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Elementary Energy Education GPY2/EPY5 Evaluation Report

Final

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

Presented to

Nicor Gas Company and

Commonwealth Edison Company

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E. Executive Summary

This report presents a summary of the findings and results from the impact and process evaluation of the joint Nicor Gas Plan Year 2 and ComEd Plan Year 5 (GPY2/EPY5)[1] Elementary Energy Education (EEE) program offered by Nicor Gas and Commonwealth Edison (ComEd). The EEE program's primary focus is to produce natural gas and electricity savings in the residential sector by motivating 5th grade students and their families to reduce energy consumption for water heating and lighting in their home. Additionally, the EEE program aims to increase participation in other Nicor Gas and ComEd programs via cross-marketing and increased customer awareness of energy efficiency issues.

E.1. Program Savings

Table E-1and Table E-2 summarize the verified natural gas and electricity savings from the EEE Program. This program is offered to schools in a service territory served by Nicor Gas and an electricity delivery provider other than ComEd (Nicor Gas only) and to schools in a service territory served by both Nicor Gas and ComEd ("Joint" refers to Utilities Joint Service Territory). Verified gross savings were calculated using the Illinois TRM Version 1.0[2] algorithms and parameters.

Table E-1. GPY2/EPY5 Natural Gas Savings (Therms)

Savings Category	Nicor Gas Only	Joint	Total
Ex Ante Gross Savings[3,4&5]	11,433	205,822	217,254
Verified Gross Realization Rate	1.92‡	1.49‡	1.51‡
Verified Gross Savings	21,993	305,696	327,689
Net to gross ratio (NTG)	0.79†	0.79†	0.79†
Verified Net Savings	17,374	241,500	258,875

Source: Utility tracking data and Navigant analysis.

† *A deemed value. SAG-approved NTG*[6] ‡ *Based on evaluation research findings.*

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

[2] State of Illinois Energy Efficiency Technical Reference Manual. Final as of September 14, 2012, effective June 1, 2012. http://ilsagfiles.org/SAG_files/Technical_Reference_Manual/Illinois_Statewide_TRM_Version_1.0.pdf

[3] From the ElemEd-PY2-FORM70506500-04292013.xlsx and ElemEd-PY2-FORM70506500-04292013-with CFLs.xlsx (Tracking System).

[4] NEF estimated ex ante gross natural gas savings for water heater set-back measures, however Navigant did not verify these savings as there was not sufficient data to defensibly estimate them. Navigant has assisted the program to collect the required data for GPY3.

[5] The ex ante gross therm savings developed from the tracking system extract provided to Navigant does not match the values by NEF in their reports, Think! Energy with Nicor Gas 2012 and Think! Energy with Nicor Gas and ComEd 2012, of 11,195 therms and 205,947 therms, respectively.

[6] Document provided by Nicor Gas to the SAG summarizing the SAG-approved NTGR for Nicor Gas for GPY1-GPY3 as negotiated in March-August 2013. Distributed in the SAG Meeting on August 5-6, 2013. http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/Nicor_Gas_NTG_Results_and_Application_GPY1-3.pdf

Table E-2. GPY2/EPY5 Electric Savings

	Joint*	
	(kWh)	(kW)
Ex Ante Gross Savings[7]	2,129,834	NA
Verified Gross Realization Rate	1.38‡	NA
Verified Gross Savings	2,942,108	194.1
Net to gross ratio (NTG)	0.76†	0.76†
Verified Net Savings	2,236,002	147.5

Source: Utility tracking data and Navigant analysis.

**Nicor Gas only participant electric savings are not included here but will be included in the benefit-cost analysis.*

† A deemed value. SAG-approved NTG[8]

‡ Based on evaluation research findings.

E.2. Program Savings by Measure Type

Table E-3 and Table E-4 summarize the natural gas and electricity program savings by measure type.

Table E-3. GPY2/EPY5 Natural Gas Savings (Therms)

Savings Type	Measure	Ex Ante Gross Savings	Verified Gross Realization Rate	Verified Gross Savings	NTG	Verified Net Savings
Therms	Showerheads	137,697	2.02‡	278,344	0.79†	219,892
	Kitchen Aerators	21,072	1.06‡	22,430	0.79†	17,720
	Bathroom Aerators	20,907	1.29‡	26,916	0.79†	21,264
	Water Heater Set-Back[9]	37,578	0.0	NA		NA
	Total	**217,254**	**1.51‡**	**327,689**		**258,875**

Source: Utility tracking data and Navigant analysis.

† A deemed value.

‡ Based on evaluation research findings.

[7] Gross kWh ex ante savings are from the tracking system. Gross kW ex ante savings were not provided.

[8] Document provided by ComEd to the SAG summarizing the SAG-approved NTGR for ComEd for EPY5-EPY6 as negotiated in March-August 2013. Distributed in the SAG Meeting on August 5-6, 2013. http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/ComEd PY5-PY6 Proposal Comparisons with SAG.xls

[9] NEF estimated ex ante gross natural gas savings for water heater set-back measures, however Navigant did not verify these savings as there was not sufficient data to defensibly estimate them. Navigant has assisted the program to collect the required data for GPY3, however.

Table E-4. GPY2/EPY5 ComEd Electric Savings by Measure Type

Savings Type	Measure	Ex Ante Gross Savings	Verified Gross Realization Rate	Verified Gross Savings	NTG	Verified Net Savings
kWh*	Showerheads	554,238	2.10‡	1,166,124	0.76†	886,254
	Kitchen Aerators	96,187	0.94‡	90,075	0.76†	68,457
	Bathroom Aerators	82,250	1.31‡	108,090	0.76†	82,149
	CFLs	1,397,160	1.13‡	1,577,818	0.76†	1,199,142
	Total	**2,129,834**	**1.38‡**	**2,942,108**		**2,236,002**
kW*	Showerheads	NA[10]	NA	41.4	0.76†	31.4
	Kitchen Aerators	NA	NA	6.4	0.76†	4.9
	Bathroom Aerators	NA	NA	6.4	0.76†	4.9
	CFLs	NA	NA	139.9	0.76†	106.3
	Total			**194.1**		**147.5**

Source: Utility tracking data and Navigant analysis.
† *A deemed value.*
‡ *Based on evaluation research findings.*
**Nicor Gas only participant electric savings are not included here.*

Table E-5 summarizes the electricity savings from the Nicor Gas only participants. These electric savings are not included in the electricity statistics in Table E-4 above but will be included in Nicor Gas' benefit-cost analysis. Navigant is reporting the Nicor Gas only program's electric saving figures for informational purposes only and is not factoring them into the program total gross savings since they are not attributable to the ComEd territory.

Table E-5. GPY2/EPY5 Nicor Gas Only Electric Savings

Savings Category	Energy Savings (kWh)	Energy Savings (kW)
Ex Ante Gross Savings[11]	27,328	NA
Verified Gross Realization Rate	3.38‡	NA
Verified Gross Savings	92,468	3.5
Net to gross ratio (NTG)	0.79†	0.79†
Verified Net Savings	73,050	2.8

Source: Utility tracking data and Navigant analysis.
† *A deemed value.*
‡ *Based on evaluation research findings.*

[10] Gross kW ex ante savings were not provided in the tracking system.
[11] Gross kWh ex ante savings are from the tracking system. Gross kW ex ante savings were not provided.

E.3. Impact Estimate Parameters

In the course of estimating verified gross and net savings, the evaluation used a variety of parameters in its calculations. The evaluation team sourced the Illinois TRM Version 1.0 for all deemed parameters for gross savings algorithms and sourced the Household Report Cards (HRC) for TRM-allowed custom parameters: household size, number of showerheads and faucets, and CFL baseline wattage. The net-to-gross value was deemed at 0.79 for Nicor Gas savings and 0.76 for ComEd electric savings for this program year, and the gross realization rate was based on the evaluation research.

E.4. Participation Information

The EEE program had 15,004 participants in GPY2/EPY5 as shown in Table E-6.

Table E-6. GPY2/EPY5 Primary Participation Detail

Participation	Nicor Gas Only	Joint	Total
Participants	1,007	13,997	15,004

Source: Utility tracking data and Navigant analysis.

E.5. Conclusions and Recommendations

The following provides insight into key program findings and recommendations.

Program Savings Goals Attainment

Finding 1. The verified total net gas savings of 258,875 therms exceeded Nicor Gas's planning goal of 207,900 net therms; the verified net electricity savings of 2,236,002 kWh met 95% of ComEd's planning goal of 2,348,000 net kWh.

Program Participation.

Finding 2. The overall participation goal of 15,000 kits distributed (1,000 kits for Nicor Gas only participants and 14,000 kits Joint participants) was met with 1,007 kits distributed to Nicor Gas only schools and 13,997 kits distributed to Joint schools.

Tracking System Review

Finding 3a. Although Navigant was able to approximate the ex ante savings claims through the NEF program reports, the actual values in the tracking data were hard-coded.

Recommendation. Rather than hard-coding the values in the tracking system for GPY3/EPY6, NEF should document and incorporate the algorithms/assumptions for the savings so they can be verified.

Finding 3b. NEF did not calculate savings for single family homes separately from multi-family homes for water heating measures; there is a substantial difference in household size, showerhead counts, faucet counts, and water usage in single family vs. multi-family homes.

Recommendation. The program should calculate savings for single family homes separately from multi-family homes in GPY3/EPY6 tracking system for water heating measures.

Gross Realization Rates

Finding 4. The program achieved a gross savings realization of 1.51 for gas and 1.38 for electricity. This is principally due to Navigant using the Illinois TRM v 1.0 in-service rates (ISRs), while NEF calculated ISRs from the HRC data. The ISRs in the IL TRM are higher than those calculated from the HRC data. See section 7.2.1 for the ISRs used for this program.

Review Process.

Finding 5a. Some program changes increased savings by simply increasing and meeting participation goals and by switching to a more efficient showerhead. Other program changes may have increased actual ISRs: 1) increasing the HRC return rate, 2) switching to a showerhead with a higher participation satisfaction rating, and 3) better educational presentations.

Recommendation. As these improvements may increase actual ISRs, the program should consider conducting research periodically on ISRs of the top-saving measures by, for example, surveying students in randomly selected classes in early spring to capture persistence.

Finding 5b. The program is performing well, exceeding participation and savings goals. Comments about the program from parents and teachers are generally uniformly positive. Most schools that participated in GPY1/EPY4 participated again in GPY2/EPY5.

Overall, the program performed well in GPY2/EPY5, exceeding energy savings and participation targets. Schools are pleased with the program: 100 of the 120 schools that participated in GPY1/EPY4 participated again in GPY2/EPY5.

Future Evaluation Risk

A future evaluation risk for the program is the ISRs for the program measures. Currently, the Illinois TRM Version 1.0 requires this program to use ISRs that were developed for direct install programs and that are almost two times the ISRs that Navigant found in our primary research in GPY1/EPY4 and in the program's HRC data for GPY2/EPY5. For GPY3/EPY6, Navigant will use the Illinois TRM Version 2.0 which states that ISRs for measures distributed through efficiency kits can be determined through evaluation. These ISRs will likely be closer to the ISRs we found in our primary research in GPY1/EPY4, that is, much lower than the ISRs in Illinois TRM Version 1.0. See section 7.2.1 for more details on ISRs used for this program.

1. Introduction

1.1 Program Description

The Elementary Energy Education (EEE) program is jointly offered by Nicor Gas and Commonwealth Edison (ComEd) who engaged National Energy Foundation (NEF) to implement the program which is branded "THINK! ".ENERGY" In Nicor Gas Plan Year 2 and ComEd Plan Year 5 (GPY2/EPY5), the program targeted 5th grade students in public and private schools that are customers of Nicor Gas or jointly Nicor Gas and ComEd. Schools received an invitation to participate and register to schedule the interactive presentations; alternatively, schools could register on the program website to join a waiting list if the program was fully-enrolled when they registered. Schools that had participated in the GPY1/GPY4 program were also invited to participate. After the presentation, students took home a kit that includes water conservation measures; instruments to measure water and ambient temperature, as well as water flow rates, CFLs, and a household report card (HRC, or Scantron form) where participants used the form to report details of their family's participation. Students and teachers are incentivized to return the household report cards with a $100 mini-grant for each class that completes and returns 80% of their cards. Students are also incentivized to receive a program wristband if they complete and return a card. New in GPY2/EPY5, teachers that returned 80% of the HRCs were entered into a raffle to win an iPad. NEF based the program's savings on the installation rate of implemented measures reported in the household report card against the number of kits that were reported taken home.

The EEE program's primary focus is to produce natural gas and electricity savings in the residential sector by motivating students and their families to take steps through reducing energy consumption for water heating and lighting in their home, a secondary goal of the program is to reduce residential use of water. Additionally, the EEE Program aims to increase participation in other Nicor Gas and ComEd programs via cross-marketing and increased customer awareness of energy efficiency issues.

1.2 Evaluation Objectives

The objectives of the GPY2/EPY5 EEE program evaluation are to (1) quantify net savings impacts from the program; (2) identify ways in which the program can be improved, and (3) determine process-related program strengths and weaknesses.

The Evaluation Team identified the following key researchable questions for GPY2/EPY5:

1.2.1 Impact Questions

1. What is the program's net and gross savings?
2. Did the program meet its energy and demand savings goals? If not, why not?

1.2.2 Process Questions

1. Has the program changed since GPY1/EPY4? If so, why and how?
2. What areas could the program improve to create a more effective program for customers and help increase the energy impacts?

2. Evaluation Approach

This evaluation of the EEE Program reflects the third full year of program operation. For this impact evaluation, gross savings were evaluated by (1) reviewing the program tracking system to be assured that all fields are appropriately populated and savings correctly calculated and (2) cross-checking totals. Navigant conducted a limited process review that included in-depth interviews with program staff.

2.1 Data Collection

2.1.1 Overview of Data Collection Activities

The core data collection activities included in-depth interviews with program staff and review of the program tracking database. The full set of data collection activities is shown in Table 2-1.

Table 2-1. Core Data Collection Activities

N	What	Who	Target Completes	Completes Achieved	When	Comments
Process Assessment						
1	In Depth Interviews	Program Managers/Implementer Staff	3	3	May 2013	Included Staff from Nicor Gas, ComEd, and NEF.
Impact Assessment						
2	Review	Program Tracking Database	All	All	September-October 2013	Source of information for verified gross analysis

2.2 Verified Savings Parameters

In the course of estimating verified gross and net savings, the evaluation used a variety of parameters in its calculations. The evaluation team sourced the Illinois TRM Version 1.0 for all deemed parameters for gross savings algorithms and sourced the Household Report Cards (HRC) for TRM-allowed custom parameters: household size, number of showerheads and faucets, and CFL baseline wattage. The net-to-gross value was deemed at 0.79 for Nicor Gas savings and 0.76 for ComEd electric savings for this program year, and the gross realization rate was based on the evaluation research as shown in Table 2-2.

Table 2-2. Impact Estimate Parameters

Parameter	Data Source	Deemed or Evaluated?
In-Service Rates	Illinois TRM Version 1.0	Deemed
NTG	SAG Spreadsheet †	Deemed
RR	Evaluation research	Evaluated
Household Size: Single Family, Multifamily	HRC	Evaluated
Showerheads-per-Household: Single Family, Multifamily	HRC	Evaluated
Kitchen and Bathroom Faucets-per-Household: Single Family, Multifamily	HRC	Evaluated
CFL Baseline Wattage	HRC	Evaluated

†SAG references the Illinois Stakeholders Advisory Group that oversees energy efficiency and EM&V details of the Illinois public utilities[12]

Navigant used the Illinois TRM Version 1.0 methodology to calculate verified gross savings. The Illinois TRM deems most input parameters for showerheads, faucet aerators, and CFLs.

Table 2-3 lists the source of the parameters that Navigant used. The Illinois TRM allows for custom values to be used for household size, showerheads-per-household, faucets-per-household, and CFL baseline wattage, and Navigant based these values on HRC data. Navigant also calculated savings for single family homes separately from multi-family homes given the substantially different values for household size and showers per household.

[12] For Nicor Gas: Document provided by Nicor Gas to the SAG summarizing the SAG-approved NTGR for Nicor Gas for GPY1-GPY3 as negotiated in March-August 2013. Distributed in the SAG Meeting on August 5-6, 2013. http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/Nicor_Gas_NTG_Results_and_Application_GPY1-3.pdf.
For ComEd: Document provided by ComEd to the SAG summarizing the SAG-approved NTGR for ComEd for EPY5-EPY6 as negotiated in March-August 2013. Distributed in the SAG Meeting on August 5-6, 2013. http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/ComEd PY5-PY6 Proposal Comparisons with SAG.xls

Table 2-3. Verified Gross Savings Parameters, Source of Deemed Inputs

Measure	Deemed Input Parameter Source
Showerheads	Illinois TRM v1.0 - Section 5.4.5
Kitchen Aerators	Illinois TRM v1.0 - Section 5.4.4
Bathroom Aerators	
CFLs	Illinois TRM v1.0 - Section 5.5.1

2.3 *Verified Gross Program Savings Analysis Approach*

Navigant calculated verified gross program impacts for four measures with deemed savings values: low-flow showerheads, kitchen and bathroom faucet aerators, and CFLs. These measures account for all quantifiable GPY2/EPY5 savings. Only ComEd claims savings from CFLs.

2.4 *Verified Net Program Savings Analysis Approach*

Verified net energy and demand savings were calculated by multiplying the Verified Gross Savings estimates by a net-to-gross ratio (NTGR). In GPY2/EPY5, the NTGR estimates used to calculate the Net Verified Savings were based on past evaluation research and defined through a negotiation process through SAG as documented in a spreadsheet.[13]

2.5 *Process Evaluation*

The process evaluation for GPY2/EPY5 was based on the in-depth interviews and tracking system review mentioned above.

2.5.1 Program Staff Interviews

Navigant conducted interviews with the Nicor Gas and ComEd program managers as well as with the NEF implementation staff in May 2013. These interviews discussed the program's energy savings and participation, as well as changes implemented in GPY2/EPY5 or planned for GPY3/EPY6.

[13] Ibid.

3. Gross Impact Evaluation

The EEE program achieved researched gross savings realization rates of 1.51 for natural gas savings and 1.38 for electricity savings and also accrued 194.1 kW of demand savings. The resulting evaluated gross savings for GPY2/EPY5 are 327,689 therms and 2,942,108 kWh.

3.1 Tracking System Review

NEF's tracking system for GPY2/EPY5 consisted of two main spreadsheets, an improvement over the use of multiple spreadsheets in GPY1/EPY4. However, the algorithms used to determine ex ante savings for low-flow showerheads, kitchen aerators, and bathroom aerators were not provided in the tracking system (the numbers were pasted in as values). The equations for CFLs, however, were not removed, and NEF calculated the savings per light bulb (separating indoor and outdoor for bulb 1, bulb 2, and bulb 3), using the following equations:

- Total Registered Quantity * Unit Savings * ISR

Key findings include:

1. NEF did not provide algorithms for low-flow showerheads and kitchen and bathroom aerators in the tracking system.
2. NEF did not use the Illinois TRM's in-service rates (ISRs). They instead calculated the installation rate based on HRC responses.
3. NEF did not calculate savings for single-family homes separately from multi-family homes; there is a significant distinction between family size and water usage in single family vs. multi-family homes.
4. NEF did not provide access to the tracking system database, instead they provided a flat query output which had several inconsistencies which NEF ultimately showed to stem from errors in the query and not in the database.

3.2 Program Volumetric Findings

The EEE program enrolled 15,004 participants in GPY2/EPY5, meeting the overall goal of 15,000 participants set for this program year. Of these participants, 1,007 were in the Nicor Gas only group and 13,997 were in the Joint group (see Table 3-1. In GPY1/GPY4, the EEE program enrolled 4,997 Nicor Gas only participants and 4,975 Joint participants which met its goal of 10,000 total participants.

Key findings include:

1. Enrollment totals met goals for the EEE program.
2. Of the 120 schools that participated in GPY1/GPY4, 100 signed-up to participate again in GPY2/EPY5.

Table 3-1. EPY2/EPY5 Volumetric Findings Detail

Detail	Nicor Gas	Joint	Total
Participants	1,004	13,997	15,004

Source: EM&V analysis

3.3 Gross Program Impact Parameter Verification

Navigant used the Illinois TRM Version 1.0 methodology to calculate verified gross savings. The Illinois TRM deems most input parameters for showerheads, faucet aerators, and CFLs. Table 3-2 lists the source of the parameters that Navigant used.

The Illinois TRM allows for a few input parameters for these measures to be custom values. Table 3-3 shows the custom values used for showerheads and faucet aerators. From the HRC data we calculated the average number of members of single family homes to be 4.72 and of multi-family homes to be 5.23. Navigant also calculated the number of showerheads and faucet aerators per single family and multi-family home from the HRC data.

Table 3-2. Verified Gross Savings Parameters, Source of Deemed

Measure	Deemed Input Parameter Source
Showerheads	Illinois TRM v1.0 - Section 5.4.5
Kitchen Aerators	Illinois TRM v1.0 - Section 5.4.4
Bathroom Aerators	
CFLs	Illinois TRM v1.0 - Section 5.5.1

Table 3-3. Verified Gross Savings Parameters, Evaluated Values for Water Heating Measures

Measure	Household Size[E]		Count per Home[E]	
	SF	MF	SF	MF
Showerheads per Home	4.72	5.23	1.95	1.58
Kitchen & Bathroom Aerators per Home			3.88	3.13

E: An evaluated value based on HRC data for GPY2/EPY5

The calculations for kWh and therm savings for showerheads are shown below:

$$Verified\ Gross\ Annual\ kWh\ Savings =$$
$$\%ElectricDHW * (GPM_{base} * L_{base} - GPM_{low} - L_{low}) * \frac{1}{SPH} * Household * SPCD * 365.25 \frac{days}{year} * EPG_{elec} * ISR$$

$$Verified\ Gross\ Annual\ Therm\ Savings =$$
$$\%GasDHW * (GPM_{base} * L_{base} - GPM_{low} - L_{low}) * \frac{1}{SPH} * Household * SPCD * 365.25 \frac{days}{year} * EPG_{gas} * ISR$$

Navigant used HRC data to calculate or adjust several input parameters, baseline wattage, and parameters dependent on bulb location (indoor or outdoor), as shown in Table 3-4. The TRM provides location-dependent values for many parameters: because the evaluation team knew the distribution of interior and exterior lamps from the HRC data, we used the actual split of interior and exterior locations to determine operating hours and waste heat factors rather than using the "Unknown" operating hours, which assume a certain percentage of exterior lamps.

Table 3-4. Verified Gross Savings Parameters, Evaluated Values for CFLs

	Weighted Average Incandescent Baseline Wattage[E]	
	SF	MF
Indoor CFLs*	64.2	66.5
Outdoor CFLs	65.8	69.5

E: An evaluated value based on HRC data for GPY2/EPY5

**Navigant assumed all lamps not reported installed outside to be in "residential and in-unit multifamily" space for operating hours and coincidence factor and "interior single family or unknown location" for waste heat factors.*

The calculation for kwh savings for CFLs is shown below:

$$Verified\ Gross\ Annual\ kWh\ Savings = (Watts_{base} - Watts_{EE}) * \frac{kW}{1000W} * ISR * Hours * WHFe$$

3.4 Development of the Verified Gross Realization Rate

Navigant calculated verified gross energy savings using Illinois TRM methodology and algorithms. Navigant applied measure savings values to verified measure quantities found in the program tracking system to calculate verified gross savings. The verified gross realization rate is the ratio of verified gross savings to ex-ante gross savings from the program tracking system.

3.5 Verified Gross Program Impact Results

NEF used values for ISRs derived from the HRC data. The ISRs they determined per measure are substantially lower than those required by the Illinois TRM, which is the main reason for the high realization rates, shown in the following tables.

Table 3-5 shows verified gross therms savings by measure type for the Nicor Gas only program.

Table 3-5. GPY2/EPY5 Nicor Gas Only Verified Gross Impact Savings Estimates by Measure Type

Measure	Ex Ante Gross Savings **(Therms)**[14]	Verified Gross Realization Rate	Verified Gross Savings **(Therms)**
Showerheads	6,856	2.72 ‡	18,681
Kitchen Aerators	919	1.64‡	1,505
Bathroom Aerators	1,043	1.73‡	1,806
Water Heater Set-Back[15]	2,614	0.0	NA
Total	**11,433**	**1.92‡**	**21,993**

Source: Evaluation Team analysis.
‡ Based on evaluation research findings.

[14] The ex ante gross therm savings developed from the tracking system extract provided to Navigant does not match the value by NEF in their report, Think! Energy with Nicor Gas 2012, of 11,195 therms.
[15] NEF estimated ex ante gross natural gas savings for water heater set-back measures, however Navigant did not verify these savings as there was not sufficient data to defensibly estimate them. Navigant has assisted the program to collect the required data for GPY3.however

Table 3-6, below, shows verified gross savings by measure type for the Joint program.

Table 3-6. GPY2/EPY5 Joint Verified Gross Impact Savings Estimates by Measure Type

Savings Type	Research Category	Ex Ante Gross Savings[16]	Verified Gross Realization Rate	Verified Gross Savings
Therms	Showerheads	130,841	1.98 ‡	259,663
	Kitchen Aerators	20,153	1.04‡	20,925
	Bathroom Aerators	19,864	1.26‡	25,109
	Water Heater Set-Back[17]	34,964	0.0	NA
	Total	**205,822**	**1.49‡**	**305,696**
kWh	Showerheads	554,238	2.10‡	1,166,124
	Kitchen Aerators	96,187	0.94‡	90,075
	Bathroom Aerators	82,250	1.31‡	108,090
	CFLs	1,397,160	1.13‡	1,577,818
	Total	**2,129,834**	**1.38‡**	**2,942,108**
kW	Showerheads	NA	NA	41.4
	Kitchen Aerators	NA	NA	6.4
	Bathroom Aerators	NA	NA	6.4
	CFLs	NA	NA	139.9
	Total			**194.1**

Source: Evaluation Team analysis.
‡ *Based on evaluation research findings.*

[16] The ex ante gross therm savings developed from the tracking system extract provided to Navigant does not match the value by NEF in their report, Think! Energy with Nicor Gas and ComEd 2012 of 205,947 therms.
[17] NEF estimated ex ante gross natural gas savings for water heater set-back measures, however Navigant did not verify these savings as there was not sufficient data to defensibly estimate them. Navigant has assisted the program to collect the required data for GPY3.however

Table 3-7 presents verified gross savings by measure type for the program.

Table 3-7. GPY2/EPY5 Total Program Verified Gross Impact Savings Estimates by Measure Type

Savings Type	Research Category	Ex Ante Gross Savings	Verified Gross Realization Rate	Verified Gross Savings
Therms	Showerheads	137,697	2.02‡	278,344
	Kitchen Aerators	21,072	1.06‡	22,430
	Bathroom Aerators	20,907	1.29‡	26,916
	Water Heater Set-Back[18]	37,578	0.0	NA
	Total	**217,254**	**1.51‡**	**327,689**
kWh*	Showerheads	554,238	2.10‡	1,166,124
	Kitchen Aerators	96,187	0.94‡	90,075
	Bathroom Aerators	82,250	1.31‡	108,090
	CFLs	1,397,160	1.13‡	1,577,818
	Total	**2,129,834**	**1.38‡**	**2,942,108**
kW*	Showerheads	NA	NA	41.4
	Kitchen Aerators	NA	NA	6.4
	Bathroom Aerators	NA	NA	6.4
	CFLs	NA	NA	139.9
	Total			**194.1**

Source: Utility tracking data and Navigant analysis.

‡ *Based on evaluation research findings.*

* *Nicor Gas only participant electric savings are not included in the program total, but will be included in the benefit-cost analysis. Navigant reports the Nicor Gas only program's electric savings figures for informational purposes only and is not factoring them into the program total gross savings since they are not attributable to ComEd territory.*

[18] NEF estimated ex ante gross natural gas savings for water heater set-back measures, however Navigant did not verify these savings as there was not sufficient data to defensibly estimate them. Navigant has assisted the program to collect the required data for GPY3.however

Table 3-8 summarizes the electricity savings from the Nicor Gas only participants. These electric savings are not included in the program total but will be included in the benefit-cost analysis. Navigant is reporting the Nicor Gas only programs electric saving figures for informational purposes only and is not factoring them into the program total gross savings since they are not in the ComEd territory.

Table 3-8. GPY2/EPY5 Nicor Gas Only Verified Gross Electric Impact Savings Estimates Measure Type

Savings Type	Research Category	Ex Ante Gross Savings	Verified Gross Realization Rate	Verified Gross Savings
kWh	Showerheads	20,214	3.91‡	79,045
	Kitchen Aerators	3,574	1.71‡	6,101
	Bathroom Aerators	3,540	2.07‡	7,322
	Total	**27,328**	**3.38‡**	**92,468**
kW	Showerheads	NA	NA	2.6
	Kitchen Aerators	NA	NA	0.4
	Bathroom Aerators	NA	NA	0.4
	Total	NA	NA	**3.5**

Source: Utility tracking data and Navigant analysis
‡ *Based on evaluation research findings.*

4. Net Impact Evaluation

For GPY2/EPY5, SAG[19] deemed the NTG value of 0.79 to calculate net savings for Nicor Gas and deemed the NTG value of 0.76 to calculate net savings for ComEd. Table 4-1 shows the verified net savings by measure type.

Table 4-1. GPY2 Verified Net Impact Savings Estimates by Measure Type

Savings Type	Measure	Nicor Gas-only Total	Joint Total	Program Total*
Therms	Showerheads	14,758	205,133	219,892
	Kitchen Aerators	1,189	16,530	17,720
	Bathroom Aerators	1,427	19,836	21,264
	Total	**17,374**	**241,500**	**258,875**
kWh	Showerheads	62,446	886,254	886,254
	Kitchen Aerators	4,820	68,457	68,457
	Bathroom Aerators	5,784	82,149	82,149
	CFLs		1,199,142	1,199,142
	Total	**73,050**	**2,236,002**	**2,236,002**
kW	Showerheads	2.1	31.4	31.4
	Kitchen Aerators	0.3	4.9	4.9
	Bathroom Aerators	0.3	4.9	4.9
	CFLs		106.3	106.3
	Total	**2.8**	**147.5**	**147.5**

Source: Navigant Analysis

**Nicor Gas only participant electric savings are not included in the program total. Navigant reports the Nicor Gas only program's electric savings figures for informational purposes only and is not factoring them into the Nicor Gas only and Joint program total ex ante and verified electric savings since they are not attributable to the ComEd territory.*

[19] For Nicor Gas: Document provided by Nicor Gas to the SAG summarizing the SAG-approved NTGR for Nicor Gas for GPY1-GPY3 as negotiated in March-August 2013. Distributed in the SAG Meeting on August 5-6, 2013. http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/Nicor_Gas_NTG_Results_and_Application_GPY1-3.pdf.
For ComEd: Document provided by ComEd to the SAG summarizing the SAG-approved NTGR for ComEd for EPY5-EPY6 as negotiated in March-August 2013. Distributed in the SAG Meeting on August 5-6, 2013. http://ilsagfiles.org/SAG_files/Meeting_Materials/2013/August 5-6, 2013 Meeting/ComEd PY5-PY6 Proposal Comparisons with SAG.xls

5. Process Evaluation

This section reviews changes made to the program in GPY2/EPY5 as well as the areas the program can improve in to create a more effective program for customers and to help increase energy impacts. Overall, Navigant found that the program made significant changes from GPY1/EPY4 to GPY2/EPY5. For an additional discussion on the process evaluation and participation, please see Section 7.3.

5.1 Program Changes since GPY1/EPY4

The GPY2/EPY5 program has changed in several ways since GPY1/EPY4 as described below. Together these changes amount to increased savings per kit, per participant, as well as for the program.

5.1.1 Participation

One of the major changes in GPY2/EPY5 was the increase to 15,000 participants from 10,000 participants in GPY1/EPY4, and the program met this increased goal. In addition, the participant service territories were changed from a 50/50 split to a 93/7 split between Joint and Nicor Gas only participants (this split is more reflective of the service territories). NEF also implemented Navigant's recommendation from GPY1/EPY4 to change the permission slips from *opt-in* to *opt-out* for a student to be eligible to participate. This addressed the goal of simplifying student participation.

5.1.2 Increased HRC Return Rate

One of the main focus points for GPY2/EPY5 was to increase the return rate of the HRC scan forms – in GPY1/GPY4 low rates of scan form return was an issue.

Because the HRC reminds participants of the measures they should install and the behaviors they should change, increasing the rate of completing and returning the HRCs among students may increase actual ISRs. And although ISRs are currently deemed by the TRM, cumulative improvement efforts could merit another TRM ISR revision.

Some of the steps taken to increase HRC return rate are as follows:

1. A teacher focus group was held in spring 2012 with four teachers that participated in GPY1/EPY4 .They were asked recommendations on how to improve the program and how to increase the number of HRC returns. The teachers explained that their overall experience with the program is positive. They thought the presentations were better this year and their students were more engaged with the game format. The students appreciated receiving magnets as prizes, but those students that did not receive prizes complained. Some teachers thought the involvement of the Illinois Department of Education might help get schools involved that haven't participated before. They also thought a rebate coupon might be a good incentive to help increase the amount of Scantron forms their students returned.
2. NEF's post communication with teachers was enhanced to stress the importance of returning the HRC scan forms.
3. Questions on the HRC scan forms were written in both English and Spanish.

4. NEF sponsored a teacher drawing to win an iPad. A teacher's name was submitted if they returned 80% or more of their Scantron forms (this was in addition to the mini-grant). One teacher from each Nicor Gas only and Joint program won.

The share of completed HRC scan forms that teachers returned increased significantly over last program year, as shown in Table 5-1.

Table 5-1. HRC Scan Form Return Rates

	GPY2/EPY5		GPY1/EPY4	
	Nicor Gas only Teachers	Joint Teachers	Nicor Gas only Teachers	Joint Teachers
Return Rates	69%	74%	49%	55%

5.1.3 Better Devices Included in Kits

No changes were made to number or type of measures included in the kits, but there were changes made to the devices included in the kits (see Table 5-2).

Table 5-2. GPY1/EPY4 and GPY2/EPY5 Devices Included in Kits

Measure	Make and Model for GPY1/EPY4	Make and Model for GPY2/EPY5
Showerheads	Premium Oxygenic 2.0 gpm	Niagara Power 1.5 gpm
Kitchen Aerators	Oxygenic 1.5 gpm	Niagara 1.5 gpm
Bathroom Aerators	Oxygenic 1.0 gpm	Niagara 1.0 gpm
CFLs	14-watt	14-watt

The Niagara showerhead used in GPY2/EPY5 has a lower flow rate than the Oxygenic showerhead used in GPY1/EPY4, resulting in greater energy savings per unit. Additionally, the Niagara showerhead was shown, in GPY1/EPY4, to be more satisfactory to participants in other Nicor Gas programs than the Oxygenic to EEE participants—this change may improve actual ISR for the program's showerhead.

5.1.4 Improved Presentations

To improve the level of quality of the educational presentations in GPY2/EPY5, NEF staffed only experienced presenters for school presentations, and they decreased the number of teams doing the presentations. Each team's training was enhanced, and they conducted several practice presentations before presenting to the schools. NEF also included video clips in the school presentations in GPY2/EPY5 to demonstrate how to install the measures.

Difficulty with fixture installation was found to be a key barrier in GPY1/EPY4. Thus these educational improvements may also increase actual ISRs.

For more changes made to the GPY2/EPY5 program, see Section 7.3.

5.2 Program Improvements

This program is performing well. The program's increased participation goals were met, which suggests that interest in the program is strong. And 83% of GPY1/EPY4 schools returned in GPY2/EPY5, which suggests that satisfaction is strong.

Navigant also recommends increasing savings per kit as the program has already planned for GPY3/EPY6 when they will include an additional bathroom aerator in the kit and add questions regarding water heater temperatures to the HRC to quantify related behavioral effects.

A future evaluation risk for the program is the ISRs for the program measures. Currently, the Illinois TRM Version 1.0 requires this program to use ISRs that were developed for direct install programs and that are almost two times the ISRs that Navigant found in our primary research in GPY1/EPY4 and in the program's HRC data for GPY2/EPY5. For GPY3/EPY6, Navigant will use the Illinois TRM Version 2.0 which states that ISRs for measures distributed through efficiency kits can be determined through evaluation. These ISRs will likely be closer to the ISRs we found in our primary research in GPY1/EPY4, that is, much lower than the ISRs in Illinois TRM Version 1.0. See section 7.2.1 for more details on ISRs used for this program.

6. Conclusions and Recommendations

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

Overall, the program performed well in GPY2/EPY5, exceeding energy savings and participation targets. Schools are pleased with the program: 100 of the 120 schools that participated in GPY1/EPY4 participated again in GPY2/EPY5.

Program Savings Goals Attainment

Finding 1. The verified total net gas savings of 258,875 therms exceeded the Nicor Gas planning goal of 207,900 net therms; the verified net electricity savings of 2,236,002 kWh met 95% of ComEd's planning goal of 2,348,000 net kWh.

Program Participation.

Finding 2. The overall participation goal of 15,000 kits distributed (1,000 kits for Nicor Gas only participants and 14,000 kits Joint participants) was met with 1,007 kits distributed to Nicor Gas only schools and 13,997 kits distributed to Joint schools.

Tracking System Review

Finding 3a. Although Navigant was able to approximate the ex ante savings claims through the NEF program reports, the actual values in the tracking data were hard-coded.

Recommendation. Rather than hard-coding the values in the tracking system for GPY3/EPY6, NEF should document and incorporate the algorithms/assumptions for the savings so they can be verified.

Finding 3b. NEF did not calculate savings for single family homes separately from multi-family homes for water heating measures; there is a substantial difference in household size, showerhead counts, faucet counts, and water usage in single family vs. multi-family homes.

Recommendation. The program should calculate savings for single family homes separately from multi-family homes in GPY3/EPY6 tracking system for water heating measures.

Gross Realization Rates

Finding 4. The program achieved a gross savings realization of 1.51 for gas and 1.38 for electricity. This is principally due to Navigant using the Illinois TRM v 1.0 ISRs, while NEF calculated ISRs from the HRC data. The ISRs in the IL TRM are higher than those calculated from the HRC data. See section 7.2.1 for the ISRs used for this program.

Review Process.

Finding 5a. Some program changes increased savings by simply increasing and meeting participation goals and by switching to a more efficient showerhead. Other program changes may have increased actual ISRs: 1) increasing the HRC return rate, 2) switching to a showerhead with a higher participation satisfaction rating, and 3) better educational presentations.

Recommendation. As these improvements may increase actual ISRs, the program should consider conducting research periodically on ISRs of the top-saving measures by, for example, surveying students in randomly selected classes in early spring to capture persistence.

Finding 5b. The program is performing well, exceeding participation and savings goals. Comments about the program from parents and teachers are generally uniformly positive. Most schools that participated in GPY1/EPY4 participated again in GPY2/EPY5.

Future Evaluation Risk

A future evaluation risk for the program is the ISRs for the program measures. Currently, the Illinois TRM Version 1.0 requires this program to use ISRs that were developed for direct install programs and that are almost two times the ISRs that Navigant found in our primary research in GPY1/EPY4 and in the program's HRC data for GPY2/EPY5. For GPY3/EPY6, Navigant will use the Illinois TRM Version 2.0 which states that ISRs for measures distributed through efficiency kits can be determined through evaluation. These ISRs will likely be closer to the ISRs we found in our primary research in GPY1/EPY4, that is, much lower than the ISRs in Illinois TRM Version 1.0. See section 7.2.1 for more details on ISRs used for this program.

7. Appendix

7.1 ComEd, Nicor Gas, Peoples Gas, and North Shore Gas EM&V Reporting Glossary. December 17, 2013

High Level Concepts

Program Year

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

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

Verified Savings composed of

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

These are savings using deemed savings parameters when available and after evaluation adjustments to those parameters that are subject to retrospective adjustment for the purposes of measuring savings that will be compared to the utility's goals. Parameters that are subject to retrospective adjustment will vary by program but typically will include the quantity of measures installed. In EPY5/GPY2 the Illinois TRM was in effect and was the source of most deemed parameters. Some of ComEd's deemed parameters were defined in its filing with the ICC but the TRM takes precedence when parameters were in both documents.
Application: When a program has deemed parameters then the Verified Savings are to be placed in the body of the report. When it does not (e.g., Business Custom, Retrocommissioning), the evaluated impact results will be the Impact Evaluation Research Findings.

Impact Evaluation Research Findings composed of

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

These are savings reflecting evaluation adjustments to any of the savings parameters (when supported by research) regardless of whether the parameter is deemed for the verified savings analysis. Parameters that are adjusted will vary by program and depend on the specifics of the research that was performed during the evaluation effort.
Application: When a program has deemed parameters then the Impact Evaluation Research Findings are to be placed in an appendix. That Appendix (or group of appendices) should be labeled Impact Evaluation Research Findings and designated as "ER" for short. When a program does not have

deemed parameters (e.g., Business Custom, Retrocommissioning), the Research Findings are to be in the body of the report as the only impact findings. (However, impact findings may be summarized in the body of the report and more detailed findings put in an appendix to make the body of the report more concise.)

Program-Level Savings Estimates Terms

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

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

† **Verification** = Verified Savings; **Research** = Impact Evaluation Research Findings; **Non-Deemed** = impact findings for programs without deemed parameters. We anticipate that any one report will either have the first two terms or the third term, but never all three.
§ Terms in this column are not mutually exclusive and thus can cause confusion. As a result, they should not be used in the reports (unless they appear in the "Terms to be Used in Reports" column).

Individual Values and Subscript Nomenclature

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

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

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

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

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

Glossary Incorporated From the TRM

Below is the full Glossary section from the TRM Policy Document as of October 31, 2012[20].

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

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

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

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

Program Level Research: An evaluation process that takes an alternate look into achieved program level savings across multiple measures. This type of research may or may not be specific enough to inform future TRM updates because it is done at the program level rather than measure level. An example of such research would be a program billing analysis.

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

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

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

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

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

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

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

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

7.2 *Detailed Impact Findings*

7.2.1 In-Service Rates

Table 7-1 below shows the GPY1/EPY4 ISR research values Navigant determined through participant surveys, the Illinois TRM v 1.0 ISR values used for GPY2/EPY5, the GPY2/EPY5 ISR values NEF calculated from the HRC data, and the Illinois TRM v 2.0 ISR allowance for custom values, determined through evaluation, for GPY3/EPY6.

Table 7-1. In Service Rates Used for EEE Program

Measure	GPY1/EPY4 Evaluation Research Finding		GPY2/EPY5 IL TRM v1.0	NEF - Joint GPY2/EPY5 HRC		NEF - Nicor Gas Only GPY2/EPY5 HRC		GPY3/EPY6 IL TRM v2.0
	Gas	Electric		Gas	Electric	Gas	Electric	
Showerheads	0.45	0.27	0.81	0.41	0.35	0.36	0.25	Custom Value
Kitchen Aerators	0.35	0.19	0.48	0.43	0.44	0.35	0.33	
Bathroom Aerators	0.38	0.24	0.48	0.43	0.38	0.40	0.33	
CFLs		0.71	0.695		0.55			

A revision to the Illinois TRM has been recommended to add deemed ISR values for measures distributed through energy savings kits, as shown in Table 7-2.

Table 7-2. Additional In Service Rates for Efficiency Kits

Measure	Recommended TRM ISRs for Efficiency Kits	
	Requested Kit	Not Requested Kit
Showerheads	0.81	0.36
Kitchen Aerators	0.48	0.30
Bathroom Aerators	0.48	0.30

7.3 *Additional Process Results*

This section contains the additional process analysis for the GPY2/EPY5 EEE program.

7.3.1 Marketing and Participation

The marketing and outreach to schools, teachers, and parents was effective in optimizing participation in GPY2/EPY5 since NEF met its participation goals for both the Nicor Gas only and Joint programs. The same marketing materials used in GPY1/EPY4 were used in GPY2/EPY5 with some improvements to the look of the materials. Both Nicor Gas's and ComEd's marketing teams played a bigger role in approving materials so the look was more consistent.

The utilities and implementation contractor set a goal of reaching approximately 1,000 students and teachers in the Nicor Gas only program and 14,000 students and teachers in the Joint program for a total of 15,000 students and teachers. NEF distributed a total of 1,007 Nicor Gas only and 13,997 Joint kits to students and teachers during GPY2/EPY5, totaling 15,004 participants. 100 of the 120 schools that participated in GPY1/EPY4 participated again GPY2/EPY5.

7.3.2 Program Changes since GPY1/EPY4

The HRC scan forms in GPY2/EPY5 allowed for parents to include their email addresses if they were interested in signing up for Nicor Gas's and ComEd's email newsletter. About 1% of parents from both the Nicor Gas only and Joint programs included their email addresses. Navigant recommends tracking the email addresses from the EEE program to track EEE participants' later participation in other Nicor Gas or ComEd energy efficiency programs.

In GPY1/EPY4, Navigant recommended NEF to consolidate their tracking system into one multi-user tracking database instead of using multiple excel spreadsheets and workbooks. NEF was able to use a more sophisticated excel model in GPY2/EPY5 which involved one master workbook and savings algorithms embedded into the spreadsheets. For GPY3/EPY6, the program plans to use a new custom designed web-based tracking system which will include improvements in the way the data is being tracked and presented.