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Energy Efficiency
Nicor Gas Program Year 1
(6/1/2011-5/31/2012)

Evaluation Report:
Economic Redevelopment Program

FINAL

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E. Executive Summary

E.1 Evaluation Objectives

The objectives of the Nicor Gas GPY1 Economic Redevelopment Program evaluation were to: (1) quantify gross and net savings impacts from the program; (2) determine process-related program strengths and weaknesses and opportunities for program improvement; (3) provide preliminary, early feedback about useful information to incorporate into project file documentation for the purpose of documenting program influence for some comprehensive projects.

E.2 Evaluation Methods

Navigant conducted an engineering desk review for the systems project that qualified for a completion incentive to analyze program impacts for this evaluation. For the process evaluation, Navigant interviewed the ERP program implementation contractors, reviewed the program's operations manual, customer outreach and marketing materials. Navigant used these efforts to write a program theory and logic model memo and verification, due diligence and tracking system review memo, both of which are included in the appendix of this evaluation report. Navigant interviewed a representative of the systems project team that received an incentive in GPY1 to verify installation and assess customer satisfaction.

The NTG Framework allows for the NTG to be established prospectively if *"the savings and benefits of the program are not sufficient to devote evaluation resources necessary to better estimate a NTG ratio."*[1] The EM&V team determined this was appropriate for GPY1 for the ERP program and so did not independently estimate the NTG ratio. Navigant determined that the associated savings and benefits with the one systems project completed in GPY1 were not sufficient to devote the evaluation resources necessary to better estimate a NTG ratio.

E.3 Key Impact Findings and Recommendations

Finding: The ERP program began implementation in January 2012. In GPY1, the ERP program recruited 27 projects, including 20 comprehensive projects. Many of the projects initially recruited by the ERP program were still in progress at the end of GPY1, including 26 projects with estimated gross annual energy savings of 250,836 therms, amounting to 66 percent of the program's GPY2 gross energy savings goals of 379,070 therms.

Finding: The program induced Ex-Ante Gross Savings of 893.0 therms from one systems project that qualified for completion incentives in GPY1, achieving 5 percent of its GPY1 gross energy savings goal of 17,117 therms. Navigant applied the program planned Net-to-Gross (NTG) ratio of 0.8 per the NTG

[1] "Proposed Framework for Counting Net Savings in Illinois." Memorandum March 12, 2010 from Philip Mosenthal, OEI, and Susan Hedman, OAG. "*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[1] — 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. Deeming a NTG ratio prospectively, may be appropriate if: the program design and market are understood well enough to reasonably accurately estimate an initial NTG (e.g. based on evaluation programs elsewhere); or it is determined that the savings and benefits of the program are not sufficient to devote the evaluation resources necessary to better estimate a NTG ratio.*"

Framework[2], resulting in an Evaluation Research Findings Net Savings of 714.4 therms. Table E-1 presents GPY1 program impacts.

Table E-1. Nicor Gas GPY1 Economic Redevelopment Program Impacts

Savings Estimates	Energy Savings (Therms)
Ex-Ante Gross Savings	893.0
Ex-Ante Net Savings	893.0
Evaluation Research Findings Gross Savings	893.0
Evaluation Research Findings Net Savings	714.4

Source: Navigant analysis of program tracking system and file review

- **Recommendation:** No improvements needed.

Finding: The program Operations Manual doesn't include guidance or definitions for when a site inspection should occur, other than when a project is "substantially complete."

- **Recommendation:** Navigant recommends that program staff consider establishing criteria for conducting site inspections for projects during the construction process and incorporate the criteria into the Operations Manual. Examples of projects that might require multiple site visits to mark project milestones and document project compliance could include: 1) projects with a large amount of energy savings, 2) projects with a high level of uncertainty for construction-related measure implementation or 3) projects with a first-time participant.

Finding: The project file selected for engineering review was missing documentation for some factors that may influence energy savings estimates, including baseline efficiency, equipment load profile and schedule, equivalent full load hours of the operating climate zone, replacement specifications and proof of purchase of the equipment.

- **Recommendation:** Navigant recommends that the ERP program develop a project file checklist with important documentation for each project file and add a data field to the program tracking database that indicates whether or not a project file checklist has been completed. The purpose of the project file checklist would be to include consistent documentation for participating projects, including important information relating to engineering assumptions and other factors that may influence energy savings estimates, as indicated in the finding above.

Finding: The ERP program's Systems Project template uses a different algorithm for a water heating system replacement than a similar measure found in the Illinois TRM[3].

[2] Nicor Monthly Report – PY1_2012 May.xlsm

[3] State of Illinois Energy Efficiency Technical Reference Manual, Final version, September 14, 2012, effective June 1, 2012. Section 7.4.2: Gas Water Heaters.

- **Recommendation:** Navigant recommends that the ERP program review TRM algorithms and assumptions for consistency in estimating annual energy savings. The ERP program should conduct a periodic review of applicable Illinois TRM values and algorithms for compliance with standard engineering best practices.

E.4 Key Process Findings and Recommendations

Finding: The ERP program's implementation contractors appear to have a clear understanding of their roles and responsibilities and comprise a well-qualified team that understands their roles and responsibilities in order to successfully implement this program.

- **Recommendation:** No improvements needed.

Finding: The ERP program reported marketing and outreach to 69 unique contacts within the program's target markets. Additionally, the program appeared in 12 unique marketing efforts with program partners.

- **Recommendation:** Consider including specific goals and metrics for ERP program marketing and outreach efforts, such as number of attendees at workshops, number of unique contacts or other metrics.

Finding: The participating customer interviewed by Navigant for this evaluation report displayed a high level of customer satisfaction about the technical assistance services and customer service provided by the program. The customer reported that, in their opinion, the associated rebate with this measure did not justify the expenses incurred by the customer associated with implementing the measure and would like to see higher rebates for similar measures from the program in the future.

- **Recommendation:** Navigant recommends investigating customer satisfaction with systems project rebates in future evaluations and reviewing system projects rebate amounts accordingly.

1. Introduction to the Program

1.1 Program Description

The Nicor Gas Economic Redevelopment Program (ERP) offers financial incentives and technical assistance for energy efficiency projects, focusing on communities in need of economic redevelopment or projects that achieve a social benefit. The program assists owners of commercial, industrial, and multi-family buildings in deciding which energy efficiency measures to implement and financing those improvements. The primary objective of the ERP is to achieve annual net energy savings of 660,000 therms through qualified projects by the end of GPY3. A secondary objective is to promote economic redevelopment by reducing energy costs for businesses and organizations that are located in economically vulnerable areas or that create jobs, offer social services, or provide affordable housing.

The Wisconsin Energy Conservation Corporation (WECC) is the program administrator for the Nicor Gas Rider 30 Portfolio. Through a competitive-bid RFP process, The Energy Center of Wisconsin (ECW) was chosen as the implementation contractor for the ERP. ECW provides technical resources and customer support for participants. CNT Energy (a non-profit organization founded by the Center for Neighborhood Technology), located in Chicago, conducts marketing and outreach for the program, including recruiting qualified potential participants. The target audiences for outreach include chambers of commerce, economic development departments, building owners, architecture firms and contractors. Once potential participants send in their application, program staff determines which offerings are suitable for the project. After a project is accepted into the program, ECW becomes the primary customer contact for technical support through the project lifecycle.

The ERP program offers customers technical and enhanced financial resources to incent project teams to design and build projects that are more energy efficient than standard practice. The program seeks to build capacity and encourage adoption of energy efficiency measures and practices within target markets. The program offers greater incentives and resources than are typically available through other Nicor Gas programs because the program targets hard-to-reach markets. Projects accepted into the ERP program may qualify for the following services:

- **Technical Assistance Services** to provide capabilities that are not yet fully adopted in the market. Services may include facilitation in the design process, reviewing plans and construction documents, assisting with research and product selections, and analyzing lifetime energy savings.
- **Design Incentives** to the design team to help offset the costs of developing designs that provide as-built performance that is more energy efficient that standard practice designs.
- **Enhanced Energy Performance Incentives** to owners and developers to help reduce cost barriers to adopting electric and gas energy saving measures that have not yet been accepted as standard practice for construction.

Two types of incentive tracks, (1) systems and (2) comprehensive, are available to qualifying projects based on project need determined by program staff.

Under the systems track, the ERP program provides technical support and enhanced financial resources for specific measures, such as HVAC measures or water heating measures. In some cases, the program may provide technical or financial resources through the systems track for more complex projects that are further along in the project lifecycle. Incentives for specific technologies are based upon potential energy savings and depend upon equipment size and efficiency. The ERP program generally offers fewer technical resources to projects in the systems track due to the limited scope of influence available in these projects.

Under the comprehensive track, the ERP program promotes integrated design solutions, providing projects with flexibility to meet program energy performance goals through the most cost-effective means. The comprehensive track is generally reserved for projects that are larger than 50,000 square feet and are early in the design process. Comprehensive track projects enable the ERP program to influence project design and construction through technical resources (such as whole-building energy modeling) and/or financial incentives. Once the design team and ERP program staff finalize the measures that the design team intends to incorporate into a project, the project owner or developer signs a Measure Incentive Agreement, and incentive funds are reserved for the project. After the project is substantially complete, the program verifies the installed measures by conducting a site inspection.

1.2 Evaluation Questions

The program evaluation was designed to answer the following key researchable questions over the course of the program's three-year implementation. Navigant will address some evaluation questions *(designated in italics)* in future evaluation reports because the ERP program had limited projects complete the program in GPY1.

1.2.1 Impact Questions

1. What was the level of gross annual energy (therm) savings induced by the program?
2. *What were the net impacts from the program?*
3. *What was the level of free ridership associated with this program and how could it have been reduced?*
4. *What was the level of spillover associated with this program?*
5. Did the program meet its therm savings goal? If not, why not?
6. Were the assumptions and calculations in compliance with standard engineering best practices? If not, what changes were required?
7. What were the program benefits, costs, and cost effectiveness?

1.2.2 Process Questions

1. Was this program's eligibility criteria clearly defined, or did it need additional detail?
2. How could the program tailor its implementation and outreach activities to increase recruitment into the program during or before the project design phase?
3. What percentage of program projects were "comprehensive" projects and what percentage were "systems" projects?
4. *Did the program's current structure enable participants to engage in comprehensive projects if they would not have otherwise done so?*

5. What were the sources of program awareness for "hard to reach customers" and how did the program implement marketing and outreach activities to engage these target markets?
6. Were customers and program partners satisfied with the program?
7. How effective were program design and processes? What opportunities exist for program improvement?
8. *Did participating projects create market effects? If so, what were they? What were the most effective methods for the program to track and measure market effects from projects?*
9. *How was the program preparing for the adoption of IECC 2012 as the new commercial energy code in Illinois?*

2. Evaluation Methods

2.1 *Primary Data Collection*

2.1.1 Data Collection Methods

Navigant's data collection methods for this evaluation are summarized in Table 2.

Table 2-1. Primary Data Collection

Method	Subject	Quantity	Date	Gross Impacts	Net Impacts	Process
Telephone Interview	Program Administrator, Implementation Contractors	2	May 2012	X		X
Telephone Interview	Program Participant	1	October 2012	X		X
Engineering File Review	Completed Projects	1	July 2012	X	X	
File review	Projects in Progress	3	July 2012			X
Program Tracking Database Review	Tracking System	1	September 2012	X		X
Program Documentation Review	Operations, Marketing	All	May - September 2012			X

Source: Navigant

2.1.2 Sampling

One systems project qualified for a completion incentive in GPY1. Navigant conducted an engineering review of this project, achieving a census for this program evaluation.

2.2 *Impact Evaluation Methods*

2.2.1 Gross Savings Approach

For the impact evaluation, Navigant evaluated gross savings by reviewing the program tracking database and conducting an engineering file review of the systems project that qualified for a completion incentive. Navigant's engineering file review included the following steps:

- Verify if customer completed, signed and submitted required documentation
- Verify that the proposed project qualifies for the program

- Verify that the program adequately documented the basis for establishing the project's baseline, the algorithm used, and input assumptions to determine the project's estimated energy savings
- Verify that adequate proof of project completion exists in the project file, such as equipment invoices, purchase order, or documentation of verification through site inspection
- Verify that inputs to the program tracking system were consistent with those found in the project file

2.2.2 Net Savings Approach

The NTG Framework allows for the NTG to be established prospectively if *"the savings and benefits of the program are not sufficient to devote evaluation resources necessary to better estimate a NTG ratio."*[4] The EM&V team determined this was appropriate for GPY1 for the ERP program and so did not independently estimate the NTG ratio. Navigant determined that the associated savings and benefits with the one systems project completed in GPY1 were not sufficient to devote the evaluation resources necessary to better estimate a NTG ratio. Navigant applied the program planned Net-to-Gross (NTG) ratio of 0.8 per the NTG Framework[5], resulting in an Evaluation Research Findings Net Savings of 714.4 therms.

2.3 Process Evaluation Methods

Navigant obtained information for the process evaluation from telephone interviews with ERP program team (including representatives of WECC, ECW and CNT Energy) to gain a complete understanding of program goals and processes. Navigant interviewed a representative from the systems project that qualified for a completion incentive in GPY1 to verify information in the project file and to gauge the customer's satisfaction with the ERP program. Navigant reviewed three project files for projects currently in progress to gain a better understanding of how the ERP program provides technical resources to comprehensive projects.

Navigant reviewed program documentation, including the ERP Operations Manual, program marketing and outreach materials, and the program's customer application and other program participation materials. A complete list of documents reviewed and survey instruments are included in Section 5of this report.

[4] "Proposed Framework for Counting Net Savings in Illinois." Memorandum March 12, 2010 from Philip Mosenthal, OEI, and Susan Hedman, OAG. "*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[4] — 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. Deeming a NTG ratio prospectively, may be appropriate if: the program design and market are understood well enough to reasonably accurately estimate an initial NTG (e.g. based on evaluation programs elsewhere); or it is determined that the savings and benefits of the program are not sufficient to devote the evaluation resources necessary to better estimate a NTG ratio.*"

[5] Nicor Monthly Report – PY1_2012 May.xlsm

3. Evaluation Results

3.1 Impact Evaluation Results

3.1.1 Verification and Due Diligence Procedure Review

Navigant reviewed the ERP Operations Manual and other relevant program documents. The Operations Manual includes policies and procedures that generally meet or exceed minimum standards set forth in the program's scope of work. Based on Navigant's review, it appears that ERP program staff is complying with the policies and procedures set forth in the program's Operations Manual. The ERP program's quality assurance and verification activities, as outlined in the program's Operations Manual, do not appear to require streamlining or simplification at this time. Navigant's Verification, Due Diligence and Tracking System Review memorandum (dated September 7, 2012) is included in Section 5.4 of this report.

Navigant compared the program's operations to the *Best Practices Self-Benchmarking Tool*[6] from the *National Energy Efficiency Best Practices Study* to conduct a benchmarking review Table 3-1 includes a summary of Navigant's findings for the Quality Control and Verification criteria.

Table 3-1. Quality Control and Verification Benchmarking

ID	Best Practice	Score
1	Develop inspection and verification procedures during the program design phase.	Meets best practice
2	Provide technical assistance to help applicants through the application process.	Meets best practice
3	Keep the application process and forms from being overly complex and costly to navigate while at the same time not being over-simplified.	Meets best practice
4	Develop a cadre of trade allies who can then assist customers through the process.	Meets best practice
5	Require pre- and post-inspections and commissioning for all large projects and projects with highly uncertain baseline conditions that significantly affect project savings.	Meets best practice
6	Conduct either in-program measurement or measurement through an impact evaluation on the very largest projects and those that contribute most to uncertainty in overall program savings.	Meets best practice

Source: Navigant Verification, Due Diligence and Tracking System Review Memorandum

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

3.1.2 Tracking System Review

Navigant reviewed the data fields and data inputs from a year-end spreadsheet report extracted from the ERP's tracking system. Overall, the program tracking system appears to contain sufficient information to enable accurate tracking of the program's activities and claimed savings. Key project outreach, marketing and communications activities are reported. Project metrics, including customer applications, estimated energy savings and reserved incentive amounts are included in the tracking system.

Navigant compared information found in our engineering file review for the systems project that qualified for a completion incentive in GPY1 with corresponding entries in the program tracking system. While the tracking system has the capability to track key program metrics, Navigant found that there were some missing data entry fields from the project file that would be helpful to include in the program tracking system. For example, while the project file included information about the project's baseline and replacement equipment specifications, Navigant did not find corresponding information in the program tracking system. Additionally, while the program provided photos of the installed equipment as proof of installation, the program tracking system did not include documents that provided proof of purchase (e.g. purchase order or invoice) for the qualified equipment. Navigant included recommendations to add data entry fields in the program tracking system in Section 4.

Navigant compared the program's operations to the *Best Practices Self-Benchmarking Tool*[7] from the *National Energy Efficiency Best Practices Study* to conduct a benchmarking review. Table 3-2 includes a summary of Navigant's findings for the Reporting and Tracking Benchmarking criteria.

Table 3-2. Reporting and Tracking Benchmarking

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.	Meets best practice
4	Integrate or link with other appropriate systems such as cross-program databases, customer information systems (CIS) and marketing or customer relationship management (CRM) systems.	Meets best practice
5	Verify accuracy of rebates, coupons, invoices to ensure the reporting system is recording actual product installations by target market.	Needs some improvement

Source: Navigant Verification, Due Diligence and Tracking System Review Memorandum

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

3.1.3 Gross Program Impact Parameter Estimates

The program staff appropriately used the ERP Systems Track Template to calculate annual energy savings for the systems project that qualified for a completion incentive in GPY1. This section includes the algorithm and input parameters used to estimate gross energy savings for the project. Figure 3-1 describes the methodology used by the ERP program to calculate savings for the completed GPY1 systems project.

Figure 3-1. ERP Systems Track Algorithm for Water Heater Replacement[8]

$$\begin{aligned} &Annual\ Natural\ Gas\ Savings\ [therms] \\ &= Water\ Heater\ Input\ Capacty\ \left[\frac{Mbtu}{hr}\right] * Capacity\ Factor\ by\ Building\ Type \\ &* EFLH\ \left[\frac{hrs}{yr}\right] * 0.01\ [\frac{therms}{Mbtu}] * Existing\ Water\ Heater\ Efficiency \\ &* (New\ Water\ Heater\ Efficiency - Existing\ Water\ Heater\ Efficiency) \\ &* (\frac{1}{Oversizing\ Factor}) \end{aligned}$$

Source: ERP Systems Track Template

The ERP program used the following inputs for the project, summarized in Table 3-3:

Table 3-3. Inputs to Energy Savings Algorithm of Completed GPY1 Project

Input	Units	Input Value	Input Source
Water Heater Input Capacity	Mbtu/hr	200	Water heater specifications
Capacity Factor by Building Type	%	35%	ASHRAE 90.1-2010 User's Manual page G44, Multifamily building type
Equivalent Full Load Hours (EFLH)	Hours/year	8760	Program assumption
Conversion Factor	Therms/Mbtu	0.01	Conversion Factor
Existing Water Heater Efficiency	EF	70%	Program assumption
New Water Heater Efficiency	EF	96%	Water heater specifications
Oversizing Factor	N/A	1.25	Program assumption

Source: Navigant analysis of ERP Project File

3.1.4 Gross Program Impact Results

Using the Systems Track Template algorithm and inputs described above, the ERP program reported Ex-Ante Gross Savings of 893.0 therms for the systems project that qualified for a completion incentive in GPY1. Navigant was able to replicate the project impacts using the ERP template and inputs and therefore assigned a 100% realization rate to the Ex-Ante Gross Savings.

[8] Algorithm replicated from Systems Track Template Nicor ER v1.xlsx

3.1.5 Net Program Impact Parameter Estimates

As indicated in Section 2, Navigant determined that the associated savings and benefits with the one systems project completed in GPY1 were not sufficient to devote the evaluation resources necessary to better estimate a NTG ratio. The NTG Framework[9] allows for the NTG to be established prospectively if *"the savings and benefits of the program are not sufficient to devote evaluation resources necessary to better estimate a NTG ratio."*

3.1.6 Net Program Impact Results

The ERP program reported Ex-Ante Net savings impacts of 893.0 therms in GPY1. Navigant did not conduct a free ridership or spillover analysis for the program. Navigant applied the program planned Net-to-Gross (NTG) ratio of 0.8 per the NTG Framework[10], resulting in an Evaluation Research Findings Net Savings of 714.4 therms.

[9] Proposed Framework for Counting Net Savings in Illinois." Memorandum March 12, 2010 from Philip Mosenthal, OEI, and Susan Hedman, OAG. "*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[9] — 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. Deeming a NTG ratio prospectively, may be appropriate if: the program design and market are understood well enough to reasonably accurately estimate an initial NTG (e.g. based on evaluation programs elsewhere); or it is determined that the savings and benefits of the program are not sufficient to devote the evaluation resources necessary to better estimate a NTG ratio."*

[10] Nicor Monthly Report – PY1_2012 May.xlsm

3.1.7 Key Performance Indicators Results

Table 3-4 summarizes the Key Performance Indicators based on the outputs specified in the Program Theory and Logic Model included in Section 5.6.

Table 3-4. Key Performance Indicators Based on Program Outputs

Key Performance Indicator	Outputs	Findings
Number of comprehensive projects that receive technical support	Technical support	20/20 projects in GPY1 are designated as receiving technical support through the comprehensive track in the program tracking database
Documented influence of the program on comprehensive projects	Technical support	Information not available in GPY1
Number of systems projects that receive technical support	Technical support	5/5 projects are designated as receiving technical support through the systems track in the program tracking database[11]
Number and type of design incentives paid by the program	Design incentives	No design incentives were paid by the program in GPY1
Number and type of measure incentives paid by the program	Measure incentives	The program paid one systems project incentive in GPY1

Source: Program Theory and Logic Model Memo and Navigant Analysis

[11] Two projects in the technical assistance process step have been accepted into the program in PY1 but have not yet been designated as systems or comprehensive or have not been updated in the "Nicor Gas PY1 Final ERP Report 2012 06 04.xlsx" tracking database.

Table 3-5 summarizes the Key Performance Indicators based on the immediate outcomes specified in the Program Theory and Logic Model included in Section 5.6.

Table 3-5 indicates that the ERP program had 125 attendees at educational workshops, including 25 contractors attending the Midwest Energy Efficiency Alliance Building Operator Certification (MEEA BOC) meeting and 100 representatives from municipalities, chambers of commerce, and economic redevelopment departments attending the Chicago Southland Economic Development Corporation Quarterly Meeting. The four program training events co-sponsored by key stakeholders include Chicago Southland Economic Development Corporation Quarterly Meeting, Interfaith Green Network – EE Programs, ITIA 2012 Spring Conference, and MEEA BOC Meeting.

Table 3-5. Key Performance Indicators Based on Immediate Program Outcomes

Key Performance Indicator	Immediate Outcomes	Findings
Number of attendees at educational workshops	Increased program awareness and knowledge of energy efficiency in target markets	125 attendees attended educational workshops
Number of program training events co-sponsored by key stakeholders	Key stakeholders promote the program	Four program training events were co-sponsored by key stakeholders
Number of key stakeholder communications that include ERP program information	Key stakeholders promote the program	12 unique communication methods to key stakeholders included ERP information
Number of unique entities submitting leads for eligible projects	Key stakeholders promote the program	69 unique entities were identified in the ERP tracking system as submitting leads for eligible projects
Number of referred projects accepted to program	Key stakeholders promote the program	Information not available in GPY1

Source: Program Theory and Logic Model Memo and Navigant Analysis

Table 3-6 summarizes the Key Performance Indicators based on the intermediate outcomes specified in the Program Theory and Logic Model included in Section 5.6.

Table 3-6. Key Performance Indicators Based on Intermediate Program Outcomes

Key Performance Indicator	Intermediate Outcomes	Findings
Number of participating projects recruited by design phase (e.g. conceptual, schematic, early design)	Program recruits customers early in project design phase	Information not available in GPY1
Average energy savings per completed comprehensive project (as designed)	Program recruits customers early in project design phase	Information not available in GPY1
Number of participating projects increases each year	Increased program participation	Information not available in GPY1
Number of comprehensive projects increases	Increased program participation	Information not available in GPY1

Source: Program Theory and Logic Model Memo and Navigant Analysis

Table 3-7 summarizes the Key Performance Indicators based on the ultimate outcomes specified in the Program Theory and Logic Model included in Section 5.6.

Table 3-7. Key Performance Indicators Based on Ultimate Program Outcomes

Key Performance Indicator	Ultimate Outcomes	Findings
Energy savings attributed to the program	Program achieves long term energy savings and participation goals	The ERP program reported 5% of its GPY1 energy savings goal (893.0/17,117 therms). However, program tracking includes approx. 66% of its GPY2 energy savings goal (250,836/379,070) therms in the program pipeline as of the end of GPY1
Number of participating projects in target markets	Program contributes to economic development and market transformation	All 27 applications received in GPY1 were classified as "community benefits" or "economic redevelopment zones"
Financial value of participating projects in target markets	Program contributes to economic development and market transformation	Information not available in GPY1
Estimated number of construction jobs created by participating projects in target markets	Program contributes to economic development and market transformation	Information not available in GPY1
Estimated number of non-construction jobs created by participating projects in target markets	Program contributes to economic development and market transformation	Information not available in GPY1
Estimated number of affordable housing units developed by participating projects in target markets	Program contributes to economic development and market transformation	Information not available in GPY1

Source: Program Theory and Logic Model Memo and Navigant Analysis

3.2 *Process Evaluation Results*

Navigant performed a process evaluation to answer the process questions presented in Section 1.2.2 through telephone interviews and review of program and project documentation.

1. Was this program's eligibility criteria clearly defined, or did it need additional detail?

   The Project Acceptance Guidelines, found in the Operations Manual, appear to provide reasonable program eligibility criteria.

2. How could the program tailor its implementation and outreach activities to increase recruitment into the program during or before the project design phase?

   The program successfully recruited 20 comprehensive projects in GPY1. The program appears to be recruiting projects early enough to qualify for comprehensive project acceptance. At this time, no improvement is needed. Navigant will include additional comments in future evaluations.

3. What percentage of program projects were "comprehensive" projects and what percentage were "systems" projects?

   In GPY1, the ERP program received 27 applications. One systems project qualified for a completion incentive in GPY1. One project was cancelled. The ERP program reports six systems projects (23%) and twenty comprehensive projects (77%) within the remaining projects in the program's pipeline.

4. *Did the program's current structure enable participants to engage in comprehensive projects if they would not have otherwise done so?*

   Not addressed in GPY1

5. What were the sources of program awareness for "hard to reach customers" and how did the program implement marketing and outreach activities to engage these target markets?

   The ERP program conducted marketing and outreach activities directed toward economic redevelopment agencies, municipalities and mission-driven organizations to engage target markets. The representative from the systems project that qualified for a completion incentive in GPY1 reported learning about the program through CNT Energy, the program's marketing and outreach contractor.

6. Were customers and program partners satisfied with the program?

   Navigant interviewed a representative from the systems project that qualified for a completion incentive in GPY1. The representative indicated high levels of customer satisfaction with the ERP program's technical resources and customer service. The

customer reported that, in their opinion, the associated rebate with this measure did not justify the expenses incurred by the customer associated with implementing the measure and that they would like to see higher rebates for similar measures from the program in the future.

7. How effective were program design and processes? What opportunities exist for program improvement?

   The ERP program overall appears to be designed in an effective manner with logical program processes and activities to promote the program's goals. Navigant's review of the ERP program's Operations Manual found that the document provides detailed quality assurance and quality control standards for the program to administer technical resources and financial incentives to qualified customers. In addition, the program implementation contractors report that they have established an effective collaboration to meet the program's requirements.

   Navigant will provide additional feedback on program design and processes as additional projects qualify for completion incentives.

   Navigant found potential opportunities for program improvement in the project file review and tracking system review. Our recommendations are included in Section 4.

8. *Did participating projects create market effects? If so, what were they? What were the most effective methods for the program to track and measure market effects from projects?*

   Not addressed in GPY1

9. *How was the program preparing for the adoption of IECC 2012 as the new commercial energy code in Illinois?*

   Not addressed in GPY1

4. Findings and Recommendations

4.1 Key Impact Findings and Recommendations

Finding: The ERP program began implementation in January 2012. In GPY1, the ERP program recruited 27 projects[12], including 20 comprehensive projects. Many of the projects initially recruited by the ERP program were still in progress at the end of GPY1, including 26 projects with estimated gross annual energy savings of 250,836 therms[13], amounting to 66 percent of the program's GPY2 gross energy savings goals of 379,070 therms.

Finding: The program reported Ex-Ante Gross Savings of 893.0 therms from one systems project that qualified for completion incentives in GPY1, achieving 5 percent of its GPY1 gross energy savings goal of 17,117 therms. Navigant applied the program planned Net-to-Gross (NTG) ratio of 0.8 per the NTG Framework[14], resulting in an Evaluation Research Findings Net Savings of 714.4 therms. Table 4-1 presents GPY1 program impacts.

Table 4-1. Nicor Gas GPY1 Economic Redevelopment Program Impacts

Savings Estimates	Energy Savings (Therms)
Ex-Ante Gross Savings	893.0
Ex-Ante Net Savings	893.0
Evaluation Research Findings Gross Savings	893.0
Evaluation Research Findings Net Savings	714.4

Source: Navigant analysis of program tracking system and file review

- **Recommendation:** No improvements needed.

Finding: The program Operations Manual doesn't include guidance or definitions for when a site inspection should occur, other than when a project is "substantially complete."

- **Recommendation:** Navigant recommends that program staff consider establishing criteria for conducting site inspections for projects during the construction process and incorporate the criteria into the Operations Manual. Examples of projects that might require multiple site visits to mark project milestones and document project compliance could include: 1) projects with a large amount of energy savings, 2) projects with a high level of uncertainty for construction-related measure implementation or 3) projects with a first-time participant.

[12] Does not include one project that submitted its application in PY2

[13] Includes one project still under review with a savings estimate of 5828 therms

[14] Nicor Monthly Report – PY1_2012 May.xlsm

Finding: The project file selected for engineering review was missing documentation for some factors that may influence energy savings estimates, including baseline efficiency, equipment load profile and schedule, equivalent full load hours of the operating climate zone, replacement specifications and proof of purchase of the equipment.

- **Recommendation:** Navigant recommends that the ERP program develop a project file checklist with important documentation for each project file and add a data field to the program tracking database that indicates whether or not a project file checklist has been completed. The purpose of the project file checklist would be to include consistent documentation for participating projects, including important information relating to engineering assumptions and other factors that may influence energy savings estimates, as indicated in the finding above.

Finding: The ERP program's Systems Project template uses a different algorithm for a water heating system replacement than a similar measure found in the Illinois TRM[15].

- **Recommendation:** Navigant recommends that the ERP program review TRM algorithms and assumptions for consistency in estimating annual energy savings. The ERP program should conduct a periodic review of applicable Illinois TRM values and algorithms for compliance with standard engineering best practices.

4.2 Key Process Findings and Recommendations

Finding: The ERP program's implementation contractors appear to have a clear understanding of their roles and responsibilities and comprise a well-qualified team that understands their roles and responsibilities in order to successfully implement this program.

- **Recommendation:** No improvements needed.

Finding: The ERP program reported marketing and outreach to 69 unique contacts within the program's target markets. Additionally, the program appeared in 12 unique marketing efforts with program partners.

- **Recommendation:** Consider including specific goals and metrics for ERP program marketing and outreach efforts, such as number of attendees at workshops, number of unique contacts or other metrics.

Finding: The participating customer interviewed by Navigant for this evaluation report displayed a high level of customer satisfaction about the technical assistance services and customer service provided by the program. The customer reported that, in their opinion, the associated rebate with this measure did not justify the expenses incurred by the customer associated with implementing the measure and that they would like to see higher rebates for similar measures from the program in the future.

[15] State of Illinois Energy Efficiency Technical Reference Manual, Final version, September 14, 2012, effective June 1, 2012. Section 7.4.2: Gas Water Heaters.

Recommendation: Navigant recommends investigating customer satisfaction with systems project rebates in future evaluations and reviewing system projects rebate amounts accordingly.

5. Appendix

5.1 Glossary

Gas Program Year 1 (GPY1) - June 1, 2011 to May 31, 2012
Ex-Ante Gross Savings – Energy savings as recorded by the program tracking system, unadjusted by realization rates, free ridership, or spillover
Ex-Ante Net Savings – 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
Evaluation-Verified Gross Savings – Gross program energy savings after applying adjustments based on evaluation findings for only those items subject to verification review for the Verification Savings analysis.
Evaluation-Verified Gross Realization Rate – Verified gross savings divided by tracking system gross savings
Research Findings Gross Savings – Gross program savings after applying adjustments based on all evaluation findings
Research Findings Net Savings – Research findings gross savings times NTGR
Research Findings Gross Realization Rate – Research findings gross savings divided by ex-ante gross savings
Net-to-Gross Ratio (NTGR) = 1 – Free-Ridership + Spillover

5.2 GPY1 Economic Redevelopment Program Documents Reviewed

Table 5-1 includes the ERP program documents reviewed by Navigant for this evaluation.

Table 5-1. GPY1 Nicor Gas Economic Redevelopment Documents Reviewed

Document Name	Document Date
ERP Operations Manual, Version 1	April 27, 2012
Tracking System, GPY1 Final ERP Report	June 4, 2012
"South Court" Project: Nicor Gas Economic Redevelopment Program Application	February 27, 2012
"South Court" Project: Water Heater Proposal from Galewood Mechanical Contractors, Inc.	March 15, 2012
"South Court" Project: Scope of Work Spreadsheet	March 21, 2012
"South Court" Project: Summary Report from ERP Staff	March 15, 2012
"South Court" Project: Site Verification Report	May 11, 2012
Systems Track Template Nicor ER v1 Spreadsheet Model	N/A
ER Project File: 415 S Taylor – ERP Analysis	March 16, 2012
ER Project File: Dynomax Incentive Report	March 1, 2012
ER Marketing Plan Summary Page (Powerpoint file)	N/A
Program Theory and Logic Model Memo	August 26, 2012
Verification, Due Diligence and Tracking System Review (VDDTSR) Memo	September 7, 2012
Nicor Gas ER Application Initiation Process Diagram	N/A
Nicor Gas ER Reservation Process Diagram	N/A
Nicor Gas ER Technical Assistance Process Diagram v2	N/A
Nicor Gas ER Verification Process Diagram	N/A
Energy Center of Wisconsin Scope of Work	December 21, 2010

Source: Navigant

5.3 GPY1 Ex-Ante Gross Savings Algorithm

The ERP program used the following algorithm to calculate energy savings from the systems project that completed in GPY1, which was a gas water heater replacement project. Figure 5-1 includes the algorithm.

Figure 5-1. ERP Systems Track Algorithm for Water Heater Replacement[16]

$$\begin{aligned} &Annual\ Natural\ Gas\ Savings\ [therms] \\ &= Water\ Heater\ Input\ Capacty\ \left[\frac{Mbtu}{hr}\right] * Capacity\ Factor\ by\ Building\ Type \\ &* EFLH\ \left[\frac{hrs}{yr}\right] * 0.01\ [\frac{therms}{Mbtu}] * Existing\ Water\ Heater\ Efficiency \\ &* (New\ Water\ Heater\ Efficiency - Existing\ Water\ Heater\ Efficiency) \\ &* (\frac{1}{Oversizing\ Factor}) \end{aligned}$$

Source: ERP Systems Track Template

The savings algorithm for the completed GPY1 project resulted in Ex-Ante Gross Energy Savings of 893 therms per year and used the following input values, summarized in Table 5-2.

Table 5-2. Inputs to Energy Savings Algorithm of Completed GPY1 Project

Input	Units	Input Value	Input Source
Water Heater Input Capacity	Mbtu/hr	200	Water heater specifications
Capacity Factor by Building Type	%	35%	ASHRAE 90.1-2010 User's Manual page G44, Multifamily building type
Equivalent Full Load Hours (EFLH)	Hours/year	8760	Assumes year-long operation
0.01	Therms/Mbtu	0.01	Conversion Factor
Existing Water Heater Efficiency	%	70%	Assumed baseline
New Water Heater Efficiency	%	96%	Water heater specifications
Oversizing Factor	N/A	1.25	Assumed

Source: Navigant analysis of ERP Systems Track Template

[16] Algorithm replicated from Systems Track Template Nicor ER v1.xlsx

5.4 Engineering File Review

Customer: **GPY1_1**

Project Status: **Systems**

Business Type: **Multifamily**

Project Type: **Water Heater System Replacement**

Engineering File Review Approach

Navigant used the following approach for engineering file reviews.

- Verify if customer completed, signed and submitted all required ERP documentation
- Verify the type of technical assistance provided by the ERP implementation contractor
- Verify baseline selection and if the proposed measure/project qualify for the program
- Verify baseline and gas savings methodology, algorithms, assumptions and cost calculation
- Verify invoices, equipment purchase, installation dates, and onsite inspections.
- Verify program tracking system

Documentation Review

- The participant completed, signed and submitted an application that included project and contact information, facility type, measures, the desired program assistance, the ERP project criteria, and the entity the project serves. Application dated February 27, 2012.
- Project file included adequate description of the baseline as the existing equipment with lower efficiency, upgraded with a new water heater system with higher efficiency.
- Project files included baseline and proposed equip specs collected from onsite visit including the make, model, serial #, photos, age of existing equip, measure efficiencies, and application.
- The onsite verification report adequately provided the project history, site inspection findings, savings and incentives calculation.
- The project file did not appear to include copies of an invoice or other proof of purchase, purchase/installation dates or records of the incentive payment to the customer. The ERP program provided photo documentation that the equipment was installed.

Review Savings/Cost Assumptions and Algorithm

- ERP program performed Systems Track analysis and upgraded 70% efficient boiler to 96% efficient modulating boiler and an insulated storage tank. Savings calculation applied ERP Systems Track Template to estimate therms savings and incentives.
- Baseline efficiency of 70 percent is stated assumption in project file. Project file indicates 8760 annual hours of use.
- Navigant did not find information in the project file about the equipment operating load or equivalent full load hours (EFLH) in the operating climate zone.
- Navigant did not find documentation in the project file about project cost assumptions, invoices or other proof of purchase.

- Navigant was able to replicate first year savings estimates based on project inputs using ERP systems track template. Savings claim of 893 therms is reasonable based on the current assumptions. Project adequately applied the incentive offering ($2.75/MBH for multifamily) to achieve the approved $550 incentive.

Comments/Recommendations:

- ERP program should consider whether to incorporate Illinois TRM algorithms and assumptions in Systems Track template for measures where the TRM is applicable (e.g. water heater systems).
- ERP Program should document whether equipment load profile and schedules and equivalent full load hours EFLH were factored into input assumptions in project file. Navigant found that the Illinois TRM uses EFLH for similar measures.
- Recommend that ERP program include documentation of project cost and installation date(s), including invoice or other proof of purchase, in project file.

5.5 *Verification, Due Diligence and Tracking System Review (VDDTSR) Memo*

TO: **James Jerozal, Dan Rourke; Nicor Gas**
Scott Dimetrosky, Apex Analytics LLC

CC: **David Brightwell, Jennifer Hinman; Illinois Commerce Commission Staff**
Randy Gunn, Julianne Meurice, Laura Agapay; Navigant

FR: **Josh Arnold, Charles Ampong and Tim Stanton; Navigant**

DA: **September 7, 2012 (REVISED October 26, 2012)**

RE: **Nicor Gas Economic Redevelopment Program**
GPY1 Verification, Due Diligence and Tracking System Review

The purpose of this document is to provide the findings and recommendations from Navigant's Verification, Due Diligence and Tracking System Review of the Nicor Gas Program Year One (GPY1) Economic Redevelopment Program (ERP). The ERP program offers financial incentives and technical assistance to projects in target markets, such as economic development zones, and to projects with significant community benefits, such as affordable housing. In GPY1, the ERP program was implemented by the Energy Center of Wisconsin (ECW) and CNT Energy. The Wisconsin Energy Conservation Corporation (WECC) administers this program on behalf of Nicor Gas.

The primary purpose of Navigant's review was to determine:

- Whether project eligibility criteria have been properly adhered to and backed with supporting documentation;
- Whether savings were calculated correctly and project information entered in an accurate and timely manner in the program tracking system;
- If key quality assurance and verification activities were adequately implemented; and
- If any quality assurance and verification activities may be streamlined or simplified.

Overview of Findings

Verification and Due Diligence

In GPY1, the ERP program received 27 applications. One systems project was completed and received payment during the program year. Navigant reviewed the ERP program Operations Manual and other relevant program documents. The Operations Manual includes policies and procedures that generally meet or exceed standards set forth in the program's scope of work. The ERP program's quality

assurance and verification activities, as outlined in the program's Operations Manual, do not appear to require streamlining or simplification at this time.

As additional ERP program projects are completed in future years, Navigant may include additional review and comments on whether the program staff are applying criteria for project eligibility and collecting sufficient supporting documentation to establish program influence through technical support and financial incentives.

Reporting and Tracking

- The program's tracking system is based on a SalesForce CRM platform that appears able to capture the requisite information necessary to accurately track the program's actions. At this time, program's current tracking system appears to be sufficient to meet reporting and tracking requirements. As additional ERP program projects are completed in future years, Navigant may include additional review and comments on the program's reporting and tracking performance.

- The program's Operations Manual indicates that an on-site inspection would occur when a project is "substantially complete." Navigant notes that program staff may want to consider establishing criteria for making additional site visits when warranted, such as the amount of energy savings from a project, level of uncertainty for construction-related measure implementation or with a new customer.

- Navigant reviewed a GPY1 project file for a completed systems project that did not appear to have project invoices or purchase orders as proof of purchase. Program staff sent photos of the installed equipment as proof of installation.

Summary of Recommendations

Due to limited program participation in GPY1, Navigant has limited our recommendations to the ERP program's reporting and tracking system. Navigant will include additional recommendations as more projects are completed in future years.

Reporting and Tracking

- Navigant recommends that the program staff consider reviewing the current tracking system fields for completeness. For example, based on our initial review, it did not appear that the program's tracking system included specifications for both baseline and replacement measures and pre- and post-installation inspection findings.
- Navigant recommends that program staff consider establishing criteria for conducting additional on-site inspections for projects during the construction process, as necessary. Examples may include projects with a large amount of energy savings, a high level of uncertainty for construction-related measure implementation or with a new customer.
- Navigant recommends that program staff review project files to verify that customer invoices and/or purchase orders are included in the files.

- As additional projects are completed, Navigant recommends that program staff review data inputs to the program' tracking system to provide sufficient evidence of program influence to claim energy savings. This approach could also assist in accelerating early feedback and help avoid significant adjustment during the program impact verification and evaluation.

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:

- Program Staff interviews
- Program Documentation Review
- Review of Program Operating Procedures
- Project File Engineering Desk Review
- Review of Program Tracking System
- Comparison of Program Activities and Materials to National Best Practices

Program Staff Interviews
Navigant conducted a telephone interview with representatives from ECW, CNT Energy and WECC to review the program's accomplishments and challenges to date. The telephone interview included prepared questions on such topics as program administration, program outreach and marketing, program delivery mechanisms, customer satisfaction, and implementation challenges. Additionally, Navigant conducted individual follow-up telephone interviews with program staff.

Program Documentation Review
Navigant reviewed the ERP program's Operating Plan[17], Operations Manual[18], Implementation Scope of Work[19], and Nicor Gas Compliance Filling[20]. Other materials reviewed included the program tracking database (dated on 6/4/2012), Applications Forms, Incentive and Design Agreement Forms, marketing and outreach activities and monthly program delivery report. The ERP program's Operations Manual and Implementation Scope of Work appear to adequately describe program key performance indicators. The ERP program's Operations Manual outlines how to verify project eligibility, review project application, provide technical assistance, reserve and process incentives, and conduct onsite verification and incentive payment.

Navigant reviewed the ERP program's Application Forms and the Measure and Design Incentive Agreement Forms. These materials are made available through the Nicor Gas website or from program staff to interested program participants. The project information required in the Application Form includes contact information of the program participant, project team (including architect, engineers, contractors or others), a description of the project area, design and construction start and completion dates, account and meter numbers, facility type, measures to be installed, desired program assistance,

17 Nicor Gas Rider 30 EEP Program Portfolio Operating Plan (Version 1.1)
18 SOP_Manual_Version_1.0_FINAL_compressed.pdf
19 Nicor Gas Economic Redevelopment Program – Implementation Scope of Work (SOW22DEC2011_Partial.pdf)
20 Nicor Gas EEP 2011-2014 Revised Plan Filed Pursuant to Order Docket No. 10-0562 (May 24, 2011)

and the current project specifications. The ERP program's Application Forms and Measure and Design Incentive Agreement Forms appear to be organized to capture essential information required in order for the program to engage project teams and access project information to provide technical services to customers.

Navigant may include additional review and comments on the program's application forms as additional projects complete the ERP program in future years.

Review of Program Operating Procedures and Tracking System
Navigant examined the ERP program's operating procedures as outlined in the program Operations Manual. The following process flows of the operating procedures are provided in the program's Operations Manual:

- Application Initiation
- Technical Assistance
- Incentive Reservation
- Project Verification
- Incentive Payment

Application Initiation
The program staff determines project eligibility, based on the Project Acceptance Guidelines found in the program's Operations Manual. In some cases program staff may assist potential participants with completing their program application. Upon project approval, the project is considered for potential technical assistance. If a project does not qualify for the ERP program, the project may be referred to another Nicor Gas program or other program, such as those sponsored by ComEd or Illinois Department of Commerce and Economic Opportunity (DCEO).

Technical Assistance
Projects accepted into the program receive technical assistance to determine potential energy savings and corresponding incentives. Technical assistance is provided through two program tracks (Systems or Comprehensive) based upon the nature and complexity of the project and energy efficiency measures.

Under the Systems Track, technical assistance is based on project need including recommendations for measure upgrade, identification of multiple system savings resulting from a system or technology upgrade, or preliminary estimate of savings and incentive levels (included on Measure Incentive Agreement) developed through spreadsheet analysis of project information provided.

Under the Comprehensive Track, technical assistance is determined by program staff based on individual project need. Technical assistance may include such services as: energy modeling, measure recommendations provided to owner/design team, and savings and incentives estimates. Program staff may participate in project design meetings to provide input or present recommendations.

Incentive Reservation

The program staff develops a Measure Incentive Agreement that indicates the measures that will receive incentives from the program if they are ultimately incorporated into a project. Incentives are estimated until the project is verified upon completion. The program reserves incentive funds for a project upon receiving a signed Measure Incentive Agreement from the participant.

Project Verification
The ERP program Operations Manual directs program staff to actively communicate with participating customers for status updates and to determine a project's completion date. Navigant confirmed that program staff conducts this communication through telephone interviews with program staff. After the project is substantially complete, program staff conducts an onsite inspection to verify that measures in the Measure Incentive Agreement were installed as previously agreed. The program generates a site report with photos of the measures installed at the project. If necessary, the program staff may adjust the project's incentive to match the as-built results.

Incentive Payment
Upon completion of verification, a request is made to pay the Measure Incentives to the owner or developer. If a comprehensive project involved a design team, Design Incentives are processed for payment to the design team lead. The maximum funding per project is $300,000, subject to program manager discretion, or incentives are tiered based on achieved therms savings: (i) For System Track projects, incentives for the specific technologies are provided for up to $0.60/therm saved, based upon equipment size and performance; in the case for Comprehensive Track (ii) measure incentive of $0.60/therm saved (based on comparison to baseline) with a maximum of $300,000 per project; and (iii) design incentive of $0.05/therm saved (payable to the owner with recommended distribution to the design team). The program also seeks to identify incentives for electric utility programs and other known energy programs. Once payment of the incentives is approved by Nicor Gas, the project is closed out. Additionally, the final project files are uploaded to a central .ftp site for access to the evaluators, Nicor Gas, and program staff. From this database, savings and project status reports are generated and sent to Nicor Gas and key stakeholders.

Project File Engineering Desk Review
Navigant assessed the Systems and Comprehensive Track templates and reviewed the assumptions and algorithms used for estimating savings and incentive calculations. We verified that the assumptions and savings appear to be reasonable, and the calculated incentives are within program approved incentive offerings for the Systems and Comprehensive tracks. The ERP program also seeks to identify incentives for electric measures and other known sources. The program is coordinating with ComEd's Commercial New Construction and Commercial Prescriptive programs to access such incentives where feasible.

Navigant reviewed four project files, including three comprehensive projects currently enrolled in the program but had not yet completed the program and one systems track project that had completed the program. In GPY1, one project received an incentive payment through the Systems Track category for installing water heater measures. Based on our review, it appears that the program staff is collecting necessary documentation to establish project qualification and document program influence on the project.

Navigant found documentation in the project files including:

- Photos (showing before/after efficient measure and baseline condition/equipment)
- Program forms (Application, Project History, Incentive Agreements, Payment Request)
- Project correspondence folder (meetings, phone contacts and emails with participants and contractors)
- Projects plans and specifications (building drawings/scope, equipment specs, model, serial number, measure types, building envelop info, etc.)
- Technical assistance (baseline assumptions, installed measures, energy models, software used and modeler name, project milestones and communications, spreadsheet of energy analysis and summary reports)
- Verification (site visit report and other field inspection materials).

Navigant performed a brief engineering review of the energy analysis and modeling data for the for the four sample files reviewed. Navigant's initial verification indicates that the energy analysis algorithms and methodologies appear reasonable. Navigant may perform a more detailed engineering review in future evaluation efforts.

Navigant may include additional review and comments on program files as additional projects complete the ERP program in future years.

Reporting and Tracking

Navigant reviewed the data fields and data input into the ERP program SalesForce CRM tracking database (spreadsheet extracts from 6/4/2012). We compared information included in the tracking database with corresponding entries in the four sample project files to determine the accuracy of information documented in the tracking database. We found that overall, the program tracking database contains sufficient information to enable accurate tracking of the program's activities and claimed savings. Key project outreach, marketing, and communications, as well as program applicant metrics, milestones and therm savings are captured in the SalesForce CRM tracking database. Also included are the technical assistance projections, safety and complaint resolution records, and a summary spreadsheet for each project. Program reports are generated from this data.

Technical Assistance Services

Navigant reviewed the technical assistance services from the ERP program staff for design review, energy modeling, selection, installation and operations of energy- efficiency improvements measures. We verified that technical assistance is provided on two program tracks: (1) Systems or (2) Comprehensive, depending on the nature and complexity of the project and energy efficiency measures. Systems and Comprehensive tracks are defined in greater detail in the "Technical Assistance Process" section of this memo. Assignment of project track involves consideration of multiple criteria and judgment (outlined in the Operations Manual) to result in the best possible outcome for the customer and the program. Navigant reviewed the scoring category and the Criteria Worksheet that project team uses to identify potential community impacts that individual projects may offer. Our initial review found that program inputs and definitions appeared to be reasonable.

Navigant may include additional review and comments on the program's technical assistance activities as additional projects complete the ERP program in future years.

Benchmarking
Overall, the Nicor Gas ERP program has written procedures that meet many aspects of national best practices for similar programs. Navigant noted that the program has only been implemented for one year and there was limited project data to review. Therefore, Navigant may make additional comments and recommendations as additional projects complete the ERP program in future years.

To conduct the best practices benchmarking assessment, the evaluation team compared the program implementer's practices (shown in bulleted form) with the *Best Practices Self-Benchmarking Tool*[21] from the *National Energy Efficiency Best Practices Study*, which are the numbered items in *italic* font below.

Quality Control and Verification
Table 5-3 summarizes the scores as determined by the Self-Benchmarking Tool criteria in the "Quality Control and Verification" section.

Table 5-3. Quality Control and Verification Benchmarking

ID	Best Practice	Score
1	Develop inspection and verification procedures during the program design phase.	Meets best practice
2	Provide technical assistance to help applicants through the application process.	Meets best practice
3	Keep the application process and forms from being overly complex and costly to navigate while at the same time not being over-simplified.	Meets best practice
4	Develop a cadre of trade allies who can then assist customers through the process.	Meets best practice
5	Require pre- and post-inspections and commissioning for all large projects and projects with highly uncertain baseline conditions that significantly affect project savings.	Meets best practice
6	Conduct either in-program measurement or measurement through an impact evaluation on the very largest projects and those that contribute most to uncertainty in overall program savings.	Meets best practice

Source: Best Practices Self-Benchmarking Tool and Navigant analysis

1. *Develop inspection and verification procedures during the program design phase.*

- Meets best practice.
- Navigant reviewed the inspection and verification protocols detailed in the ERP program's Operations Manual and verified that the Operations Manual includes a thorough description of tasks and responsibilities related to inspection and verification. Navigant reviewed the Site Inspection Report from the Systems project that completed the program in GPY1 and compared

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

the Site Inspection Report with the protocols in the Operations Manual. Navigant concluded that the ERP program's inspection and verification procedures are sufficient based on our comparison of the Site Inspection Report and the Operations Manual.

2. *Provide technical assistance to help applicants through the application process.*

   - Meets best practice.
   - The ERP program uses multiple scoring categories and a criteria worksheet to identify potential community impacts that individual projects may offer.
   - Navigant reviewed the technical assistance guidelines found in the ERP program's Operations Manual and verified that the Operations Manual includes a detailed outline of methods by which the ERP program can provide technical assistance to eligible projects. Technical assistance can include such actions as supporting a project's application to the ERP program or other programs sponsored by Nicor Gas or other utilities. In some cases, the ERP program may also assist a project in applying for government-sponsored programs.

3. *Keep the application process and forms from being overly complex and costly to navigate while at the same time not being over-simplified.*

   - Meets best practice.
   - The ERP program participation procedures and documentation requirements appear to be reasonable at this time.

4. *Develop a cadre of trade allies who can then assist customers through the process.*

   - Meets best practice.
   - The ERP program staff is tasked with providing technical assistance to assist customers in the program. In addition, the ERP program has organized outreach activities to publicize the program to potential participants and trade allies by educating them about the program and providing them with information about how to help eligible customers potentially participate in the program.

5. *Require pre- and post-inspections and commissioning for all large projects and projects with highly uncertain baseline conditions that significantly affect project savings.*

   - Meets best practice.
   - The ERP program may perform pre-installation inspection prior to project approval based on the project scope and types of measures or level of technical assistant required. Post-installation inspections are required for all projects regardless of size or baseline conditions. The program may revise financial incentives based on as-built conditions found in the post-installation inspection.

6. *Conduct either in-program measurement or measurement through an impact evaluation on the very largest projects and those that contribute most to uncertainty in overall program savings.*

   - Meets best practice.

- The ERP program conducts measurement and verification for all projects to reconcile design-intent versus as-built conditions and adjusts financial incentives for projects based on estimated energy savings from as-built conditions.
- Navigant plans to conduct an impact evaluation as additional projects complete the ERP program in future years.

Reporting and Tracking Benchmarking

In order to evaluate the reporting and tracking procedures of the ERP program, Navigant compared their methods to best practices in the "Reporting and Tracking" section of the Self-Benchmarking Tool. Table 5-4 summarizes the scores as determined by the benchmarking criteria, and the bulleted list below provides additional descriptions of the chosen rating.

Table 5-4. Reporting and Tracking Benchmarking

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.	Meets best practice
4	Integrate or link with other appropriate systems such as cross-program databases, customer information systems (CIS) and marketing or customer relationship management (CRM) systems.	Meets best practice
5	Verify accuracy of rebates, coupons, invoices to ensure the reporting system is recording actual product installations by target market.	Needs some improvement

Source: Best Practices Self-Benchmarking Tool and Navigant analysis

1. *Define and identify key information needed to track and report early in the program development process*

- Meets best practice.
- The ERP program documents include detailed data requirements in the program's Operations Manual and application forms. Navigant reviewed the tracking and reporting procedures and they appear to be sufficient at this time.
- Navigant may include additional review and comments on the program's tracking and reporting mechanisms as additional projects complete the ERP program in future years.

2. *Use automated or otherwise regularly scheduled notification to achieve close monitoring and management of project progress.*

   - Meets best practice.
   - Navigant's review of the ERP Operations Manual indicates that the program staff is directed to actively communicate with projects to monitor their progress and address issues that arise. Navigant confirmed that ERP staff conducts this communication through telephone interviews with program staff.

3. *Design program tracking system to support the requirements of evaluators as well as program staff.*

   - Meets best practice.
   - The tracking system, as currently designed, appears to be sufficient to meet the evaluation team's needs.
   - Navigant may include additional comments on the program's tracking system as additional projects complete the ERP in future years.

4. *Integrate or link with other appropriate systems such as cross-program databases, customer information systems (CIS) and marketing or customer relationship management (CRM) systems*

   - Meets best practice.
   - The ERP program maintains customer information on a SalesForce CRM platform. This tracking system appears to be sufficient to enable the program to track customer information and manage customer relationships. Currently, the ERP database is not linked to other Nicor Gas programs.

5. *Verify accuracy of rebates, coupons, invoices to ensure the reporting system is recording actual product installations by target market*

   - Needs some improvement
   - The ERP Operations Manual includes detailed requirements for participants to submit to submit copies of all invoices or other reasonable documentation of the costs associated with purchasing the incentivized equipment as part of the program terms and conditions. In addition, participants are required to allow program staff to conduct pre- and post-installation inspections. The ERP's procedures appear to be reasonable at this time.
   - However, Navigant reviewed the project file for the project that completed the ERP in GPY1 and did not find copies of the project's invoices or purchase orders. The ERP team submitted photos of the installed equipment as proof of installation. While photos are helpful, Navigant also recommends including proof of purchase.

5.6 *Program Theory 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 Economic Redevelopment (ERP) program in these terms.

Program Goals
The goal of the ERP program is to produce natural gas energy savings by providing design incentives and measure incentives to owners and developers of qualifying economic redevelopment projects who would not have implemented energy efficiency measures in the absence of the program. The ERP program coordinates with electric utilities for projects that include electric energy savings measures. The program also seeks to influence participant behavior to build program awareness within participating target communities through its technical assistance services and education promoting the benefits of integrated design for eligible projects.

Motivating Conditions/Barriers
Potential barriers for the ERP program include a lack of awareness of/demand for energy efficiency opportunities through project design (e.g., integrated design), professionals and trade allies without capacity or resources to promote energy efficiency in target markets, cost barriers to promoting energy-efficient design, and cost barriers to implementing energy-efficient measures.

Target Audience
The target audiences for the ERP program include: building design and construction professionals, such as architecture, engineering firms, or contractors; local government agencies; economic redevelopment authorities; and Chambers of Commerce. Targeted projects include those in a TIF Zone or Enterprise Zone, or projects for a non-residential Nicor Gas customer that create a "positive community impact," such as a brownfield redevelopment or rehabilitation of a vacant structure.

Desired Actions/Behaviors
The ERP program seeks to recruit participants to achieve energy savings through the design and construction of energy-efficient projects (the "comprehensive" track) and the installation of energy-efficient replacement equipment (the "systems" track) in qualifying commercial and industrial properties. The ERP program promotes financial incentives and technical assistance to conduct outreach and education for target audiences. Additionally, the program promotes economic redevelopment for target audiences by reducing costs of energy consumption through financial incentives, technical support education, and outreach.

Strategies/Rationale
The main strategy of the ERP program is to conduct outreach to market actors to recruit potential customers into the program. Market actors may include architects, contractors, engineers, local government agencies, economic redevelopment authorities, and chambers of commerce. The ERP provides training and education to target audiences to increase program awareness and knowledge of energy-efficient design and construction at new facilities and system replacement projects for non-residential Nicor Gas customers. Projects may qualify for one of two tracks offered by the ERP program.

The 'comprehensive track' promotes the use of integrated design to the project team and includes design incentives and technical assistance to meet performance criteria through whole-building energy simulations. The 'systems track' provides measure incentives to meet performance criteria for building envelope improvements, natural gas-fired heating and ventilation, lighting power density and mechanical equipment. The program offers measure and design incentives and technical resources for customers based on each individual project with the goal of using program resources effectively to achieve energy savings and influence behavior.

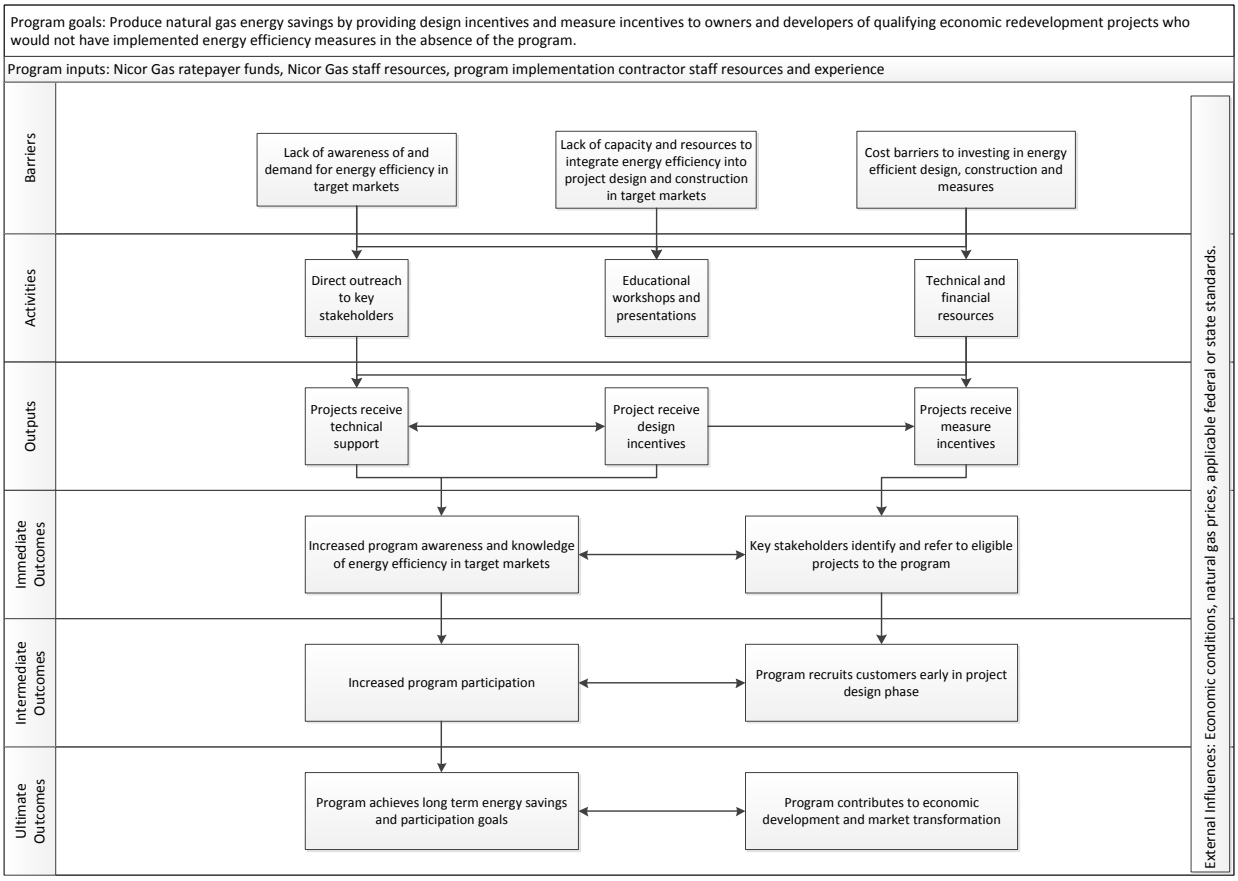
Messages/Communications Vehicles

The ERP program offers education opportunities and direct outreach to target customers. Communications vehicles include electronic materials located on the Nicor Gas and CNT Energy websites and distributed through email marketing, print materials delivered at education and training events, and direct outreach activities, such as presentations to target audiences or trade shows. Messaging focuses on the features and benefits offered through the program, including the program's technical support and financial incentives.

Program Logic Model

This section presents how the ERP program activities logically lead to desired program outcomes. Figure 5-2 presents the ERP 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.

Figure 5-2. Nicor Gas Economic Redevelopment Program Logic Model



Source: Navigant

The remainder of this chapter presents the resources, activities, outputs, outcomes, and associated measurement indicators associated with the ERP program.

Resources

The ability of the ERP 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 5-5.

Table 5-5. Program Resources

Program Inputs
• Nicor Gas ratepayer funds • Nicor Gas staff resources • Implementation contractor staff resources and experience
External Influences and Other Factors
• Economic conditions • Natural gas prices • Applicable federal and state standards

Source: Navigant

Activities

The purpose of the ERP program is to educate and provide technical support to eligible non-residential customers when designing and building energy-efficient new construction projects and installing energy-efficient replacement equipment. The program reaches eligible customers through activities designed to generate energy savings over the longer term, as outlined in Table 5-6.

Table 5-6. Program Activities

Direct outreach to key stakeholders
• Develop materials to market program to key stakeholders • Contact key stakeholders in target areas • Educate key stakeholders about ERP program and other Nicor Gas programs
Educational workshops and presentations
• Raise program awareness among workshop and presentation attendees • Offer technical support to comprehensive projects including integrated design, project design review and energy modeling for comprehensive projects • Educate target audiences to promote design and implementation of cost effective efficiency measures
Technical and financial resources to program participants
• Program provides technical support to build capacity in target markets • Program provides financial incentives to overcome cost barriers of energy-efficient design and construction in target markets

Source: Navigant

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 (Table 5-7) and outcomes (Table 5-8), taken directly from the logic model, and associated measurement indicators. For each indicator, a proposed data source or collection approach is presented.

Table 5-7. Program Outputs, Indicators and Data Sources

Outputs	Indicators	Data Sources
Technical support	Number of comprehensive projects that receive technical support Documented influence of the program on comprehensive projects Number of systems projects that receive technical support	Program tracking data Comprehensive project files Interviews with participating customers Interviews with program staff
Design incentives	Number and type of design incentives paid by the program	Program tracking data Interviews with program staff
Measure incentives	Number and type of measure incentives paid by the program	Program tracking data Interviews with program staff

Source: Navigant

Table 5-8. Program Outcomes

Outcomes	Key Performance Indicators	Data Sources
Immediate		
Increased program awareness and knowledge of energy efficiency in target markets	Number of attendees at educational workshops	Program tracking data Customer surveys from educational workshops Interviews with program participants Interviews with program staff
Key stakeholders promote the program	Number of program training events co-sponsored by key stakeholders Number of key stakeholder communications that include ERP program information Number of unique entities submitting leads for eligible projects Number of referred projects accepted to program	Program tracking data Comprehensive project files Interviews with program participants Interviews with key stakeholders Interviews with program staff
Intermediate		
Program recruits customers early in project design phase	Number of participating projects recruited by design phase (e.g. conceptual, schematic, early design) Average energy savings per completed comprehensive project (as designed)	Program tracking data Comprehensive project files Interviews with program participants Interviews with program staff
Increased program participation	Number of participating projects increases each year Number of comprehensive projects increases	Program tracking data Comprehensive project files Interviews with program participants Interviews with program staff
Ultimate		
Program achieves long term energy savings and participation goals	Energy savings attributed to the program Program participation	Program tracking data Comprehensive project files Interviews with program staff
Program contributes to economic development and market transformation	Number of participating projects in target markets Financial value of participating projects in target markets Estimated number of construction jobs created by participating projects in target markets Estimated number of non-construction jobs created by participating projects in target markets Estimated number of affordable housing units developed by participating projects in target markets	Program tracking data Project files Economic reports Market research Interviews with program participants Interviews with program stakeholders Interviews with program staff

Source: Navigant

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5.7 *Data Collection Instruments*

Nicor Gas
Program Implementation Contractor
In-Depth Interview Guide
April 17, 2012 FINAL

Name of Interviewee: _____ Date: _____

Title: _____ Company: _____

Role in Program: _____

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

Introduction

My name is ___ and I'm calling from Navigant Consulting, we are part of the team hired to conduct an evaluation of the _____program. We're conducting interviews with implementation contractors in order to improve our understanding of the program. At this time we are interested in asking you some questions about the _____ program. The questions will only take about an hour. Is this still a good time to talk? [IF NOT, SCHEDULE A CALL BACK.]

Roles and Responsibilities

1. Can you briefly summarize your role in the _____ Program: What are your main responsibilities? For how long have you carried these out, including the planning phase? Has your role changed over time?

2. Can you explain who is involved in the program implementation, and what their roles are? *[Probe for all significant actors with responsibility in program delivery including implementer, **account managers**, and program allies.]*

3. What other departments /Who is responsible for the program services?
   - Rebate Processing?
   - Manage Data? / Tracking Targets?
   - Planning and oversight

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

5. What are the formal and informal communication channels between these groups Do you feel information is shared in a timely manner?

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

Overall Goals and Objectives

7. According to the most recent monthly report, you are [ahead/behind] on GPY1 goals. Why do you think this is? Do you think you feel the GPY2 goals are realistic? Why or why not?

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

Marketing and Promotion

9. Please describe your program marketing campaign in your own words *[If necessary: Do marketing activities vary by prescriptive, custom, government/non-profit? By customer size?]*
   - What are the marketing channels that are used?
     - (bill inserts, TV, newspaper, radio, workshops, community events?)
   - How often does each activity occur?
   - Who is in charge of developing materials?
   - Who is in charge of marketing activities?
   - Do you have a written marketing plan?

10. Is there any additional marketing material that has not been provided on the SharePoint site? If so, can we arrange to get copies of marketing collateral you have used?

11. Do you anticipate making any changes to marketing efforts for GPY2 (starting June 1 2012)? If so, please describe these changes.

Trade Allies

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

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

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

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

16. What kind of training is provided to them as part of the registration process? What role do they have in marketing the program(s)? What kind of support, if any, is provided to them for marketing the program(s) to their customers?
17. Have allies requested any other types of support/collateral, etc. If so, what have they requested and how are you responding to their requests?

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

Program Participation

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

19. Could you briefly describe the process for participation in the program(s) from the customer perspective?
    Questions include:
    a. Who drives participation: customer, trade ally, account managers?
    b. Are customers submitting pre-approval applications even when not required?
    c. Role of utility account managers and customer service?

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

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

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

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

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

Incentives

25. What do you perceive to be the level of satisfaction among program participants with the current incentive amounts (if applicable, and technical study incentive limit caps)? Are the technical study incentive limit caps being checked for all projects?

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

Call Center

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

Data Tracking

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

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

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

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

Quality Assurance and Quality Control

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

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

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

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

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

Program Adjustments and Enhancements

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

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

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

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

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

Wrap Up and Thank You

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

43. Do you have any other comments or suggestions for us?

Thank you very much for taking the time in assisting us with this evaluation. Your contribution is a very important part of the process.

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NICOR GAS ECONOMIC REDEVELOPMENT PROGRAM
PARTICIPATING CUSTOMER SURVEY INSTRUMENT
October 12, 2012 FINAL

Purpose of this Survey Guide (not to be read to Participants)

The purpose of this survey guide is to collect information from participating customers in the Nicor Gas Economic Redevelopment Program. Questions in this survey guide are designed to provide interviewers with prepared questions to ask participating customers about their experience with the program. The table below outlines the sections, topics and questions of the interview guide to cross-reference them with the goals and objectives of the Nicor Gas Economic Redevelopment Program.

Survey Guide: Topics and Corresponding Questions

Section	Topics	Questions
Screening Questions	Is the property serviced by any of the following energy utilities: Nicor Gas and/or Commonwealth Edison Company?	S0-S2
Sources of Program Awareness	How did the program contact learn about the program? What were the primary motivations for participating? Does the customer have a corporate mandate or other policy that is driving participation in the program?	SR2-SR4
Measure Verification/Free Ridership	Verification of measure installation. How significant was participating in the Nicor Gas ERP on the decision-maker's choice to install the measure?	CMV1-CMV11
Participant Spillover & Other Properties	Since participating in the ERP, has the program contact implemented energy efficiency measures that did not receive a rebate? Has the program contact adopted new measures or practices at other facilities that did not receive a rebate? How significant was participating in the Nicor Gas ERP on the program contact's choice to implement the measure(s) or practice(s)?	CA1-CA11
Customer Satisfaction	How satisfied was the program contact with technical assistance provided by the Nicor Gas ERP? How satisfied was the program contact with the incentives provided by the Nicor Gas ERP? How satisfied was the program contact with the customer service provided by the Nicor Gas ERP? Did the program contact make referrals to the program? What are potential barriers to additional participation? Does customer wish to share any additional information about program participation?	CS9-CS14
Project Information	Is the property located within an Economic Development zone? Does the project meet the definition of a "community benefit" as outlined in the ERP documents?	F1-F2

Source: Navigant

INTRODUCTION AND SCREEN

[NOTE TO INTERVIEWER: Cross-reference names from program tracking database to ensure you indicate the property utilities.]

INT1. Hello, this is **[INTERVIEWER'S NAME]** calling from Navigant on behalf of your local natural gas and electric utilities. ***This is not a sales call.*** We are contacting people who have participated in the Nicor Gas Economic Redevelopment Program, where your firm may have received technical assistance and financial incentives to implement energy efficiency measures.

INT2. The purpose of this call is to ask you about your satisfaction with the Nicor Gas Economic Redevelopment Program as it pertains to your property [PNAME] at [LOCAT]. We are conducting an independent study to evaluate the Nicor Gas Economic Redevelopment Program and would like to include your opinions. Your answers will be included with answers from other program participants and used to help evaluate the effectiveness of the program and to design future programs. *We would be grateful for your participation in our research.*

Are you the person who is most familiar with your participation in this program?

1. YES [GO TO INT5]
2. NO [GO TO INT3]
3. REQUESTS MORE INFORMATION [GO TO INT4]
4. DON'T KNOW [GO TO INT3]
5. REFUSED [GO TO INT3]

INT3. Is there someone who may be more knowledgeable about the upgrades that I could speak with?

1. YES AND AVAILABLE [GO BACK TO INT1]
2. YES AND BUSY [SCHEDULE CALLBACK]
3. YES AND BUSY [SCHEDULE GENERAL CALLBACK]
4. NO [TERMINATE – REFUSAL]
5. DON'T KNOW/REFUSED [TERMINATE]

INT4. Your local gas and electric utilities sponsor the Nicor Gas Economic Redevelopment Program. The Illinois Commerce Commission (ICC) requires certain utilities to submit such a report each year. These utilities hired our firm to prepare an independent evaluation of their energy efficiency programs. The information that we gather will help the ICC determine if existing programs should continue while assisting in the design of future programs.

1. SATISFIED WITH INFORMATION – CONTINUE [GO TO INT5]
2. WANTS TO VERIFY STUDY [SCHEDULE CALLBACK]
3. WANTS TO VERIFY STUDY [GENERAL CALLBACK]
4. REFUSED [TERMINATE]

INT5. In this survey, I will refer to the project that participated in the Nicor Gas Economic Redevelopment Program as "project."

(**IF NEEDED:** It will take about 30 minutes.)

S2. The program records show that you installed <measure> at <property>. Please confirm that this is correct. Did you receive….**(READ ANSWERS FROM INSTALLATION LIST ON CUSTOMER RECORD)** **[1=YES, 2=NO, 7=NA, 8=DON'T KNOW, 9=REFUSED]**

SOURCES OF PROGRAM AWARENESS/REASONS FOR PARTICIPATING

SR1. [OMITTED]

SR2. How did you become aware of the Nicor Gas Economic Redevelopment Program? (READ LIST) **[RANDOMIZE, MULTIPUNCH]**

1. Field technician visit
2. Mass media (newspaper, internet, TV/Radio)
3. Phone call to property
4. Part of larger corporate decision
5. Trade organization and events
0. (OTHER, SPECIFY)
98. (DON'T KNOW)
99. (REFUSED)

SR3. What was your primary reason for participating in the program? (READ LIST) **[RANDOMIZE, MULTIPUNCH]**

1. Rebate for installing measure
2. Technical assistance from program
3. To meet project goals
4. Marketing
5. Corporate decision
0. (OTHER, SPECIFY)
98. (DON'T KNOW)
99. (REFUSED)

SR4. About how many months after you first became aware of the program was it that you decided to participate in the program?

1. Within six months
2. More than six months, but less than a year later
3. More than a year, but less than two years later
4. More than two years later
88. (Don't know)
99. (Refused)

SR5. [OMITTED]

CUSTOMER SATISFACTION

CS1 – CS8a. [**OMITTED]**

CSINT. I'll now ask you to rate your experience with the on-site visit and the program in general on a scale from 0 to 10, where 10 is a high rating and 0 is a low rating. For example, if I ask about your level of satisfaction, 0 would mean "very dissatisfied" and 10 would mean "very satisfied." If you are unsure about the meaning of the scale for any of the questions, just let me know.

CS9. On a scale of 0 to 10, how would you rate your overall satisfaction with… (PROMPT IF NECESSARY: Remember 0 means "very dissatisfied" and 10 means "very satisfied") **[SHOW ON SEPARATE PAGES RANDOMIZED WITH QUESTION TEXT AND PROMPT ON EACH PAGE][SCALE 0-10, DK, REF] [RANDOMIZE]**

a. …the technical assistance resources provided by the Economic Redevelopment Program to your project
b. …the financial incentives
c. …the customer service of the program representative(s)
d. …the ease of participating in the Economic Redevelopment Program
e. …the Economic Redevelopment Program as a whole

[IF CS9a-e<3, ASK CS10a-e DIRECTLY AFTER IT IS RATED LOW]

CS10a-e. Why did you rate it that way?

00. OPEN END
98. (DON'T KNOW)

CS11. On a scale from 0-10, with 10 being very influential, how influential has Economic Redevelopment Program been at helping your property…? **[GRID] [RANDOMIZE] [SCALE 0-10, DK, REF]**

a. Achieve its energy efficiency goal(s) if applicable?
b. Achieve its community benefits goal(s) if applicable?
c. Decrease property utility expenses?
d. Decrease maintenance expenses?

C11f. Has the Economic Redevelopment Program been helpful in any other way at your property?

0. YES **[OPEN END]**
1. NO
88. DON'T KNOW
99. REFUSED

CS12. OMITTED

CS13. What barriers, if any, are there to referring other properties to the Economic Redevelopment Program? [Select all that apply] **[RANDOMIZE 1-4] [MULTIPUNCH]**

1. I don't know any other projects that would qualify for this program
2. I don't have time to refer the program to my colleagues
3. There is no incentive for me to refer the program to my colleagues
4. I'm not convinced that the program saves me money
5. OTHER (SPECIFY)
8. (DON'T KNOW)
7. (REFUSED)

CS14. Do you have any specific stories for potential program case studies that you wish to share with the program?

1. YES **[OPEN END]**
2. NO
8. (DON'T KNOW)
9. (REFUSED)

Project Information

I have just a few questions left for background purposes.

F1. To your knowledge, is the project that we discussed located in an Economic Redevelopment Zone?
1. YES
2. NO
3. OTHER (SPECIFY)
4. (DON'T KNOW)
5. (REFUSED)

F2. To your knowledge, does the project that we discussed include one or more goals for COMMUNITY BENEFITS?
1. YES (PLEASE DESCRIBE or IF WRITTEN, ASK FOR COPY)
2. NO
3. OTHER (SPECIFY)
4. (DON'T KNOW)
5. (REFUSED)

OUTRO. Those are all the questions I have. On behalf of the Nicor Gas Economic Redevelopment Program, thank you very much for your time.