

# Peoples Gas/North Shore Gas & ComEd Multi-Family Program GPY4 –GPY6 Evaluation Plan

## *Introduction*

The EPY7/GPY4 evaluation for the Multi-Family Comprehensive Energy Efficiency Program (MCEEP or Multi-Family Program) marks the first year of evaluating the Second Triennial Plan<sup>1</sup> of the Peoples Gas (PGL) and North Shore Gas (NSG) Multi-Family Program. It is the fourth year of evaluating the jointly implemented program delivery with Commonwealth Edison Company. The ComEd electric program began three years earlier. Hence, it is electric program year (EPY7) and gas program year 4 (GPY4). The Multi-Family Program achieves electric energy and demand savings for ComEd customers and natural gas energy savings for PGL and NSG.

The Multi-Family Program is designed to provide a “one-stop-shop” to multi-family property owners and managers to achieve comprehensive improvements in energy efficiency that would previously require accessing multiple programs. The direct installation and energy assessment path of the program provides free energy efficiency products in residential dwelling units and common areas. The energy assessment identifies additional comprehensive efficiency upgrades. Additionally, the program provides a network of trade allies that offer fixed-priced installation for energy-efficient products and technical services that are available through the program’s standard and custom rebate process.

The PGL/NSG GPY4 program also provides gas optimization assessments for multi-family buildings for operation and maintenance issues that, if corrected, delivers energy and cost savings to building owners and managers. Franklin Energy is the primary implementation contractor for the ComEd/PGL/NSG program.

This evaluation plan includes proposed evaluation activities for PGL/NSG Plan 2 cycle (GPY4-GPY6) of the Multi-Family Program. In GPY4, the gross impact evaluation approach will reflect the continued reliance on the Statewide Technical Reference Manual (TRM)<sup>2</sup> for deemed gross savings of most program measures and secondary evaluation research for verification of savings for the remaining custom measures. The GPY4 verified net impact evaluation approach will apply the Net-to-Gross (NTG) ratio approved through the Illinois State Advisory Group (SAG) consensus process. In GPY4, Navigant will conduct research to investigate program best practices and the potential for improvement. In GPY5, the evaluation team will conduct a NTG research study that will include interviews of participant property owners and managers (decision-makers). The study will focus on estimating free ridership and spillover to inform NTG recommendations for GPY7 and beyond. The NTG survey will also collect feedback on participants’ satisfaction and suggestions for program improvement.

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<sup>1</sup> Peoples Gas/North Shore Gas Energy Efficiency Plan for the Second Triennial Plan period of June 1, 2014 – May 31, 2017 (known as —Plan 2)

<sup>2</sup> Illinois Statewide Technical Reference Manual for Energy Efficiency Version 3.0, available at: <http://www.ilsag.info/technical-reference-manual.html>

## Evaluation Research Topics

The key evaluation objectives for the Multi-Family Program for GPY4 are to: (1) quantify gross and net savings impacts from the program, and (2) to determine key process-related program strengths and weaknesses and identify ways in which the program can be improved.

The evaluation team has identified the following key topics for evaluation research in GPY4:

### Impact Evaluation:

1. What are the program's verified gross savings?
2. What are the program's verified net savings?
3. What updates are recommended for the Illinois Technical Reference Manual (TRM)?

### Process Evaluation and Other Research Topics:

The GPY4 process evaluation activities for the Multi-Family Program will be based on interviews with program staff and the implementation contractor staff to verify information about marketing and outreach strategies made in GPY4 that impacted customer and trade ally participation and satisfaction.

### Best Practices Research

Key best practice research questions for GPY4 will include:

1. What are the best practices for the Multi-Family Program engaging customers to take a next step in energy efficiency (i.e. from assessment to installation)?
2. What successful pilot/programs have there been that focus on highly targeted neighborhood sweeps to get a concentration of participants in a particular area?

## Evaluation Approach

### Data Collection, Methods, and Sample Sizes

Table 1 below summarizes data collection methods, data sources, and timing to answer the evaluation research questions for GPY4.

**Table 1. Core Data Collection Activities for GPY4**

What	Who	Target Completes	When	Comments
Tracking System & Engineering Review	Participating Customers	All	Feb – Aug 2015	Review measure gross savings using IL-TRM or through research
Project File Reviews	Participating Customers	All	Mar – Aug 2015	Completed Custom & Gas Optimization projects
In Depth Interviews	Program Management	2	March 2015	Interview program staff and IC staff

## Gross Impact Evaluation

The gross impact evaluation's foundation in each year will be a review of program tracking data that substantiates the type and quantity of measures installed. Navigant will perform independent verification of the program tracking database and determine level of input completeness, outliers, missing values, and potentially missing variables. If necessary, the Navigant team will include recommendations for additional fields to be added to the tracking system for use in the impact evaluation effort as well as program process monitoring.

The evaluation team will use the current applicable TRM to review the deemed impact savings from the direct installation and standard incentives measures. The direct installation measures include CFLs and common area lighting, water efficient aerators and showerheads, programmable thermostats, pipe insulation, and water heater thermostat setbacks. Comprehensive and custom energy efficiency measures may include upgrades to central plant and HVAC systems and controls, interior and exterior lighting systems, and building envelope improvements, among others.

For measures covered by the TRM, verified gross savings are calculated for each participant using appropriate TRM algorithms and customer-specific data collected in the tracking system, or, for custom input variables, supplemented by additional research, and then summed across participants to calculate program totals. To be eligible, a TRM measure must meet the physical, operational, and baseline characteristics as defined in the applicable version of the Illinois TRM. For measures with custom savings inputs, the evaluation team will conduct engineering research to verify savings. Verification that measures were installed and savings calculations were applied appropriately may involve participant telephone interviews or engineering review of project files for a sample of participants. We may also conduct site visits to confirm custom inputs and savings calculations.

## Net Impact Evaluation

The GPY4 net impact evaluation will apply the Net-to-Gross (NTG) ratio accepted by Illinois Stakeholders Advisory Group (SAG) by consensus to estimate the verified net savings for the PGL/NSG Multi-Family Program in GPY4. The deemed NTG value by program path is provided in Table 2.

**Table 2. PGL/NSG Deemed NTG Values for GPY4**

Program Path/Measure	Utility	GPY4 Deemed NTG Value	GPY5 Deemed NTG Value
Assessment/Direct Install	PGL & NSG	0.90	0.92
TAPI Incentives	PGL & NSG	0.99	0.99
Prescriptive Rebates	PGL	0.84	0.87
	NSG	0.90	0.92
Custom Incentives	PGL & NSG	0.68	0.78
Gas Optimization	PGL & NSG	1.02	1.02

*Source: PGL-NSG Final GPY5 Consensus NTG Values 2015-03-01.xlsx*

## Process Evaluation

The GPY4 process evaluation activities for the Multi-Family Program will involve interviews with program staff and the implementation contractor staff to verify information about marketing and

outreach strategies made in GPY4 that impacted customer and trade ally participation and satisfaction. In addition the evaluation will research the best practice approaches for improving the program.

### **Evaluation Schedule**

Table 3 below provides the schedule for the GPY4 evaluation of the Multi-Family Program. Adjustments will be made as needed as program year evaluation activities begin.

**Table 3. GPY4 Evaluation Schedule**

<b>Activity/Deliverables</b>	<b>Plan Start</b>	<b>Completion/Delivery</b>
Draft Evaluation Plan to PGL/NSG	March 20, 2015	May 29, 2015
Final Evaluation Plan to PGL/NSG		
In-depth Interview with Program Staff	March 1, 2015	April 1, 2015
Best Practice Research	May 1, 2015	August 30, 2015
Final Data Delivery	June 1, 2015	July 1, 2015
Engineering File Review	April 1, 2015	August 30, 2015
Gross and Net savings Verification	May 1, 2015	August 30, 2015
Internal Report for Review	September 1, 2015	September 30, 2015
Draft Report to PGL/NSG and SAG	October 1, 2015	October 15, 2015
Draft Comments in 10 Business Days	October 16, 2015	October 29, 2015
Final Report to PGL/NSG and SAG	October 30, 2015	November 15, 2015

### **Three Year Evaluation Plan**

We have prepared a three year evaluation plan summary to identify tasks (Table 4) and allocate budgets by year on a preliminary basis. Final activities and allocations will be determined annually as program circumstances are better known. Program Year (PY) refers to the year of participation that will be researched, not the time that the research will occur.

### **GPY5 NTG Research Approach**

There will be no NTG research conducted in GPY4. The NTG research will begin in fall 2015 based on GPY5 participants, but we may also consider participants from GPY4 (at least from the last quarter of GPY4), where participant characteristics allow a comparable sample selection. The research will provide an adjustment for free ridership (the portion of impact that would have occurred even without the program) and spillover (the portion of impact that occurred outside of the program, but would not have occurred in the absence of the program). This approach is expected to provide a timely provision of NTG values for deeming through the SAG consensus process in GPY7.

The participant free ridership survey will involve interviewing an estimated 80 participating decision-makers of multi-family properties. The participant sample will include those who installed measures across the various paths of the program. The survey instrument can accommodate free ridership interviews for two paths, such as the direct installation path plus a second path (TAPI or incentive

projects). We expect few gas optimization projects in the Multi-Family Program and our plan is to use the current gas optimization NTG (1.02) until research is conducted on that specific program approach. We will include Multi-Family custom projects in the GPY4 Business Custom Program NTG research and the findings will be applied to the Multi-Family Custom Path. Free ridership will be calculated using an algorithm approach based on survey self-report data. Free ridership values will be combined into the various paths of the project results by weighting with the ex ante gross annual therm savings sampled for each measure or project path.

Participant spillover will be quantified using survey self-report data for measure description and quantities, while per unit savings values will be drawn from the Illinois TRM and measure research. Spillover results will be calculated by dividing total quantified spillover therms identified from all survey respondents by their total ex ante gross participant therms covered by the survey.

The NTG ratio for each program path will be calculated using the following algorithm.

#### **Net-to-Gross Ratio Algorithm**

$$NTGR = 1 - Free\ Ridership + Spillover$$

#### **Process Evaluation**

The GPY5 NTG survey will include process questions to provide feedback on participant property owner/manager's satisfaction with the program overall, trade ally's services, and participant perspectives for program improvement.

The following research questions will be investigated to determine the key process strength and weakness.

1. Do program staff and multi-family property decision-makers have clear understanding of roles and responsibilities regarding the Multi-Family Program delivery paths – direct installation, prescriptive and custom rebates, gas optimization assessments, and trade ally partner installed measures?
2. What are the potential barriers to participation in different paths of program delivery?
3. How satisfied are participating property owners/managers with the program? What opportunities exist to improve program processes to increase customer satisfaction?
4. If a trade ally was involved, what was the level of cooperation between program staff and the trade ally? How satisfied are participating trade allies? What is the awareness and perceptions among key trade allies and how can they best be informed to promote the program?
5. How do program marketing and outreach strategy help customers and trade allies to promote the program to property owners/managers? How can it be improved?

In addition to interviews with decision makers of multi-family property owners/manager, the GPY5 research will include interviews with 15 participating trade allies to learn about their experience and satisfaction with the program. In an effort to facilitate survey efforts and ensure a timely completion, the evaluation team will conduct both the decision maker and trade ally surveys concurrently. The NTG and process research will be coordinated with similar effort of the Multi-Family Program in joint implementation with ComEd.

Table 4 presents the three year evaluation plan summary to identify tasks by year on a preliminary basis.

**Table 4. Three Year Evaluation Plan Summary for Multi-Family Program**

Activity	GPY4	GPY5	GPY6
Gross Impact Approach	Engineering File Review	Engineering File Review	Engineering File review
Gross Sampling Frequency	None	None	None
Net Impact Approach	Deemed Value	Deemed Value	Deemed Value
NTG Research Approach	None	Decision Maker Survey	None
NTG Research Timing	None	Two Waves, GPY5 participants (may incl. GPY4 participants)	None
Decision Maker Survey	None	FR, SO, Process (<=80 interviews)	None
Process Research Approach/Timing		Two Waves, GPY5 Participants	
Program Manager and Implementer Interviews/ Review Materials	Yes	Yes	Yes
Trade Ally Survey	None	Process (<=15 interviews)	None
Best Practice Research	Yes	None	None