NAVIGANT

C&I and Public Sector Prescriptive Program Impact Evaluation Report

Energy Efficiency Plan: Plan Year 2018 (1/1/2018-12/31/2018)

Presented to
Peoples Gas and North Shore Gas

Draft

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Prepared by:

Karl Walter
Consultant
415.356.7101
karl.walter@navigant.com

Charles Ampong
Managing Consultant
608.497.2336
charles.ampong@navigant.com

www.navigant.com

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Submitted to:

Peoples Gas
North Shore Gas
200 East Randolph Street
Chicago, IL 60601

Submitted by:

Navigant Consulting, Inc.
150 North Riverside
Suite 2100
Chicago, IL 60606
Phone 312.583.5700

Contact:

Randy Gunn
Managing Director
312.583.5714
randy.gunn@navigant.com

Kevin Grabner
Associate Director
608.497.2323
kevin.grabner@navigant.com

Robert Neumann
Associate Director
312.583.2176
rob.neumann@navigant.com

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1. INTRODUCTION

This report presents the results of the impact evaluation of the Peoples Gas (PGL) and North Shore Gas (NSG) 2018 Business Prescriptive Program for public sector and commercial and industrial (C&I) customers. It presents a summary of the energy impacts for the total program and broken out by relevant measure and program structure details, for each utility. The appendix presents the impact analysis methodology. The 2018 program covers January 1, 2018 through December 31, 2018.

2. PROGRAM DESCRIPTION

The PGL and NSG comprehensive Business Sector programs bundle offerings into program paths, and allow all eligible C&I and public sector customers to access any of the paths[1] based on the customer's needs. This report covers evaluation activities for measures installed and natural gas savings realized through the Prescriptive Rebate and Energy Jumpstart paths, referred to as the Prescriptive Program in this report. The Prescriptive Rebate path provides standardized incentives for existing commercial and industrial customers and public sector facilities. Standard incentives are based on approximately 50 percent of incremental costs. These incentives focus on heating systems, water heating systems, pipe insulation, steam traps, various boiler controls, food service equipment, and other public sector energy efficiency measures. Franklin Energy Services LLC., (Franklin Energy) is the implementation contractor for the PGL and NSG program, with trade ally engagement and technical support for program delivery and marketing.

The PGL Prescriptive Program had 58 participants in 2018 and completed 142 projects as shown in the following table, including both C&I and public sector prescriptive projects.

Table 2-1. 2018 Volumetric Summary for PGL

Participation	C&I	Public	Total
Participants *	55	3	58
Installed Projects †	63	79	142
Measure Types Installed	18	8	18

* Participants are defined as number of unique gas account numbers. Public sector participants include school districts that installed projects in multiple buildings.
† Installed Projects are defined as number of unique project IDs
Source: Peoples Gas tracking data and Navigant team analysis.

Table 2-2 summarizes the installed measure quantities that are the basis for PGL verified energy savings.

[1] The comprehensive Business Sector program paths include – Energy Jumpstart (direct installation of free energy saving products), Engineering Studies and staffing assistance, Prescriptive Rebates, Custom Rebates, and Gas Optimization. Only measures that received prescriptive rebates were implemented in 2018; the 2018 program did not realize savings from the Energy Jumpstart path. The custom and gas optimization projects are evaluated and reported separately.

Table 2-2. 2018 Installed Measure Quantities for PGL

Measure	Quantity Unit	Installed Quantity
C&I		
Boiler Tune Up – Process	MBH	240,970
Boiler Tune Up – Space Heating	MBH	314,790
Convection Oven	Each	2
DCV – Kitchen	HP	15
High Efficiency Boiler	MBH	70,726
Linkageless Boiler Controls for Space Heating	MBH	2,009
Steam Traps – HVAC Repair / Replacement	Each	723
Steam Traps – Industrial Replacement	Each	473
Large Gas Water Heater	MBH	250
Wireless Pneumatic Thermostat (prescriptive change)	Projects	1
Steam Traps (prescriptive change)	Projects	6
Public		
Boiler Tune Up – Space Heating	MBH	858,991
High Efficiency Boiler	MBH	20,412
Steam Traps – HVAC Repair / Replacement	Each	83
Steam Traps – Industrial Rep	Each	46
Steam Traps (prescriptive change)	Projects	1

Source: Peoples Gas tracking data and Navigant team analysis.

The NSG program had 20 participants in 2018 and completed 30 projects as shown in the following table.

Table 2-3. 2018 Volumetric Summary for NSG

Participation	C&I	Public	Total
Participants *	9	11	20
Installed Projects †	10	20	30
Measure Types Installed	7	14	18

* Participants are defined as number of unique gas account numbers. Public sector participants include school districts that installed projects in multiple buildings.
† Installed Projects are defined as number of unique project IDs
Source: North Shore Gas tracking data and Navigant team analysis.

Table 2-4 summarizes the installed measure quantities that are the basis for NSG verified energy savings.

Table 2-4. 2018 Installed Measure Quantities for NSG

Measure	Quantity Unit	Installed Quantity
C&I		
Boiler Tune Up – Space Heating	MBH	65,793
High Efficiency Boiler	MBH	6,000
Steam Traps – HVAC Repair/Replacement	Each	15
Steam Traps – Industrial Replacement	Each	24
Steam Traps (prescriptive change)	Projects	2
Public		
Boiler Tune Up – Space Heating	MBH	59,314
High Efficiency Boiler	MBH	15,210
High Efficiency Furnace > 95%	Each	5
Pipe Insulation	Linear Feet	4,882
Steam Traps – HVAC Repair/Replacement	Each	40
Water Heater 0.67 EF	Each	1
Furnace > 95% AFUE (prescriptive change)	Projects	1

Source: North Shore Gas tracking data and Navigant team analysis.

3. Program Savings Summary

Table 3-1 summarizes the energy savings the PGL Prescriptive Program achieved in 2018.

Table 3-1. 2018 Annual Energy Savings Summary for PGL

Program Path	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
C&I	1,811,079	100%	1,811,078	0.79	1,430,752
Public	426,263	100%	426,272	0.79	336,755
PGL Total 2018	**2,237,342**	**100%**	**2,237,350**	**0.79**	**1,767,507**

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.
† Net-to-Gross (NTG) is the ratio of verified net savings to verified gross savings. The NTG ratio is a deemed value. Source: PGL_and_NSG_GPY7_NTG_Values_2017-03-01_Faucet Aerator Correction 2019-03-20.xlsx, which is to be found on the Illinois SAG web site: http://ilsag.info/net-to-gross-framework.html.
Source: Peoples Gas tracking data and Navigant team analysis.

Table 3-2 summarizes the energy savings the NSG Prescriptive Program achieved in 2018.

Table 3-2. 2018 Annual Energy Savings Summary for NSG

Program Path	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
C&I	235,716	100%	235,713	0.79	186,213
Public	79,209	107%	84,961	0.79	67,119
NSG Total 2018	**314,925**	**102%**	**320,674**	**0.79**	**253,332**

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.
† Net-to-Gross (NTG) is the ratio of verified net savings to verified gross savings. The NTG ratio is a deemed value. Source: PGL_and_NSG_GPY7_NTG_Values_2017-03-01_Faucet Aerator Correction 2019-03-20.xlsx, which is to be found on the Illinois SAG web site: http://ilsag.info/net-to-gross-framework.html.
Source: North Shore Gas tracking data and Navigant team analysis.

4. Program Savings by Measure

The PGL program results included 11 Standard Incentive measure categories as shown in the following table. Steam Traps and Boiler Tune Ups contributed the most savings.

Table 4-1. 2018 Annual Energy Savings by Measure for PGL

Measure Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
C&I					
Boiler Tune Up – Process	201,995	100%	201,990	0.79	159,572
Boiler Tune Up – Space Heating	113,141	100%	113,145	0.79	89,385
Convection Oven	704	100%	704	0.79	556
DCV – Kitchen	11,610	100%	11,610	0.79	9,172
High Efficiency Boilers	77,083	100%	77,084	0.79	60,896
Linkageless Boiler Controls for Space Heating	1,177	100%	1,175	0.79	928
Steam Traps – HVAC Repair/Replacement	222,032	100%	222,032	0.79	175,405
Steam Traps – Industrial Replacement	1,055,150	100%	1,055,150	0.79	833,569
Large Gas Water Heater	135	100%	135	0.79	107
Steam Traps (prescriptive change)	35,577	100%	35,577	0.79	28,106
Wireless Pneumatic Thermostat (prescriptive change)	92,475	100%	92,475	0.79	73,055
C&I Subtotal	**1,811,079**	**100%**	**1,811,078**	**0.79**	**1,430,752**
Public					
Boiler Tune Up – Space Heating	308,736	100%	308,748	0.79	243,911
High Efficiency Boilers	11,930	100%	11,929	0.79	9,424
Steam Traps – HVAC Repair/Replacement	27,189	100%	27,191	0.79	21,481
Steam Traps – Industrial Replacement	75,675	100%	75,672	0.79	59,781
Steam Traps (prescriptive change)	2,732	100%	2,732	0.79	2,158
Public Subtotal	**426,263**	**100%**	**426,272**	**0.79**	**336,755**
PGL TOTAL 2018	**2,237,342**	**100%**	**2,237,350**	**0.79**	**1,767,507**

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.
† Net-to-Gross (NTG) is the ratio of verified net savings to verified gross savings. The NTG ratio is a deemed value. Source: PGL_and_NSG_GPY7_NTG_Values_2017-03-01_Faucet Aerator Correction 2019-03-20.xlsx, which is to be found on the Illinois SAG web site: http://ilsag.info/net-to-gross-framework.html.
Source: Peoples Gas tracking data and Navigant team analysis.

The NSG program results included 9 measures as shown in the following table.

Table 4-2. 2018 Annual Energy Savings by Measure for NSG

Measure Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
C&I					
Boiler Tune Up – Space Heating	23,647	100%	23,648	0.79	18,682
High Efficiency Boilers	6,756	100%	6,757	0.79	5,338
Steam Traps – HVAC Repair/Replacement	4,914	100%	4,914	0.79	3,882
Steam Traps – Industrial Replacement	50,279	100%	50,274	0.79	39,716
Steam Traps (prescriptive change)	150,120	100%	150,120	0.79	118,595
C&I Subtotal	**235,716**	**100%**	**235,713**	**0.79**	**186,213**
Public					
Boiler Tune Up – Space Heating	21,318	100%	21,319	0.79	16,842
High Efficiency Boilers	17,128	100%	17,128	0.79	13,531
High Efficiency Furnace > 95%	1,133	100%	1,133	0.79	895
Pipe Insulation	25,462	123%	31,213	0.79	24,659
Steam Traps – HVAC Repair/Replacement	13,103	100%	13,104	0.79	10,352
Water Heater 0.67 EF	35	100%	35	0.79	28
Furnace > 95% AFUE (prescriptive change)	1,029	100%	1,029	0.79	813
Public Subtotal	**79,209**	**107%**	**84,961**	**0.79**	**67,119**
NSG TOTAL 2018	**314,925**	**102%**	**320,674**	**0.79**	**253,332**

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.
† Net-to-Gross (NTG) is the ratio of verified net savings to verified gross savings. The NTG ratio is a deemed value. Source: PGL_and_NSG_GPY7_NTG_Values_2017-03-01_Faucet Aerator Correction 2019-03-20.xlsx, which is to be found on the Illinois SAG web site: http://ilsag.info/net-to-gross-framework.html.
Source: North Shore Gas tracking data and Navigant team analysis

5. Impact Analysis Findings and Recommendations

5.1 Impact Parameter Estimates

Table 5-1 shows the unit therm savings and realization rate findings by measure. The realization rate is the ratio of the verified gross savings to the ex ante gross savings. Following the table, we provide findings and recommendations, including discussion of all measures with realization rates above or below 100 percent. Appendix 1 provides a description of the impact analysis methodology.

Table 5-1. Verified Gross Savings Parameters

Measure	Unit Basis	Ex Ante Gross (Therms/unit)	Verified Gross (Therms/unit)	RR	Data Source(s)
Boiler Tune Up - Process	MBH	0.838	0.838	100%	IL TRM v6.0*, Section 4.4.3
Boiler Tune Up - Space Heating	MBH	0.359	0.359	100%	IL TRM v6.0, Section 4.4.2
Convection Oven	Each	352	352	100%	IL TRM v6.0, Section 4.2.5
DCV - Kitchen	HP	774	774	100%	IL TRM v6.0, Section 4.2.16
Boiler - HW >=300MBtu, >88% TE	MBH	1.126	1.126	100%	IL TRM v6.0, Section 4.2.10
Boiler - Steam >=1500MBH, >=82% TE	MBH	0.991	0.991	100%	IL TRM v6.0, Section 4.2.10
Linkageless Boiler Controls for Space Heating	MBH	0.586	0.586	100%	IL TRM v6.0, Section 4.4.21
Steam Traps - HVAC Repair/Rep	Each	Audit = 328 No Audit = 88	Verified	100%	IL TRM v6.0, Section 4.4.16
Steam Traps - Industrial Rep*	Each	Vary	Verified	100%	IL TRM v6.0, Section 4.4.16
Large Gas Water Heater	MBH	0.54	0.54	100%	IL TRM v6.0, Section 4.3.1
High Efficiency Furnace	Each	227	227	100%	IL TRM v6.0, Section 4.2.11
Pipe Insulation†	Ln Ft.	Vary	Verified. Adjusted	107%	IL TRM v6.0, Section 4.4.16‡ MMDB§
Water Heater 0.67 EF	Each	35.43	35.436	100%	IL TRM v6.0, Section 4.3.1
Other (Prescriptive Change)	Projects	Vary	Verified as acceptable	100%	MMDB§

* There are multiple subsets of industrial steam trap types (i.e. different psig ranges). Details of measure type and savings are shown below
† There are multiple subsets of pipe insulation (i.e. different diameter ranges). Details of measure type and savings are shown below.
‡ State of Illinois Technical Reference Manual version 6.0 from http://www.ilsag.info/technical-reference-manual.html.
§ Franklin Energy's Master Measure Database spreadsheet, Commercial PG NSG MMDB PY7 2018-08-09.
Source: Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas, extract dated February 4, 2019.

5.2 Other Findings and Recommendations

Pipe Insulation

Navigant found that the tracked ex ante gross therms savings for pipe insulation were equivalent to the MMDB values. The verified savings however are different from the MMBD primarily due to inconsistencies in formulas in the MMDB file. Formulas in the same column referenced inconsistent cells for what should be the same equation. There were some references to cells in an incorrect column and other cases where certain values were double counted. In the case of Steam Small 1" to 2" and Medium 2.1" to 5" the

formulas referenced condensate therm/ft instead of steam. These errors lead to the higher realization rates for some of the pipe insulation measures, resulting in 107 percent overall gross realization rate.

Recommendation 1: The MMDB should be reviewed to ensure that formulas in the same column do not reference different cells for what should be the same equation. There were other cases where certain values were double counted or averaged. In the case of Steam Small 1" to 2" and Medium 2.1" to 5", the formulas referencing condensate nominal therm/ft should instead all be steam nominal therms/ft. For fittings and valves, (e.g. Steam Med Fitting 2.1" to 5"), check the formula to avoid double calculating the savings for 5" fitting sizes.

Boiler HW

The ex ante gross therms savings for Hot Water (HW) Boiler were equivalent to the MMDB values. However, the ex ante savings assumes a conservative baseline efficiency assumption of 82% for all HW Boilers >= 300 MBTU. In the TRM, HW Boilers >= 300 MBTU & <= 2,500 MBH have a baseline efficiency of 80%, and the HW Boilers > 2,500 MBH have a baseline of 82%. Navigant's impact evaluation approach follows the TRM for this measure, so verified savings for the >= 300 MBTU & <= 2,500 MBH category are based on a baseline efficiency of 80%. In 2018, there were no installations of HW Boilers >= 300 MBTU & <= 2,500 MBH, but we expect there could be installations in 2019.

Recommendation 2: To match the evaluation approach for estimating savings, the MMDB and tracking system should use a baseline efficiency of 80% for HW Boilers >= 300 MBTU & <= 2,500 MBH, and a baseline efficiency of 82% for HW Boilers > 2,500 MBH. Franklin Energy could consider updating the MMDB and tracking system to track these boiler sizes separately due to the differences in the baseline efficiencies, based on the TRM.

Storage Water Heater

Navigant found that in calculating the hot water usage for the large water heater, the ex ante estimate used the average consumption per capacity across all building types (576.8 consumption/cap). Similarly, for the "Water Heater 0.67 EF" measure, the custom value was 558 consumption/cap. The evaluation team did not adjust these values, but recommend using deemed values by project or building type.

Recommendation 3: Navigant recommends that the consumption/cap assumption for calculating the hot water usage in gallons be based on project-specific data and use the corresponding deemed building type values.

Prescriptive Change Projects

Navigant identified eleven "prescriptive change" projects in the tracking system.[2] These comprised of seven PGL industrial steam trap projects and one wireless pneumatic thermostat and two NSG industrial steam trap projects and one furnace project. We reviewed the prescriptive approach and the savings inputs and agreed that the savings cap at 20 percent of gas usage was reasonable. We did not adjust the savings any further and maintained a 100 percent gross realization rate.

Historical Results

Table 5-2 below shows the historical gross realization rates and NTG values for the C&I Prescriptive Program. Table 5-3 below shows the historical gross realization rates and NTG values for the Public

[2] Using the TRM assumptions for these projects produced significantly more savings but the results were inconsistent with the nature of the projects. As a result, Franklin Energy capped the savings at 20 percent of the account's annual gas usage.

Sector Prescriptive Program, beginning with GPY6 when PGL and NSG assumed administration of the program.

Table 5-2. Historical Realization Rates and NTG Values – C&I

Program Year	PGL Verified Gross RR	NSG Verified Gross RR	PGL NTG	NSG NTG
GPY1	100%	100%	0.43	0.43
GPY2	100%	100%	0.63	0.63
GPY3	100%	100%	0.63	0.63
GPY4	100%	100%	0.58	0.58
GPY5	99%	100%	0.63	0.63
GPY6	100%	100%	0.79	0.79
2018	100%	100%	0.79	0.79

Source: Navigant evaluation research.

Table 5-3. Historical Realization Rates and NTG Values – Public Sector

Program Year	PGL Verified Gross RR	NSG Verified Gross RR	PGL NTG	NSG NTG
GPY6	100%	100%	0.54	0.51
2018	100%	107%	0.79	0.79

Source: Navigant evaluation research.

6. APPENDIX 1. IMPACT ANALYSIS METHODOLOGY

Navigant compared the savings calculation method in the 2018 tracking data to Franklin Energy's "Master Measure Database" file (MMDB)[3], which feeds into calculating the tracking data savings, and to IL TRM-based savings values. Navigant verified that the IL TRM algorithms were correctly applied in the MMDB. Navigant checked that measure inputs matched deemed IL TRM inputs and validated custom inputs. To be eligible, an IL TRM measure must meet the physical, operational, and baseline characteristics as defined in the applicable version of the IL TRM.[4]

Navigant reviewed the program tracking data drawn from a February 4, 2019 extract to substantiate the type and quantity of measures installed. Verified gross realization rates are calculated by dividing the verified gross savings by the ex ante gross savings.

The deemed savings verification approach was supplemented by engineering file review of nine prescriptive projects that were described as "prescriptive change" in the tracking data. Navigant verified these measures were mostly steam traps and that the program claimed savings based on 20 percent of gas usage. We determined that the savings reported for these projects are reasonable and therefore estimated 100 percent gross realization rate for these projects.

Steam Traps

Below is the measure level detail for industrial steam trap measures. The program tracking database is now providing more details of the pressure size and steam trap types being installed. This additional detail is responsive to Navigant's recommendation from the previous program year. There were no adjustments to savings.

Table 6-1. Measure-Level Gross Realization Rate Estimates for Steam Traps

Measure	Quantity Installed	Quantity Unit	Ex Ante Unit Therms Savings	Verified Unit Therms Savings	Gross Therms Realization Rate (RR)
Steam Traps - HVAC Repair/Rep	861	Each	Audit = 328 No Audit = 88	Verified	100%
Steam Traps - Industrial/Process Audit - psig <= 15	268	Each	673	673	100%
Steam Traps - Industrial/Process Audit - 15 < psig < 30	24	Each	630	630	100%
Steam Traps - Industrial/Process Audit - 30 <= psig < 75	58	Each	2,197	2,197	100%
Steam Traps - Industrial/Process Audit - 75 <= psig < 125	132	Each	3,956	3,956	100%
Steam Traps - Industrial/Process Audit - 125 <= psig < 175	56	Each	5,369	5,369	100%
Steam Traps - Industrial/Process Audit - 175 <= psig < 250	5	Each	7,052	7,052	100%

** Quantities shown combines PGL and NSG.*
Source: Navigant analysis of tracking data.

[3] File name: COMMERCIAL PG NSG MMDB PY7 2018-08-09, produced by Franklin Energy.
[4] Illinois Statewide Technical Reference Manual for Energy Efficiency Version 6.0 from http://www.ilsag.info/technical-reference-manual.html

Pipe Insulation

Below are the per unit savings estimate for pipe insulation and pipe fittings. Further discussion and recommendations on the evaluation adjustment are provided in Section 5.

Table 6-2. Measure-Level Gross Realization Rate Estimates for Pipe Insulation

Measure	Quantity Installed*	Quantity Unit	Ex Ante Unit Therms Savings	Verified Unit Therms Savings	Gross Therms Realization Rate (RR)	Evaluation Adjustment
Pipe Insulation - Steam Med Fitting	72	Ln. ft	11.69	14.38	123%	Removed double averaging fitting size 5”
Pipe Insulation - Steam Large Fitting	25	Ln. ft	44.89	40.66	91%	Removed double averaging fitting sizes 6-8”
Pipe Insulation - HW Small 1" to 2"	983	Ln. ft	2.66	2.66	100%	OK
Pipe Insulation - HW Medium 2.1" to 4"	1,890	Ln. ft	5.25	5.68	108%	Corrected error in averaging nominal therms/ft
Pipe Insulation - Steam Small 1" to 2"	1,331	Ln. ft	3.19	5.64	177%	Corrected condensate nominal therms/ft to steam
Pipe Insulation - Steam Med 2.1" to 5"	521	Ln. ft	9.78	12.81	131%	Corrected condensate nominal therms/ft to steam
Pipe Insulation - Steam Large 5.1" to 8"	48	Ln. ft	25.00	25.00	100%	OK
Pipe Insulation - Steam X-Large >8"	12	Ln. ft	35.98	35.98	100%	OK

* Quantities shown combine PGL and NSG.
Source: Navigant analysis of tracking data.

Navigant calculated verified net energy savings by multiplying the verified gross savings estimates by a net-to-gross ratio (NTG). In 2018, the NTG estimates used to calculate the net verified savings were based on past evaluation research and defined by a consensus process through SAG, as documented in a spreadsheet.[5]

[5] Source: PGL_and_NSG_GPY7_NTG_Values_2017-03-01_Faucet Aerator Correction 2019-03-20.xlsx, which is to be found on the IL SAG web site here: http://ilsag.info/net-to-gross-framework.html.

7. Appendix 2. Program-Specific Inputs for the Illinois TRC

Table 7-1 and Table 7-2, the Total Resource Cost (TRC) variable tables, only include cost-effectiveness analysis inputs available at the time of finalizing the 2018 Prescriptive Program impact evaluation report. Additional required cost data (e.g., measure costs, program level incentive and non-incentive costs) are not included in the tables and will be provided to the evaluation team later. Detail in the TRC tables (e.g., EULs), other than final 2018 savings and program data, are subject to change and are not final.

Table 7-1. TRC Test Inputs for PGL

Measure	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Boiler Tune Up - Process	MBH	240,970	3.0	201,995	201,990	159,572
Boiler Tune Up - Space Heating	MBH	1,173,781	3.0	421,877	421,893	333,295
Convection Oven	Each	2	12.0	704	704	556
DCV - Kitchen	HP	15	15.0	11,610	11,610	9,172
High Efficiency Boiler	MBH	91,138	20.0	89,013	89,013	70,320
Linkageless Boiler Controls for Space Heating	MBH	2,009	16.0	1,177	1,175	928
Steam Traps - HVAC Repair/Rep	Each	806	6.0	249,221	249,223	196,886
Steam Traps - Industrial Rep	Each	519	6.0	1,130,825	1,130,822	893,349
Large Gas Water Heater	MBH	250	15.0	135	135	107
Wireless Pneumatic Thermostat (prescriptive change)	Project	1	4.0	92,475	92,475	73,055
Steam Trap (prescriptive change)	Project	7	6.0	38,309	38,309	30,264
PGL Total 2018			**5.7**	**2,237,342**	**2,237,350**	**1,767,507**

Source: Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas, extract dated February 4, 2019.

Table 7-2. TRC Test Inputs for NSG

Measure	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Boiler Tune Up - Space Heating	MBH	125,107	3.0	44,965	44,967	35,524
High Efficiency Boiler	MBH	21,210	20.0	23,884	23,885	18,869
Steam Traps - HVAC Repair/Rep	Each	55	6.0	18,017	18,018	14,234
Steam Traps - Industrial Rep	Each	24	6.0	50,279	50,274	39,716
High Efficiency Furnace	Each	5	17.0	1,133	1,133	895
Pipe Insulation	Ln Ft.	4,882	15.0	25,462	31,213	24,658
Water Heater 0.67 EF	Each	1	15.0	35	35	28
Furnace > 95% AFUE (prescriptive change)	Project	1	17.0	1,029	1,029	813
Steam Trap (prescriptive change)	Project	1	6.0	150,120	150,120	118,595
NSG TOTAL 2018			**7.6**	**314,924**	**320,674**	**253,332**

Source: Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas, extract dated February 4, 2019.