

**To:** Nicor Gas, Peoples Gas, North Shore Gas  
**CC:** Jennifer Morris, ICC Staff; Randy Gunn, Jeff Erickson, Sagar Deo, Sagar Phalke, Kevin Grabner, Rob Neuman, Laura Agapay-Read, Navigant  
**From:** Cherlyn Seruto, Navigant  
**Date:** (First Draft: August 6, 2019);  
 (Revised Draft and Final: August 28, 2019)  
**Re:** Net-to-Gross Research Results for the Market Rate Multi-Family Program for Nicor Gas, Peoples Gas, and North Shore Gas GPY6 and CY2018

## EXECUTIVE SUMMARY

This memo presents researched free ridership and spillover results from telephone surveys that the evaluation team administered to EPY9/GPY6 and CY2018 participating property owners and managers (participants) of the Market Rate Multi-Family Program (offered jointly by ComEd, Nicor Gas, Peoples Gas, and North Shore Gas). Navigant conducted the net-to-gross (NTG) research in Spring 2019 with EPY9/GPY6 participants for spillover and with CY2018 participants for free ridership. Each survey contained questions about electric and gas measures; the survey sampling and logic allowed us to survey participants who installed only electric measures, only gas measures, or both.

We conducted a telephone survey with a population of 325 gas participants from GPY6 (110 from Nicor Gas, 215 Peoples Gas and North Shore Gas), and 1,283 electric participants from ComEd EPY9 to assess program spillover. For free ridership we surveyed from a population of 195 CY2018 gas participants (62 from Nicor Gas and 133 from Peoples Gas and North Shore Gas). This involved questions for the direct installation and rebated measures that achieved most of the program savings in CY2018: steam traps, pipe insulation, boilers, steam averaging controls, central domestic hot water plant controls, programmable thermostats, and custom projects. The EPY9/GPY6 participant spillover and CY2018 free ridership results provide updated findings relative to the previous NTG research we conducted for these programs.

Separate NTG estimates were made for direct installation and rebated measures due to different delivery approaches and required TRM NTG protocols. The Direct Installation (DI) delivery approach provides a free assessment of energy saving opportunities and no-cost direct installation of measures in residential multi-family buildings. The Rebated delivery approach includes Nicor Gas and PGL and NSG projects that offered prescriptive and custom incentives to multi-family decision-makers to install energy savings measures. Rebated delivery also includes projects installed through the PGL and NSG Partner Trade Ally (PTA) approach.

The results, shown in Table 1 below, will inform our September 2019 recommendations to the Stakeholder Advisory Group (SAG) of NTG values to be used for this program in CY2020 (as detailed in Table 8).

**Table 1. NTG Research Results for the Market Rate Multi-Family Program**

Measure	Delivery Approach	Free Ridership	Participant Spillover	NTG Ratio
Showerheads and faucet aerators when using residential TRM specified baseline average water flow rates‡	DI	0.00		1.01
Pipe insulation and programmable thermostat measures	DI	0.05	0.01	0.96
Steam traps, pipe insulation, boilers, steam averaging controls, and custom projects	Rebated (Custom, Prescriptive, PTA)	0.14		0.87

‡ The free ridership for direct install showerhead and faucet aerator measures is deemed at zero by the Residential Section of the Illinois TRM. The participant spillover research result described in this memo applies to these measures.  
Source: Navigant research with EPY9/GPY6 and CY2018 participants.

## FREE RIDERSHIP AND SPILLOVER SURVEY DISPOSITION

Navigant conducted the CY2018 free ridership and EPY9/GPY6 spillover research following a customer self-report approach through a computer assisted telephone survey. In Spring 2019 we contacted customers who participated in the program between April 2017 and December 2017 for the spillover research and customers that participated between January 2018 and December 2018 for the free ridership research. We drew survey samples from different program years to allow time for spillover to occur, to question free ridership closer to the time of decision making, and to avoid overlap and survey fatigue.

The free ridership survey called a census of the available gas sample, achieving 42 natural gas measure-level responses. The evaluation team removed four free ridership responses as part of the TRM-guided consistency check process. This resulted in 38 analytically viable responses. The spillover survey proceeded until 65 interviews were completed. The counts for the completed free ridership and spillover participant interviews are shown in Table 2, Table 3, and Table 4 and below.

**Table 2. Free Ridership Participant Survey Disposition**

Measure	Sample Population*	Survey Completes	Analyzed Completes
<b>Overall Program</b>	<b>213</b>	<b>42</b>	<b>38</b>
Programmable Thermostat	31	9	8
Steam Averaging Controls	39	7	6
Central Domestic Hot Water Plant Controls	9	0	0
Custom	5	2	2
Boiler	29	3	3
Pipe Insulation	78	16	15
Steam Traps	22	5	4

\* Sample population of 213 is based on measure type counts, from the population of 195 participants.  
Source: Navigant Research with CY2018 participants.

**Table 3. Free Ridership Participant Analyzed Completes**

Measure	Sample Design Target Completes	Analyzed Completes	Completes by Utility		Completes by Delivery Approach
			Nicor Gas	PGL & NSG	
<b>Overall Program</b>	<b>71</b>	<b>38</b>	<b>16</b>	<b>22</b>	
Programmable Thermostat	8	8	8	0	8 Direct Install
Pipe Insulation DI	10	7	7	0	7 Direct Install
Pipe Insulation Rebated	11	8	0	8	1 Prescriptive 7 PTA
Steam Averaging Controls	11	6	0	6	6 Prescriptive
Central Domestic Hot Water Plant Controls	7	0	0	0	NA
Custom Boiler	5	2	1	1	2 Custom
Boiler	10	3	0	3	3 Prescriptive
Steam Traps	9	4	0	4	1 Prescriptive 3 PTA

Source: Navigant Research with CY2018 participants.

**Table 4. Participant Spillover Survey Disposition**

Measure	Completes*	Made Additional Gas Efficiency Improvements	Qualified for Gas Spillover
Overall Program	65	11	2

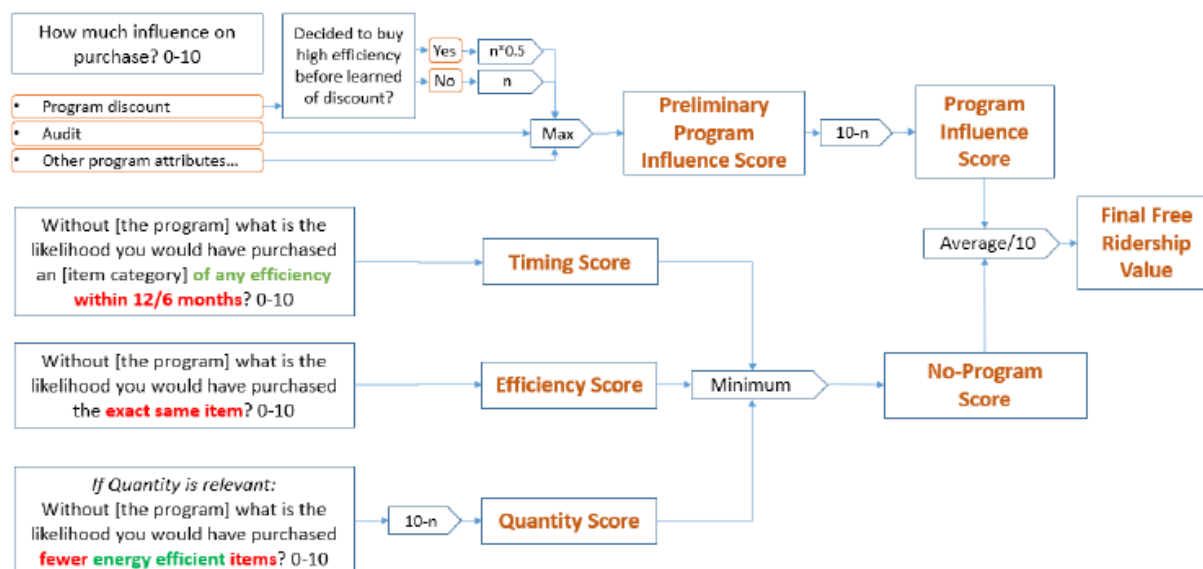
\* The number of completes is from the spillover survey only – free ridership respondents shown in Table 3 were not asked spillover questions.

Source: Navigant Research with EPY9/GPY6 participants.

## FREE RIDERSHIP PROTOCOL

The evaluation team conducted the research according to protocol 4.6, Multifamily Protocol. Section 4.6.1 of the TRM explains, “The free ridership method for discounted measures is identical to that used in the Prescriptive Rebate (With No Audit) protocol, with the one exception that questions about program influence should be sure to include the audit itself as one of the program attributes.” The protocol is shown graphically in Figure 1 below.

**Figure 1. Multifamily Free Ridership – Non-CFL/Non-LED Measures**



Source: IL TRM 7.0 Figure 4-9

## SPILLOVER PROTOCOL

Navigant estimated spillover consistent with the method in the Residential Cross-Cutting Approaches: Participant Spillover section of the TRM. Respondents were asked in this telephone survey if they made additional energy efficiency improvements to reduce energy consumption since participating in the Program. Navigant included an extensive battery of questions to identify spillover candidates and estimate savings. These questions addressed three general aspects, paraphrased below:

1. Since you participated in the Market Rate Multi-Family Program, have you purchased and installed any other energy efficient equipment or products outside a utility program?
2. Did the program influence you in any way to make to make additional energy efficiency improvements?
  - a. How important was the Multi-Family program on your decision to make additional energy efficiency improvements outside of a utility program? Please rate on a scale of 0 to 10, where 10 is extremely important and 0 is not at all important. [Attribution Score 1.]
  - b. If you had not participated in the Multi-Family Program, how likely is it that you would have made additional energy efficiency improvements? Please rate on a scale of 1 to 10, where 0 means that you definitely would not have made additional energy efficiency improvements and 10 means that you definitely would have purchased them, even if you had not participated in the Multi-Family program? [Attribution Score 2.]
3. What were details of the energy efficiency improvements (equipment, efficiency level, quantity, etc.)?

Navigant attributes a respondent's savings from non-rebated energy efficiency improvements to the Market Rate Multi-Family Program if the following condition is met: the respondent's average of Attribution Score 1 and (10 minus Attribution Score 2) must exceed 5.0.

## DETAILED NET TO GROSS RESULTS

### Free Ridership Consistency Check Analysis

To address the possibility of conflicting responses, the TRM specifies consistency checks that ask participants open ended questions to address a program’s influence. To achieve this, we asked the following question to all respondents and analyzed the response of those participants whose numeric responses were inconsistent<sup>1</sup>:

“In your own words, please tell me the influence the program had on your purchase of the <insert measure name>.”

The TRM recommends using the responses to the open-ended question to resolve inconsistencies in the numeric scores for those respondents who triggered this consistency check. Six natural gas measure respondents (14%) gave responses that triggered the TRM method consistency check. For these six respondents, Navigant reviewed the open-ended response and performed one of the following actions based on the findings:

- Omitted the record from analysis because the inconsistent scores could not be resolved by the content of the open-ended response
- Removed from the algorithm one or more component score that was not consistent with the open ended response
- Made no change to the responses, as the scores were consistent with the open-ended response.

This analysis resulted in four respondents being excluded from analysis. Of the six that triggered a consistency check in the analyzed sample of 38, the analysis did not change four responses, and the program influence score was removed from two responses. The summary of adjustments is shown in Table 5 below.

**Table 5. Free Ridership Consistency Check Disposition**

Measure Response Disposition	Programmable Thermostat	Pipe Steam Averaging Controls	Custom	Boiler	Pipe Insulation	Steam Traps	Total
<b>Measure Installations Covered by Interviews</b>	<b>9</b>	<b>7</b>	<b>2</b>	<b>3</b>	<b>16</b>	<b>5</b>	<b>42</b>
Excluded: Triggered and Failed Consistency Check	1	1			1	1	4
<b>Analyzed Sample</b>	<b>8</b>	<b>6</b>	<b>2</b>	<b>3</b>	<b>15</b>	<b>4</b>	<b>38</b>
Evaluated to Require No Change		1	1	1		1	4
Exclude Program Influence Score		1		1			2

Source: Navigant Research CY2018.

<sup>1</sup> Inconsistency is measured by, for example, the high likelihood to install the same measure without the program, and a high importance to program factors.

## Free Ridership Component Scores

The following table shows weighted component scores that were combined for the final free ridership values. Both the direct install and rebated program components show a strong program influence. Responses for what would have occurred in absence of the program show a higher free ridership for rebated measures than for direct install.

**Table 6 Participant Free Ridership Component Scores**

Measure	Delivery Approach	Program Influence Score	No Program Score
Pipe insulation and programmable thermostat measures	DI	0.07	0.04
Steam traps, pipe insulation, boilers, steam averaging controls, and custom projects	Rebated (Custom, Prescriptive, PTA)	0.06	0.34

Source: Navigant Research CY2018.

## Spillover Estimation

Navigant attributes a respondent's savings from non-rebated energy efficiency improvements to the Market Rate Multi-Family Program if the following condition is met: the respondent's average of Attribution Score 1 and (10 minus Attribution Score 2) must exceed 5.0.

Of the 65 spillover survey respondents, 11 installed additional energy efficient equipment, but only six indicated that participating in the Market Rate Multi-Family Program influenced them to make these additional purchases. For two of the 11 spillover candidates, Navigant determined that the average of their two attribution scores was greater than 5.0 and that they installed equipment with natural gas savings that were quantifiable. The non-rebated energy efficient improvements included weather-stripping and thermostats.

Table 7 outlines energy efficiency improvements that respondents made that were influenced but not provided by the program and how the improvements contributed to total program spillover. The spillover ratio was calculated by dividing the spillover (1,297 therms) by the Market Rate Multi-Family savings for the 65 respondents of the spillover telephone interview (188,259 therms). The natural gas spillover ratio for the program is rounded to 0.01 for NTG calculations.

**Table 7. Natural Gas Spillover Research Results by Measure**

Measure	Spillover Therms	Spillover Ratio for Therms	Projects Contributing to Spillover
Weather stripping	6	< 0.001	1
Thermostats	1,291	0.007	1
<b>Total</b>	<b>1,297</b>	<b>0.007</b>	<b>2</b>

Source: Navigant team analysis.

## Free Ridership and Spillover to Create Program Net-to-Gross Ratio

The NTG research results for the Market Rate Multi-Family Program are summarized in Table 8 below.

**Table 8. NTG Research Results for the Market Rate Multi-Family Program**

Measure	Delivery Approach	Free Ridership	Participant Spillover	NTG Ratio	Precision
Showerheads and faucet aerators when using residential TRM specified baseline average water flow rates‡	DI	0.00		1.01	NA
Pipe insulation and programmable thermostat measures	DI	0.05	0.01	0.96	5%*
Steam traps, pipe insulation, boilers, steam averaging controls, and custom projects	Rebated (Custom, Prescriptive, PTA)	0.14		0.87	9%†

\* The free ridership results meet a 90% confidence interval within 5% precision, based on 15 respondents from a population of 95 unique direct installation participants (property owners and managers) from 2018 from Nicor Gas, Peoples Gas, and North Shore Gas, excluding accounts that only installed showerheads and aerators.

† The free ridership results meet a 90% confidence interval within 9% precision, based on 23 respondents from a population of 233 unique project participants (property owners and managers) from 2018 from Nicor Gas, Peoples Gas, and North Shore Gas.

‡ The free ridership for direct install showerhead and faucet aerator measures is deemed at zero by the Residential Section of the Illinois TRM. The participant spillover research result described in this memo applies to these measures.

Source: Navigant research with EPY9/GPY6 and CY2018 participants.

**APPENDIX 1: MARKET RATE MULTI-FAMILY NTG HISTORY FOR NICOR GAS**

	<b>MULTI-FAMILY PROGRAM—NICOR GAS</b>
GPY1	<p>Program NTG: 0.95  <b>Water Efficient Showerheads NTG 0.95</b>  <b>Water Efficient Kitchen Aerators NTG 0.95</b>  <b>Water Efficient Bath Aerators NTG 0.95</b>  <b>Research Method:</b> Participant self-report. CATI telephone survey with participating decision-makers (20 property managers).</p>
GPY2	<p><b>Dwelling Unit NTG 0.96</b>  <b>Common Area NTG 0.93</b>  <b>Free ridership N/A</b>  <b>Spillover N/A</b>  <b>Method:</b> SAG deemed. Values based on GPY1 evaluation research.</p>
GPY3	<p><b>Dwelling Unit NTG 0.96</b>  <b>Common Area NTG 0.93</b>  <b>Free ridership N/A</b>  <b>Spillover N/A</b>  <b>Method:</b> SAG deemed. Values based on GPY1 evaluation research.</p>
GPY4	<p><b>Dwelling Unit NTG 0.96</b>  <b>Common Area NTG 0.93</b>  <b>Free ridership N/A</b>  <b>Spillover N/A</b>  <b>Method:</b> NTG values for GPY4 were deemed using values from GPY3, and reported in Table 14 of the Nicor Gas filed Energy Efficiency Plan for GPY4-GPY6.</p>
GPY5	<p><b>Dwelling Unit NTG 0.95</b>  <b>Free ridership: 0.07; Spillover: 0.02</b>  <b>Comprehensive/Common Area NTG 0.94</b>  <b>Free ridership 0.08; Spillover 0.02</b>  <b>Method:</b> GPY3 participant self-report. CATI telephone survey with participating GPY3 decision-makers (74 property owners/managers).</p>
GPY6	<p><b>Dwelling Unit Direct Install NTG 0.95</b>  <b>Free ridership: 0.07; Spillover: 0.02</b>  <b>Comprehensive/Common Area NTG 0.94</b>  <b>Free ridership: 0.08; Spillover: 0.02</b>  <b>Method:</b> GPY3 participant self-report. CATI telephone survey with participating GPY3 decision-makers (74 property owners/managers).</p>
2018 (GPY7)	<p><b>Dwelling Unit Direct Install (excluding faucet aerators):</b>  <b>NTG: 0.95 ; Free Ridership: 0.07 ; Spillover: 0.02</b>  <b>Dwelling Unit Direct Install (faucet aerators):</b>  <b>NTG: 1.02 ; Free Ridership: 0.00 ; Spillover: 0.02</b>  <b>Comprehensive/Common Area:</b>  <b>NTG: 0.94 ; Free Ridership: 0.08 ; Spillover: 0.02</b>  <b>Method:</b> For measures except faucet aerators: FR &amp; PSO (Nicor Gas EM&amp;V GPY4); NPSO (no value). For faucet aerators: TRM version 6.0 specifies that the free ridership for faucet aerators be set at zero when estimating gross savings using the TRM specified baseline average water flow rate.</p>
2019	<p><b>Assessment/Direct Install (all measures except faucet aerators and showerheads when using TRM specified baseline average water flow rates) NTG: 0.95</b>  FR = 0.07 &amp; PSO = 0.02 (Nicor Gas EM&amp;V GPY4); NPSO (no value)</p>



	<b>MULTI-FAMILY PROGRAM—NICOR GAS</b>
	<p><b>Assessment/Direct Install (faucet aerators and showerheads when using TRM specific baseline average water flow rates) NTG: 1.02</b> TRM version 7.0 specifies that the free ridership for faucet aerators and showerheads be set at zero when estimating gross savings using the TRM specified baseline average water flow rate. PSO = 0.02 (Nicor Gas EM&amp;V GPY4); NPSO (no value).</p> <p><b>Comprehensive/Common Area NTG: 0.94</b> FR &amp; PSO (Nicor Gas EM&amp;V GPY4); NPSO (no value)</p> <p><b>Method:</b> No new research. Retained GPY7 final values.</p>

Source: [http://ilsagfiles.org/SAG\\_files/NTG/2019\\_NTG\\_Meetings/Corrected\\_NTG\\_Values](http://ilsagfiles.org/SAG_files/NTG/2019_NTG_Meetings/Corrected_NTG_Values)

## APPENDIX 2: MARKET RATE MULTI-FAMILY NTG HISTORY FOR PEOPLES GAS AND NORTH SHORE GAS

<b>MULTI-FAMILY PROGRAM—PEOPLES GAS AND NORTH SHORE GAS</b>	
GPY1	<p><b>Direct Install Program NTG: 0.90</b>  <b>Free ridership 0.10</b>  <b>Spillover 0.00</b>  <b>Method and Source:</b> Evaluation research consisting of participating GPY1 customer self-reports (tenants and property decision-makers). NTG based on CATI telephone survey with participating decision-makers (21 property managers for Peoples Gas and North Shore Gas interviewed from a GPY1 population of 343). Program was delivered an assessment and direct installation offering.</p>
GPY2	<p><b>Peoples Gas: Deemed NTG 0.90; Free ridership 0.10; Participant Spillover: 0.00</b>  <b>North Shore Gas: Deemed NTG 0.90; Free ridership 0.10; Participant Spillover: 0.00</b>  <b>Method and Source:</b> Deemed by SAG consensus from GPY1 evaluation research.</p>
GPY3	<p><b>Peoples Gas: Deemed NTG 0.90; Free ridership 0.10; Participant Spillover: 0.00</b>  <b>North Shore Gas: Deemed NTG 0.90; Free ridership 0.10; Participant Spillover: 0.00</b>  <b>Method and Source:</b> Deemed by SAG consensus from GPY1 evaluation research.</p>
GPY4	<p><b>Peoples Gas and North Shore Gas:</b></p> <p><b>In-Unit Direct Installation: NTG 0.90; Free ridership 0.10; Spillover: 0.00</b>  <b>Method and Source:</b> No new research. Value from GPY1 evaluation research.</p> <p><b>Prescriptive Rebates: NTG 0.84 (PGL); 0.90 (NSG)</b>  <b>Method and Source:</b> Based on a weighting of the C&amp;I Prescriptive GPY4 NTG value (0.58) and Multifamily DI NTG (0.90) to reflect decision-makers, measure types, and decision scenario indicated by rate classification.</p> <p><b>TAPI Incentives: NTG 0.99</b>  <b>Method and Source:</b> Based on GPY1 evaluation research of the joint utility Small Business Energy Savings Program.</p> <p><b>Custom Incentives: NTG 0.68</b>  <b>Method and Source:</b> Based on the C&amp;I Custom Rebate Program GPY4 NTG value.</p> <p><b>Gas Optimization: NTG 1.02</b>  <b>Method and Source:</b> Based on GPY1 evaluation research of the joint utility Retro-Commissioning Program.</p>
GPY5	<p><b>In-Unit Direct Installation: NTG 0.92; Free ridership 0.10; Spillover: 0.02</b>  <b>Method and Source:</b> Free-ridership value from GPY4. Spillover value from Nicor Gas CATI telephone survey with participating GPY3 decision-makers (74 property managers).</p> <p><b>Prescriptive Rebates: NTG 0.87 (PGL); 0.92 (NSG)</b>  <b>Method and Source:</b> Based on a weighting of the C&amp;I Prescriptive GPY5 NTG value (0.63) and Multifamily DI NTG (0.92) to reflect decision-makers, measure types, and decision scenario indicated by rate classification.</p> <p><b>TAPI Incentives: NTG 0.99</b>  <b>Method and Source:</b> No new research. Value from GPY4.</p>

	<b>MULTI-FAMILY PROGRAM—PEOPLES GAS AND NORTH SHORE GAS</b>
	<p><b>Custom Incentives: NTG 0.78</b>  <b>Method and Source:</b> Based on the C&amp;I Custom Rebate Program GPY5 NTG value.  <b>Gas Optimization: NTG 1.02</b>  <b>Method and Source:</b> No new research. Value from GPY4.</p>
GPY6	<p><b>In-Unit Direct Installation: NTG 0.92; Free ridership 0.10; Spillover: 0.02</b>  <b>Method and Source:</b> Free-ridership value from GPY4. Spillover value from Nicor Gas CATI telephone survey with participating GPY3 decision-makers (74 property managers). Comparable research will be conducted with GPY5 PGL and NSG property owners/managers to update these values.  <b>Prescriptive Rebates and Partner Trade Ally Projects: NTG 0.92 (PGL); 0.92 (NSG)</b>  <b>Method and Source:</b> These types of projects have not been directly researched in Multi-Family, so proxy values from other programs have been used and weighted in previous years. When GPY4 NTG research updates in C&amp;I Prescriptive and with Small Business trade allies are applied to the Multi-Family NTG values, the Multi-Family values fall in a range of 0.90 to 0.93. Differences in that range are not significant. We recommend a single value of 0.92 until research is completed with GPY5 PGL and NSG property owners/managers to establish values for these projects and decision makers.  <b>Custom Incentives: NTG 0.78</b>  <b>Method and Source:</b> Based on GPY2 custom project research that included multi-family decision-makers. The GPY4 C&amp;I Custom Program NTG research did not include multi-family decision makers.  <b>Gas Optimization: NTG 1.02</b>  <b>Method and Source:</b> No new research. Value from GPY4.</p>
2018 (GPY7)	<p><b>In-Unit Direct Installation (except faucet aerators): NTG 0.85; Free ridership 0.18; Participant Spillover: 0.03; Non-Participant Spillover 0.00.</b></p> <p><b>In-Unit Direct Installation Faucet Aerators: NTG 1.03; Free ridership 0.00; Participant Spillover: 0.03; Non-Participant Spillover 0.00.</b></p> <p><b>Prescriptive Rebates: NTG 0.76; Free ridership 0.27; Participant Spillover: 0.03; Non-Participant Spillover 0.00.</b></p> <p><b>Partner Trade Ally Projects: NTG 0.88; Free ridership 0.15; Participant Spillover: 0.03; Non-Participant Spillover 0.00.</b></p> <p><b>Custom Incentives: NTG 0.72; Free ridership 0.31; Participant Spillover: 0.03; Non-Participant Spillover 0.00.</b></p> <p><b>Comprehensive Project Roll-up Average: NTG 0.84; Free ridership 0.19; Participant Spillover: 0.03; Non-Participant Spillover 0.00.</b></p> <p><b>Method:</b> Free-ridership and Participant Spillover values from GPY5 evaluation research conducted by CATI telephone survey with GPY5 decision-makers (59 property managers or owners). Interviews with 11 trade allies did not find evidence of PSO or NPSO. The GPY5 research applied the TRM v6.0 NTG algorithms.</p> <p>Due to the small population of MF custom projects, the GPY5 Multifamily research completed three Multi-Family Custom interviews, with a FR = 0.31, but did not achieve a 90/10 result. The GPY4 C&amp;I Custom Rebate Program FR estimate was 0.31, and 0.31 is judged to be the</p>

	<p><b>MULTI-FAMILY PROGRAM—PEOPLES GAS AND NORTH SHORE GAS</b></p>
	<p>best available value. The GPY4 research used TRM v5.0 NTG algorithms, and GPY5 research used TRM v6.0 NTG algorithms.</p> <p>TRM version 6.0 specifies that the free ridership for faucet aerators be set at zero when estimating gross savings using the TRM specified baseline average water flow rate.</p> <p>The comprehensive roll-up NTG value covers Prescriptive, PTA, and Custom MF participants. The roll-up value may be used instead of the path-level NTGs.</p> <p><b>Gas Optimization: NTG 1.02</b>  <b>Method and Source:</b> No new research. Retained value from GPY6.</p>
<p>2019</p>	<p><b>Assessment/Direct Install (all measures except faucet aerators and showerheads when using TRM specified baseline average water flow rates) NTG: 0.85; Free Ridership: 0.18; Participant Spillover: 0.03</b>  <b>Method:</b> FR, PSO, NPSO (PGL &amp; NSG EM&amp;V GPY5; TRM v6.0 algorithms). Participant spillover was not estimated by program path; the 0.03 value represents the overall MF program based on 59 interviews conducted in the GPY5 MF NTG research. Trade ally interviews did not find PSO or NPSO.</p> <p><b>Assessment/Direct Install (faucet aerators and showerheads when using TRM specific baseline average water flow rates) NTG: 1.03</b>  TRM version 7.0 specifies that the free ridership for faucet aerators and showerheads be set at zero when estimating gross savings using the TRM specified baseline average water flow rate. PSO =0.03 based on 59 interviews conducted in the GPY5 MF NTG research. Trade ally interviews did not find PSO or NPSO.</p> <p><b>Multi-Family Comprehensive Prescriptive Rebates</b>  <b>NTG: 0.76; Free Ridership: 0.27; Participant Spillover: 0.03</b>  <b>Method:</b> FR, PSO, NPSO (PGL &amp; NSG EM&amp;V GPY5; TRM v6.0 algorithms)</p> <p><b>Multi-Family Comprehensive TAPI Incentives/Partner Trade Allies</b>  <b>NTG: 0.88; Free Ridership 0.15; Participant Spillover: 0.03.</b>  <b>Method:</b> FR, PSO, NPSO (PGL &amp; NSG EM&amp;V GPY5; TRM v6.0 algorithms)</p> <p><b>Multi-Family Comprehensive Custom Incentives</b>  <b>NTG; 0.72; Free Ridership: 0.31; Participant Spillover: 0.03.</b>  <b>Method:</b> FR (IL EM&amp;V GPY4 for C&amp;I Custom Program and IL EM&amp;V GPY5 for MF Program), PSO, NPSO (PGL &amp; NSG EM&amp;V GPY5 for MF program). GPY4 research used TRM v5.0 algorithms, GPY5 research used TRM v6.0 algorithms</p> <p><b>Multi-Family Comprehensive Roll-up of Prescriptive, PTA, and Custom</b>  <b>NTG: 0.84; Free Ridership 0.19; Participant Spillover: 0.03</b>  <b>Method:</b> FR, PSO, NPSO (PGL &amp; NSG EM&amp;V GPY5; TRM v6.0 algorithms). The roll-up NTG value covers Prescriptive, PTA, and Custom MF participants. The roll-up value may be used instead of the path-level NTGs.</p> <p><b>Multi-Family Comprehensive Gas Optimization</b>  <b>NTG: 0.91; Free Ridership: 0.14; Participant Spillover 0.05</b>  <b>Method:</b> FR and PSO: 2018 Survey of 7 GPY6 participants. Memo: Net-to-Gross Research Results from GPY6 for the Gas Optimization Study Offering, Navigant, 8/29/18, revised 9/13/18. The Gas Optimization offering has three paths: building heating, process, and steam plant. Multi-family buildings participate through the building heating path. Multi-Family specific GOS FR and PSO values are preferred if available. The GPY6 population did not have multi-family participants, and the two building heating respondents in the sample of</p>

	<b>MULTI-FAMILY PROGRAM—PEOPLES GAS AND NORTH SHORE GAS</b>
	seven were not compelling as MF representatives so Navigant used the overall program-level FR and PSO values.

Source: [http://ilsagfiles.org/SAG\\_files/NTG/2019\\_NTG\\_Meetings/Corrected\\_NTG\\_Values](http://ilsagfiles.org/SAG_files/NTG/2019_NTG_Meetings/Corrected_NTG_Values)