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C&I and Public Sector Prescriptive Program Impact Evaluation Report

Energy Efficiency Plan: Program Year 2022 (1/1/2022-12/31/2022)

Prepared for:

Peoples Gas and North Shore Gas

FINAL

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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) 2022 Commercial and Industrial (C&I) and Public Sector Prescriptive programs, as well as a summary of the energy impacts for the total program and broken out by relevant measure and program structure details. The appendices present the impact analysis methodology and cost-effectiveness input summary. Program year 2022 covers January 1, 2022 through December 31, 2022.

2. Program Description

The PGL and NSG comprehensive business programs combine offerings into program paths and allow eligible C&I and Public Sector customers access to any of the paths[1] based on the needs of each customer. This report covers evaluation activities for measures installed and natural gas savings realized through the Prescriptive Rebate path, referred to as the Prescriptive program in this report. The program provides standardized incentives to cover part of the measure costs for existing commercial, industrial, and public sector buildings. The incentives focus on energy efficient measures such as heating systems, water heating systems, pipe and storage tank insulation, steam traps, and food service equipment. The PGL program had 35 participants (25 C&I and 10 public sector participants) in 2022 and completed 172 projects (29 C&I and 143 public sector projects), as shown in Table 2-1.

[1] The comprehensive non-residential 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 2022; the 2022 program did not realize savings from the Energy Jumpstart path, which as a direct installation offering was affected by COVID-19 restrictions. The custom and gas optimization projects are evaluated and reported separately.

Table 2-1. 2022 Volumetric Summary for PGL

Participation	
C&I Sector	
Participants *	25
Installed Projects †	29
Measure Types Installed ‡	13
Public Sector	
Participants *	10
Installed Projects †	143
Measure Types Installed ‡	18
Program Total	
Participants *	35
Installed Projects †	172
Measure Types Installed‡	20

* Participants are defined as the distinct count of Account Name
† Installed Projects are defined as the distinct count of Project IDs with non-zero therms savings
‡ Measure Types Installed are defined as the distinct count of reporting measure names with non-zero therms savings
Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

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

Table 2-2. 2022 Installed Measure Quantities for PGL

Program Category	Measure	Quantity Unit	Installed Quantity
C&I	Boiler Tune Up - Process	MBtu/hr	932,268
	Boiler Tune Up - Space Heating	MBtu/hr	79,584
	Linkageless Boiler Controls for Space Heating	MBtu/hr	20,000
	Prescriptive Change Steam Trap*	Projects	9
	Steam Traps - HVAC Repair/Rep	Each	363
	Steam Traps - High Pressure Space Heating	Each	1
	Steam Traps - Industrial Rep	Projects	49
Public	Boiler Reset Controls	MBtu/hr	52,800
	Boiler Tune Up - Process	MBtu/hr	2,319
	Boiler Tune Up - Space Heating	MBtu/hr	909,726
	High Efficiency Boiler	MBtu/hr	8,370
	Linkageless Boiler Controls for Space Heating	MBtu/hr	8,370
	Pipe Insulation	Ln Ft.	1,564
	Prescriptive Change Steam Trap*	Projects	2
	Steam Traps - HVAC Repair/Rep	Each	859
	Steam Traps - High Pressure Space Heating	Each	5
	Steam Traps - Industrial Rep	Projects	13
	Wireless Pneumatic Thermostat	Sq Ft	323,353

* Prescriptive Change projects have savings capped at 20 percent of gas usage.
Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

The NSG program had 22 participants (10 C&I and 12 public sector participants) in 2022 and completed 41 projects (19 C&I and 22 public sector projects) as shown in Table 2-3.

Table 2-3. 2022 Volumetric Summary for NSG

Participation	
C&I Sector	
Participants *	10
Installed Projects †	19
Measure Types Installed ‡	12
Public Sector	
Participants *	12
Installed Projects †	22
Measure Types Installed ‡	17
Program Total	
Participants *	22
Installed Projects †	41
Measure Types Installed ‡	27

* Participants are defined as the distinct count of Account Name
† Installed Projects are defined as the distinct count of Project IDs with non-zero therms savings
‡ Measure Types Installed are defined as the distinct count of reporting measure names with non-zero therms savings
Source: North Shore Gas tracking data and Guidehouse evaluation team analysis.

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

Table 2-4. 2022 Installed Measure Quantities for NSG

Program Category	Measure	Quantity Unit	Installed Quantity
C&I	Boiler Tune Up - Process	MBtu/hr	77,944
	Boiler Tune Up - Space Heating	MBtu/hr	82,637
	High Efficiency Boiler	MBtu/hr	3,150
	Prescriptive Change Steam Trap	Projects	3
	Steam Traps - HVAC Repair/Rep	Each	839
	Steam Traps - Industrial Rep	Projects	19
	Storage Water Heater (Large)	MBtu/hr	16,003
Public	Boiler Reset Controls	MBtu/hr	15,000
	Boiler Tune Up - Space Heating	MBtu/hr	15,518
	Condensing Unit Heater	kBtu/hr	3,833
	Draft Controls	MBtu/hr	15,000
	High Efficiency Boiler	MBtu/hr	6,000
	Linkageless Boiler Controls for Space Heating	MBtu/hr	18,900
	Pipe Insulation	Ln Ft.	1,388
	Steam Traps - HVAC Repair/Rep	Each	195

Source: North Shore Gas tracking data and Guidehouse evaluation team analysis.

3. Program Savings Detail

Table 3-1 summarizes the energy savings the PGL Prescriptive program achieved by path in 2022.

Table 3-1. 2022 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	1,992,397	100%	1,993,890	0.91	1,814,440
Public	1,163,010	100%	1,164,571	Thermostats = 0.93 All Other = 0.92	1,071,725
Total or Weighted Average	**3,155,407**	**100%**	**3,158,461**		**2,886,165**

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.
† Net-to-Gross: A deemed value. Available on the Illinois SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/.
Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

Table 3-2 summarizes the energy savings the NSG Prescriptive program achieved by path in 2022.

Table 3-2. 2022 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	955,031	100%	955,036	0.91	869,083
Public	136,902	103%	141,607	Thermostats = 0.93 All Other = 0.92	130,279
Total or Weighted Average	**1,091,933**	**100%**	**1,096,644**		**999,362**

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.
† Net-to-Gross: A deemed value. Available on the Illinois SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/.
Source: North Shore Gas tracking data and Guidehouse evaluation team analysis.

4. Program Savings by Measure

The PGL program includes 12 unique research categories across the C&I and public sector program paths, as shown in Table 4-1. The Boiler Tune Up and Steam Trap measures contributed the most savings.

Table 4-1. 2022 Annual Energy Savings by Measure for PGL

Program Management	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
C&I	Boiler Tune Up - Process	953,475	100%	953,463	0.91	867,652
	Boiler Tune Up - Space Heating	37,684	100%	37,687	0.91	34,295
	Linkageless Boiler Controls for Space Heating	11,255	113%	12,753	0.91	11,605
	Prescriptive Change Steam Trap	77,299	100%	77,299	0.91	70,343
	Steam Traps - HVAC Repair/Rep	139,296	100%	139,308	0.91	126,770
	Steam Traps - High Pressure Space Heating	369	107%	393	0.91	358
	Steam Traps - Industrial Rep	773,019	100%	772,987	0.91	703,418
C&I Subtotal		***1,992,397***	***100%***	***1,993,890***	***0.91***	***1,814,440***
Public	Boiler Reset Controls	70,878	100%	70,879	0.92	65,208
	Boiler Tune Up - Process	2,372	100%	2,372	0.92	2,182
	Boiler Tune Up - Space Heating	430,834	100%	430,797	0.92	396,333
	High Efficiency Boiler	4,220	101%	4,267	0.92	3,925
	Linkageless Boiler Controls for Space Heating	4,659	115%	5,337	0.92	4,910
	Pipe Insulation	10,392	100%	10,389	0.92	9,558
	Prescriptive Change Steam Trap	7,360	100%	7,360	0.92	6,771
	Steam Traps - HVAC Repair/Rep	329,612	100%	329,656	0.92	303,284
	Steam Traps - High Pressure Space Heating	1,844	107%	1,966	0.92	1,809
	Steam Traps - Industrial Rep	269,430	100%	269,608	0.92	248,040
	Wireless Pneumatic Thermostat	31,409	102%	31,940	0.93	29,704
Public Subtotal		***1,163,010***	***100%***	***1,164,571***	***0.92***	***1,071,725***
	Total or Weighted Average	**3,155,407**	**100%**	**3,158,461**		**2,886,165**

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.
† Net-to-Gross: A deemed value. Available on the Illinois SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/.
Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

The NSG program includes 12 unique research categories across the C&I and public sector program paths, as shown in Table 4-2. The Boiler Tune Up and Steam Trap measures contributed the most savings.

Table 4-2. 2022 Annual Energy Savings by Measure for NSG

Program Category	Savings Category	Ex Ante Gross Savings (Therms)	Verified Gross RR*	Verified Gross Savings (Therms)	NTG†	Verified Net Savings (Therms)
C&I	Boiler Tune Up - Process	79,717	100%	79,716	0.91	72,542
	Boiler Tune Up - Space Heating	39,130	100%	39,132	0.91	35,611
	High Efficiency Boiler	1,606	100%	1,606	0.91	1,461
	Prescriptive Change Steam Trap	5,950	100%	5,950	0.91	5,414
	Steam Traps - HVAC Repair/Rep	321,955	100%	321,981	0.91	293,003
	Steam Traps - Industrial Rep	495,452	100%	495,430	0.91	450,841
	Storage Water Heater (Large)	11,221	100%	11,222	0.91	10,212
C&I Subtotal		***955,031***	***100%***	***955,036***	***0.91***	***869,083***
Public	Boiler Reset Controls	20,136	100%	20,136	0.92	18,525
	Boiler Tune Up - Space Heating	7,349	100%	7,348	0.92	6,761
	Condensing Unit Heater	6,795	143%	9,715	0.92	8,937
	Draft Controls	2,221	113%	2,517	0.92	2,316
	High Efficiency Boiler	7,285	101%	7,367	0.92	6,777
	Linkageless Boiler Controls for Space Heating	10,635	113%	12,051	0.92	11,087
	Pipe Insulation	7,639	100%	7,638	0.92	7,027
	Steam Traps - HVAC Repair/Rep	74,842	100%	74,835	0.92	68,848
Public Subtotal		***136,902***	***103%***	***141,607***	***0.92***	***130,279***
	Total or Weighted Average	**1,091,933**	**100%**	**1,096,644**		**999,362**

* Realization Rate (RR) is the ratio of verified gross savings to ex ante gross savings, based on evaluation research findings.
† Net-to-Gross: A deemed value. Available on the Illinois SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/.
Source: North Shore Gas tracking data and Guidehouse 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 from our review. The realization rate is the ratio of the verified savings to the ex ante savings. Following the table are findings and recommendations, including discussion of all measures with realization rates above or below 100 percent. 0 provides a description of the impact analysis methodology. Appendix B provides the Total Resource Cost (TRC) cost-effectiveness analysis inputs available at the time of producing this impact evaluation report.

Table 5-1. Verified Gross Savings Parameters

Measure	Unit Basis	Ex Ante Gross (therms/unit)	Verified Gross (therms/unit)	Realization Rate	Data Source(s)
Boiler Reset Controls	MBtu/hr	Varies	Varies	100%	IL TRM v10.0†, Section 4.4.4
Boiler Tune Up - Process	MBtu/hr	Varies	Varies	100%	IL TRM v10.0, Section 4.4.3
Boiler Tune Up - Space Heating	MBtu/hr	Varies	Varies	100%	IL TRM v10.0, Section 4.4.2
Condensing Unit Heater	kBtu/hr	Varies	Varies	143%	IL TRM v10.0, Section 4.4.5
Draft Controls	MBtu/hr	Varies	Varies	113%	IL TRM v10.0, Section 4.4.23
High Efficiency Boiler	MBtu/hr	Varies	Varies	101%	IL TRM v10.0, Section 4.4.10
Linkageless Boiler Controls for Space Heating	MBtu/hr	Varies	Varies	114%	IL TRM v10.0, Section 4.4.21
Pipe Insulation	Ln Ft.	Varies	Varies	100%	IL TRM v10.0, Section 4.4.14
Prescriptive Change Other	Projects	Custom Calculation	Custom Calculation	100%	Tracking Data*
Prescriptive Change Steam Trap	Projects	Custom Calculation	Custom Calculation	100%	Tracking Data
Steam Traps - High Pressure Space Heating	Each	Varies	Varies	107%	IL TRM v10.0, Section 4.4.16
Steam Traps - HVAC Repair/Rep	Each	Varies	Varies	100%	IL TRM v10.0, Section 4.4.16
Steam Traps - Industrial Rep	Projects	Varies	Varies	100%	IL TRM v10.0, Section 4.4.16
Storage Water Heater (Large)	MBtu/hr	Varies	Varies	100%	IL TRM v10.0, Section 4.3.1
Wireless Pneumatic Thermostat	Sq Ft	Varies	Varies	102%	2022 MMDB - C&I and SB‡

* Program Tracking Data (PTD) provided by Peoples Gas and North Shore Gas, updated extract dated March 7, 2022.
† State of Illinois Technical Reference Manual version 10.0 from **http://www.ilsag.info/technical-reference-manual.html**.
‡ CY2022 C&I and Small Business Master Measure Database.
Source: Peoples Gas and North Shore Gas tracking data and Guidehouse team analysis.

5.2 Other Findings and Recommendations

Finding 1. Ex ante savings for the Condensing Unit Heater measure use the deemed approach from the Illinois Technical Reference Manual (IL TRM) version 9. Illinois (IL) TRM v10.0 has an algorithm for calculating savings, which the verified savings used. Verified savings assume the units of capacity are provided in kBtu/hr, unlike Boiler measures, which are provided as MBtu/hr. Verified savings assume a 150 Mbtu/hr capacity as outlined in the 2022 C&I and Small Business (SB) Master Measure Database (MMDB).

> **Recommendation 1a.** Update Condensing Unit Heater ex ante savings and the MMDB to use the savings calculation and assumptions provided in the IL-TRM v10.0.
> **Recommendation 1b**. Update the ex ante savings to use 150 Mbtu/hr capacity or values provided in the MMDB file.
> **Recommendation 1c**. Ensure the Unknown building type EFLH value is used when calculating savings for this measure type rather than the average.

Finding 2. PGL Project ID 7480938 included Kitchen Demand Controlled Ventilation in the program dataset that Guidehouse evaluated during the 2022 midyear evaluations. However, the end of year tracking data excluded this project as incomplete and the ex ante savings of 31,694 therms was changed to zero.[2] The evaluation team did not include any savings for the measure in this report.

> **Recommendation 2.** Ensure the evaluation team is informed of data changes between wave evaluations to avoid misrepresentation of potential savings during the end of year evaluations.

Finding 3. Many measures in the tracking data have ex ante savings that do not align with the savings provided in the MMDB file. Table 5-2 shows the applicable measures, and their ex ante gross per unit savings and MMDB per unit savings.

[2] Guidehouse accessed project documentation and status in Salesforce on May 22, 2023. Guidehouse confirmed status was not completed and savings set to zero.

Table 5-2. MMDB Gross Therms and Ex Ante Gross Therms per Unit Discrepancies

Utility	Program Management	Project ID	Savings Category	Units	MMDB Gross Therms/ Unit	Ex Ante Gross Therms per Unit
NSG	Public	8951971	High Efficiency Boiler	MBH	1.23	1.21
PGL	Public	8665452	High Efficiency Boiler	MBH	0.51	0.50
PGL	Public	8665452	Linkageless Boiler Controls for Space Heating	MBH	0.563	0.557
PGL	Public	7715797	Steam Traps - HVAC Repair/Rep	Each	383.77	379.57
PGL	Public	8286016	Steam Traps - HVAC Repair/Rep	Each	383.77	379.57
PGL	Public	7715797	Steam Traps - Industrial Rep	Projects	788.87	780.33
PGL	Public	8286016	Steam Traps - Industrial Rep	Projects	788.87	780.33
PGL	Public	9895273	Wireless Pneumatic Thermostat	Sq Ft	0.099	0.097
PGL	Public	7266616	Wireless Pneumatic Thermostat	Sq Ft	0.099	0.097

Source: Peoples Gas and North Shore Gas tracking data, MMDB, and Guidehouse team analysis.

Recommendation 3. The program implementer should ensure that reported ex ante savings align with the calculations in the MMDB file.

Finding 4. Measures that utilize Equivalent Full Load Hours (EFLH) in the savings algorithms use an average EFLH value of 1481, rather than the Unknown building type value of 1678. The evaluation team uses the Unknown building type for all measures in the program, as has been done historically for this program. This discrepancy applies to Linkageless Boiler Controls for Space Heating and Draft Controls.

Recommendation 4. Ensure ex ante savings reported in the tracking data align with savings calculated in the MMDB file. Additionally, assumptions made about building type should reflect what has been done historically. If a change is recommended, it should be brought to the evaluation team's attention during the start of the program year or during mid-year evaluation.

Finding 5. A comment in the MMDB on the Steam Trap – Non-LPS Space Heating measure, used for the program's Steam Traps – High Pressure Space Heating measure, states that savings input assumptions match the Commercial LPS Space Heating values from the IL TRM. The evaluation team does not see this statement reflected in the actual values in the MMDB and ex ante reported values; input values in the MMDB do not match Commercial LPS Space Heating assumption in the IL TRM v10.0.

Recommendation 5. Review the savings inputs for this measure against the latest version of IL TRM and adjust savings as necessary. If the inputs are supposed to align with a different Steam Trap type, provide clarification in the MMDB.

Finding 6. The evaluation team observed that the MMDB file aligns Wireless Pneumatic Thermostat measures with a net-to-gross (NTG) value of 0.92. The Illinois Stakeholder Advisory Group (SAG) states that all CY2022 thermostats in the public sector path of the Prescriptive program should utilize a NTG value of 0.93, which is what the verified net savings used.

> **Recommendation 6.** Ensure ex ante reported net savings for Wireless Pneumatic Thermostat follow the SAG guidelines for NTG values.

Finding 7. The evaluation team observed the public sector dataset had some projects with a status of 'Pipeline' although the savings from the projects were included in the program total scorecard or counted as realized savings (e.g., projects 7715797, 8286016, 8951971, 9895273, etc.) These projects were included in the evaluation.

> **Recommendation 7.** Ensure all measures in the final dataset for evaluation are marked as realized and complete. Otherwise provide further details on why pipeline projects are counted as realized savings.

5.3 Historical Realization Rates and NTG Values

Table 5-3 shows the historical gross realization rates and NTG values for the C&I Prescriptive program. Table 5-4 shows the historical gross realization rates and NTG values for the public sector Prescriptive program.

Table 5-3. Historical Realization Rates and NTG Values – C&I

Program Year	PGL Verified Gross RR	NSG Verified Gross RR	PGL NTG	NSG NTG
2018	100%	100%	0.79	0.79
2019	100%	100%	0.79	0.79
2020	100%	100%	0.79	0.79
2021	100%	100%	0.91	0.91
2022	100%	100%	0.91	0.91

Source: Guidehouse evaluation research and the Illinois SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/.

Table 5-4. Historical Realization Rates and NTG Values – Public Sector

Program Year	PGL Verified Gross RR	NSG Verified Gross RR	PGL NTG	NSG NTG
2018	100%	107%	0.79	0.79
2019	100%	101%	0.79	0.79
2020	100%	100%	0.79	0.79
2021	100%	100%	0.91	0.91
2022	100%	103%	Thermostats = 0.93 All Other = 0.92	Thermostats = 0.93 All Other = 0.92

Source: Guidehouse evaluation research and the Illinois SAG website: https://www.ilsag.info/evaluator-ntg-recommendations-for-2022/.

Appendix A. Impact Analysis Methodology

Guidehouse determined verified gross savings for each program measure by:

1. Using the NTG values defined on the Illinois SAG website to extract ex ante gross savings from the net reported values in the tracking data.
2. Reviewing the savings algorithm inputs in the MMDB for agreement with the IL TRM v10.0 or evaluation research for non-deemed measures or custom inputs.
3. Validating that the savings algorithm was applied correctly.
4. Cross-checking per-unit savings values in the tracking data with the verified values in the MMDB, or in Guidehouse's calculations if the MMDB did not agree with the IL TRM v10.0.
5. Multiplying the verified per-unit savings value by the quantity reported in the program tracking data drawn from an updated extract dated March 7, 2022 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 evaluation team calculated verified net therms savings by multiplying the verified gross savings estimates by a NTG value of 0.91 for C&I measures, 0.93 for public sector Thermostat measures, and 0.92 for all other public sector measures. These values are deemed by a consensus process through the Illinois SAG.

Appendix B. Program Specific Inputs for the Illinois TRC

Table B-1 and Table B-2**Error! Reference source not found.** show the Total Resource Cost (TRC) cost-effectiveness analysis inputs available at the time of producing this impact evaluation report. Currently, additional required cost data (e.g., measure costs, program level incentive and non-incentive costs) are not included in this table and will be provided to the evaluation team later. Guidehouse will include annual and lifetime water savings and greenhouse gas reductions in the end of year summary report.

Table B-1. Verified Cost Effectiveness Inputs – PGL

Savings Category	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Boiler Reset Controls	MBtu/hr	52,800	16.0	70,878	70,879	65,208
Boiler Tune Up - Process	MBtu/hr	934,587	3.0	955,846	955,835	869,834
Boiler Tune Up - Space Heating	MBtu/hr	989,310	3.0	468,519	468,484	430,628
High Efficiency Boiler	MBtu/hr	8,370	25.0	4,220	4,267	3,925
Linkageless Boiler Controls for Space Heating	MBtu/hr	28,370	20.0	15,914	18,090	16,515
Pipe Insulation	Ln Ft.	1,564	15.0	10,392	10,389	9,558
Prescriptive Change Steam Trap	Projects	11	6.0	84,659	84,659	77,114
Steam Traps - HVAC Repair/Rep	Each	1,222	6.0	468,908	468,964	430,054
Steam Traps - High Pressure Space Heating	Each	6	6.0	2,213	2,359	2,166
Steam Traps - Industrial Rep	Projects	62	6.0	1,042,449	1,042,596	951,458
Wireless Pneumatic Thermostat	Sq Ft	323,353	10.0	31,409	31,940	29,704
Total or Weighted Average		**2,339,655**	**5.0**	**3,155,407**	**3,158,461**	**2,886,165**

Source: Peoples Gas tracking data and Guidehouse evaluation team analysis.

Table B-2. Verified Cost Effectiveness Inputs – NSG

Savings Category	Units	Quantity	Effective Useful Life	Ex Ante Gross Savings (Therms)	Verified Gross Savings (Therms)	Verified Net Savings (Therms)
Boiler Reset Controls	MBtu/hr	15,000	16.0	20,136	20,136	18,525
Boiler Tune Up - Process	MBtu/hr	77,944	3.0	79,717	79,716	72,542
Boiler Tune Up - Space Heating	MBtu/hr	98,155	3.0	46,479	46,481	42,371
Condensing Unit Heater	kBtu/hr	3,833	12.0	6,795	9,715	8,937
Draft Controls	MBtu/hr	15,000	15.0	2,221	2,517	2,316
High Efficiency Boiler	MBtu/hr	9,150	25.0	8,891	8,973	8,239
Linkageless Boiler Controls for Space Heating	MBtu/hr	18,900	20.0	10,635	12,051	11,087
Pipe Insulation	Ln Ft.	1,388	15.0	7,639	7,638	7,027
Prescriptive Change Steam Trap	Projects	3	6.0	5,950	5,950	5,414
Steam Traps - HVAC Repair/Rep	Each	1,034	6.0	396,797	396,815	361,850
Steam Traps - Industrial Rep	Projects	19	6.0	495,452	495,430	450,841
Storage Water Heater (Large)	MBtu/hr	16,003	15.0	11,221	11,222	10,212
Total or Weighted Average		**256,429**	**6.4**	**1,091,933**	**1,096,644**	**999,362**

Source: North Shore Gas tracking data and Guidehouse evaluation team analysis.