for customers and program partners? What could be modified to make the program work better (e.g., incentive levels, eligible equipment, etc.)? What would you recommend? Why do you think this change is needed?

10. Have you looked at the website to find program information? Did you find the information that you needed?

Administration and Delivery

11. Do you actively market the program to your customers? How do you decide which Nicor Gas customers to contact about the program? Are these customers current customers of yours? Do you market to targeted geographic areas? What factors influenced you to participant in the program? What factors have prevented you from more active participation in the program?

12. This program provides cash rebates for gas measures. Do you currently partner with any other companies to provide these services?

13. After the customer agrees to install the recommended low-cost equipment, how long does it usually take to schedule the installation?

14. Do you receive the rebate from the utility directly, or does it go to your customers? [IF GOES TO THEM] How long does it take to receive your program rebate after installation? Is this an acceptable amount of time?

15. Do you know whom to contact for help with this program? Who would you call?

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

Satisfaction with the Business Prescriptive Rebate Program

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

18. Has the program provided your organization with an opportunity to provide an increased level of customer service to your new and current customers?

19. Are customers satisfied with the program? Why or why not? Have you had any call backs and if so, on what measures?

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

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

22. Do you find the Business Prescriptive Rebate Program is a competitive advantage for your firm?

23. Has your business revenues grown in the past year (Y/N)? If yes would you attribute any of that growth to the Business Prescriptive Rebate Program? About what % (+/- 10%)

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

25. Do you plan to continue participating in the program through 2013?

Free-ridership

26. Were you installing this type of equipment that would have qualified for the program prior to participating in this program? [IF YES] What kind? About what percent of your sales do you think were of this type of energy efficient equipment before the program? Was it more than 50% or less than 50%? More or less than 75% or 25%? Etc.

27. About what percent of your total sales do you think qualified for the program after you became a Business Prescriptive Rebate Program Trade Ally? Was it more than 50% or less than 50%? More or less than 75% or 25%? Etc. Did all of these installations receive a rebate?

28. About what percent of your total sales do you think would have been for the same type of qualifying equipment in 2011 if the Prescriptive program was not offered?

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

30. Of your customers, how many of them had EVER installed energy efficient equipment before they participated in the Business Prescriptive Rebate Program? What type of equipment was it? When was that project installed?

31. Did the customer receive a rebate from a utility program for installing that qualifying equipment? (Electric only, no gas rebates existed in Illinois before GPY1)

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

33. Have any of the Business Prescriptive Rebate Program participants asked your organization to install additional energy efficient equipment after their program participation? What did you install? Why did they want more equipment? Did the equipment qualify for a utility incentive?

34. If the Business Prescriptive Rebate Program had not been available in 2011, how would your sale of program-qualifying equipment be different?

Spillover

35. How many of your business customers purchase program equipment and do not apply for the incentive offered by the utility? [Which measure types and rough scope.]

    - What do you think is the reason for this? (e.g., too time-consuming, too much paperwork, incentive too small to bother)

36. How many of your business customers choose to implement other energy efficiency measures (not incented by the program) as a result of awareness of or participating in the program? What types of things do they usually do? (Try to develop a number for each type.)

Thank you and closing.