



2021-2022 Process and Net-to-Gross Evaluation Plan

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Prepared for:

National Fuel Gas Distribution Corporation

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I. Introduction

On behalf of National Fuel Gas Distribution Corporation's (Distribution) Conservation Incentive program, representatives from Cadmus (the EM&V team) will complete process and net-to-gross (NTG) evaluations for the 2021 and 2022 Non-Residential Rebate and Residential Rebate programs.

This evaluation plan presents the targeted program overviews; the guiding research objectives; the general evaluation approach; the schedule, budget, and program administration; the detailed methodology; and the reporting deliverables.

Program Overview: Non-Residential Rebate Program

Through the Non-Residential Rebate program, Distribution offers fixed and customized rebate incentives to nonresidential customers for installing energy efficient gas space, water, and process heating equipment. Fixed rebates on pre-qualified equipment are available to customers on a per-unit basis and are designed to be quick and easy, using a straightforward application process. For fixed rebates, Distribution sets minimum efficiency levels for each appliance type based on federal ENERGY STAR® and New York State Energy Smart guidelines.

Distribution also offers custom, performance-based rebates to customers on a case-by-case basis, at \$15 per Mcf multiplied by an estimate of the natural gas energy savings that will be achieved after completing a project. All energy efficiency projects resulting in natural gas savings can be considered for a customized rebate. To obtain this custom rebate, the implementation contractor conducts an energy analysis to estimate the amount of energy savings expected from the energy-efficient equipment that will be installed by the customer.

Program Overview: Residential Rebate Program

Through the Residential Rebate program, Distribution offers equipment replacement incentives for single-family and multifamily dwellings with two to four units that install qualifying energy-efficient space heating and water heating appliances. Distribution sets minimum efficiency levels for each appliance type based on federal ENERGY STAR and New York State Energy Smart guidelines.

Distribution provides prescriptive rebates of a fixed dollar amount per unit to customers who install qualifying equipment, meet eligibility requirements, complete a rebate application, and submit documentation of equipment installation. Rebates are available for qualifying natural gas furnaces, boilers, water heaters, and clothes dryers, as well as for Wi-Fi thermostats and furnace and boiler tune-ups.

II. General Evaluation Approach

The EM&V team used Distribution's *System Energy Efficiency Plan*, filed April 1, 2022,¹ the *CE-05 Evaluation, Measurement, & Verification Guidance*,² and the *Uniform Methods Project* (UMP) "Net-to-Gross Common Practices" document³ to develop this process and NTG evaluation plan. This section of the plan provides a high-level overview of the process and NTG evaluation objectives, methodology, schedule, budget, and project administration.

Research Objectives

The intent of a process evaluation is to assess program processes and provide recommendations for improved program operations. The intent of a NTG evaluation is to quantify the actual savings attributed to the program. Since programs optimally deliver savings that would not have occurred in absence of the program, an assessment of savings attributed to program influence can be used to optimize program performance. The EM&V team will address several research objectives for the Non-Residential Rebate and Residential Rebate programs through the evaluations:

- Process Evaluation Objectives
 - Assess how programs operate relative to program plans
 - Assess the effectiveness of program delivery
 - Assess the programs' effectiveness in generating awareness and disseminating information
 - Explore customers' participation experience, including satisfaction
 - Explore contractors' program experience
 - Identify barriers to program participation
 - Identify opportunities for adding measures or otherwise enhancing the programs
 - Identify programmatic lessons learned
- Net-to-Gross Evaluation Objectives
 - Determine participant freeridership (the share of program savings that would have occurred in absence of the program)
 - Determine participant spillover (additional energy savings attributable to the program with no rebates or incentives being paid)
 - Estimate program net savings

¹ National Fuel Gas Distribution Corporation. Filed April 1, 2022. "In the Matter of a Comprehensive Energy Efficiency Initiative." NFGDC SEEP Filing 4.1.2022. Case 18-M-0084. <https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=284622&MatterSeq=55825>

² Office of Clean Energy, Clean Energy Guidance. November 1, 2016. *CE-05 Evaluation, Measurement & Verification Guidance*. [http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/255ea3546df802b585257e38005460f9/\\$FILE/CE-05-EMV%20Guidance%20Final%20%2011-1-2016.pdf](http://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/255ea3546df802b585257e38005460f9/$FILE/CE-05-EMV%20Guidance%20Final%20%2011-1-2016.pdf)

³ National Renewable Energy Laboratory. October 2017. *Uniform Methods Project*. "Chapter 21: Estimating Net Savings – Common Practices." p. 37. <https://www.nrel.gov/docs/fy17osti/68578.pdf>

Methodology Overview

The EM&V team will complete several tasks to document the areas of success, identify barriers to participation, uncover opportunities for improvement, and estimate net savings associated with the Non-Residential Rebate and Residential Rebate programs:

- Review program materials
- Interview Distribution staff and implementers
- Survey program participants
- Survey participating contractors

The EM&V team will estimate net savings, or the savings directly attributable to the programs, by applying NTG values. The team will employ a self-report methodology, using participant surveys to determine NTG values, which the team will then apply to each program's verified gross savings in order to calculate net savings:

$$\text{Net Savings} = \text{Verified Gross Savings} \times \text{NTG}$$

The NTG values the team will use to adjust the verified gross energy savings estimates account for freeridership and spillover:

$$\text{NTG} = 1 - \text{Freeridership} + \text{Participant Spillover}$$

Schedule

Table 1 provides the anticipated process and NTG evaluation timeline by quarter.

Table 1. Tasks and Timeline

	Q3 2022	Q4 2022	Q1 2023	Q2 2023	Q3 2023	Q4 2023
Data Request						
Materials Review						
Staff and Implementer Interviews						
Survey Design						
Participant Sampling						
Survey Fielding						
Analysis and Report Drafting						
Final Process Evaluation Report						

Budget

Table 2 provides the budget allocated to the process and NTG evaluation for each program.

Table 2. Budget by Program and Analysis

Program	Analysis	Budget
Non-Residential Rebate Program	Process	\$38,130.00
Non-Residential Rebate Program	NTG	\$20,860.00
Residential Rebate Program	Process	\$38,130.00
Residential Rebate Program	NTG	\$20,860.00
Total		\$117,980.00

Program Administrator Staff and Consultant Resources

Distribution has created an organizational structure and selected Cadmus as an independent third-party evaluator to ensure the integrity of these evaluations.

Addressing Ethical and Operational EM&V Standards

The EM&V team has contributed to all the accepted industry best practices and EM&V protocols, including the *International Performance Measurement and Verification Protocol*, the draft U.S. Environmental Protection Agency's *EM&V Guidance*, and the U.S. Department of Energy's UMP protocols. The EM&V team developed this evaluation plan in accordance with New York State's *CE-05 Evaluation, Measurement, & Verification Guidance* and with UMP Chapter 21. The EM&V team will clearly document any changes in the evaluation approach (such as due to availability of data) in each program-specific EM&V plan filing.

National Fuel Gas Distribution Corporation Program Administrator Staff

Shaun McCabe. Mr. McCabe serves as the program administrator for Distribution's energy efficiency programs and initiatives. He will coordinate with the implementation team on aspects of the program design, marketing initiatives, and program performance. He will also support the EM&V team by fulfilling data requests, tracking deliverables, and serving as the main point of contact for all EM&V activities.

Key Roles for EM&V Team (Cadmus)

Brian Hedman. Mr. Hedman will serve as principal investigator and provide high-level oversight of all evaluation work. Mr. Hedman has more than 40 years of experience in the energy industry and is an expert in energy efficiency program design and evaluation.

Elissa Slocum. Ms. Slocum will serve as the project manager for the evaluations. She will be the primary point of communication with Distribution, provide status updates on progress to-date, and oversee the evaluation budgets and timelines. She has nearly nine years of experience working with utilities and energy efficiency program providers on program design, marketing, and evaluation. Ms. Slocum has conducted numerous process evaluations assessing residential and nonresidential programs.

Andrew Carollo. Mr. Carollo will serve as the attribution study lead. He specializes in the design and analysis of participant surveys to evaluate NTG ratios for measures, interventions, and programs. He has conducted NTG studies for dozens of programs targeting a wide array of markets (residential and nonresidential) and is an expert in the NTG methods used in multiple jurisdictions throughout the country.

III. Detailed Evaluation Approach

This section outlines the detailed process evaluation approach, followed by an outline of the detailed NTG approach.

Detailed Process Evaluation Approach

The process evaluation for each program will involve three components: a review of program materials, in-depth Distribution program staff and implementer interviews, and participant and contractor surveys. The following sections describe each of these tasks in more detail.

Program Materials Review

The EM&V team will review all relevant program materials and use this information to inform interview guides and participant surveys. The team may review several types of materials:

- Relevant New York Public Service Commission orders or filings related to program design and objectives
- Educational and outreach materials
- Rebate forms, instructions, and portals
- Program operational manuals
- Quality control/quality assurance procedures
- Program web pages

The purpose of the materials review will be to understand how the programs were designed and how they are presented to customers and contractors. This exercise will assist in identifying potential opportunities for improvement that may offer greater clarity or efficiency in program delivery and increase program participation.

In-Depth Program Staff and Implementer Interviews

The EM&V team will gather insights from key Distribution staff and implementers for the Non-Residential Rebates and Residential Rebates programs. Interviewed Distribution staff may include program managers and support staff who have a key role in program operations, customer data tracking, marketing, and outreach. The EM&V team will complete one interview with all relevant Distribution staff and one interview with staff from each of the program implementers.

Prior to conducting the interviews, the EM&V team will draft a core interview guide, which will serve as the foundation for all program and implementer staff interviews. The team will design the interview guide with open-ended questions to foster discussions and will share this guide with Distribution for review and approval.

The team will use these interviews to gather insight on several topics:

- Roles and responsibilities in the program
- Program goals and objectives

- Program success relative to goals and objectives
- Program design and implementation
- Program operations and administration
- Marketing and outreach
- Barriers to program participation
- Data tracking and program databases
- Customer and/or trade ally feedback
- Recent program changes
- Potential changes and new measures under consideration

Participant Surveys

For both programs, the EM&V team will develop and deliver an online survey for customers who participated in the program during 2021 or 2022 and a phone survey for program contractors. The team will use Qualtrics to conduct the participant surveys, which offers a convenient platform for developing and delivering customized online surveys and provides easy access to insights on survey performance, as well as exportable survey data for analysis and reporting. The team will determine how to best construct a survey sample for each program (random or census) based on the number of program participants and contractors with complete contact information.

The participant surveys will also include NTG questions, described in the *Detailed Net-to-Gross Approach* section.

The EM&V team will request several types of participant data from Distribution in order to generate the samples:

- Account IDs
- Participant full names (company and contact person for Non-Residential participants)
- Participant contact information (email addresses, phone numbers, zip codes)
- Participation dates
- Measure types, quantities, and savings (savings will be used for NTG analysis)
- Incentives received

The EM&V team will also request contractor data:

- Company names
- Contact names
- Contact information (email addresses, phone numbers)
- Company addresses
- Program(s) participated in
- Number of program projects within the evaluation years

- Measure types installed through the program(s)

The team will develop the participant surveys with a focus on several main topics.

- How customers learned of the program
- Influences in the customers' decision to participate in the program
- Customer experience, including satisfaction with program components:
 - Rebate application process
 - Installed measures
 - Customer service interactions
 - Trade ally interactions
 - Experience with program provider
 - Overall program
- Barriers to program participation
- Areas for program improvement

The team will develop the contractor surveys with a focus on several topics:

- How contractors engage with the program
- How contractors learned of the program
- Program experience, including satisfaction with program components:
 - Program communications
 - Rebate and documentation process
 - Experience with program provider
 - Installed measures
- Customers' response to the program
- Barriers to program participation
- Areas for program improvement

Table 3 provides details on the anticipated target number of completes for each survey.

Table 3. Survey Details and Timeline

Program	Audience	Anticipated Target Completes
Non-Residential Rebate Program	Participants	70 customers per measure group (space heating, water heating, Wi-Fi thermostat, other)
Residential Rebate Program		70 customers per program path (Prescriptive, Custom)
Non-Residential Rebate Program	Contractors	16
Residential Rebate Program		10

Detailed Net-to-Gross Approach

This section describes the EM&V team's approaches for measuring freeridership and spillover using self-report surveys, with freeridership and participant spillover questions in the same survey.

Freeridership measures the portion of savings that would have occurred absent program intervention.

As is recognized and reflected in evaluation protocols, there are three participant classifications:

- Full freeriders would not have made changes to the project and/or activity without program intervention (they would have purchased the exact same measure, at the same time, and in the same quantity)
- Non freeriders would not have completed the project and/or activity without the influence of the program
- Partial freeriders would have partially replicated the program activity, such as by purchasing a lesser quantity of the program-rebated equipment but within the same timeframe

Participant spillover measures the program influence on customers' decisions to invest in additional energy efficiency measures not rebated by any Distribution program or any program offered by another organization. The EM&V team will determine whether program participants installed other energy-saving measures after participating in the program. Additional measures purchased by customers after program participation will be considered participant spillover savings if they meet two conditions:

- The program significantly influenced their decisions to purchase additional measures
- They did not receive additional incentives for those measures

If the participant installed one or more measures without program incentives, the EM&V team will ask additional questions to determine the quantity they installed and the program's influence on their purchasing decisions, and to confirm that the equipment meets efficiency qualifications.

Self-Report Survey Design

A well-designed self-report survey is a cost-effective mechanism for attaining data on the adoption of energy efficiency measures by participants of utility demand-side management programs. The EM&V team will follow best practices and guidelines for fielding self-report surveys to ensure that responses most accurately reflect the market impact of the program in question. The team will design surveys to capture the participants' decision-making processes and to ask respondents a series of measure-specific questions in a variety of ways (which provides a framework to capture consistency).

Freeridership Approach

As noted, freeridership measures the portion of savings that would have occurred absent program intervention. Our approach for the 2021 and 2022 evaluations will capture the nuances of estimating freeridership and mitigate the effect of social desirability bias (which is answering questions in a manner that is expected to be viewed favorably by others).

This approach will allow the team to assess freeridership in two steps:

1. **Assess *intention*** by asking respondents about the likelihood of carrying out the energy-efficient measure *without* the program's support (resulting in a score between 0% and 100%)
2. **Assess *influence*** by gathering information about the rationale behind taking the energy-efficient action to determine the program's direct influence (resulting in a score between 0% and 100%)

The team will use survey questions to assess *intention* and *influence*, which the team will score separately and then combine to determine one freeridership score for each survey respondent.

The *influence* and *intention* scores contribute equally to the final freeridership score. The higher the final freeridership value, the greater the deduction of savings from the gross savings estimate.

Calculation Details for Freeridership

The following sections provide details about the methodology and scoring for the *intention* and *influence* freeridership components.

***Intention* Freeridership Methodology and Scoring**

Intention-focused freeridership questions, as standard practice, ask customers to report about their likely decisions absent the program considering three core elements: timing, quantity, and efficiency.

The EM&V team recommends asking about the three elements of *intention* freeridership independently.

As such, the team will assess *intention* freeridership through a series of questions that allow the EM&V team to determine how the respondent's project would have differed in absence of the program. Responses to the series of questions, taken together, indicate whether the respondent is a full freerider, a non-freerider, or a partial freerider. The level of partial freeridership is informed by questions addressing how the program affected decision-making related to the three core elements (timing, quantity, and efficiency). The following *intention* question series is a simplified version; the EM&V team will include the full set of questions in the survey instruments the team provide to Distribution for review:

- Would participants have installed measures without the program?
- Were participants planning on ordering or installing the measures before learning about the program?
- Would participants have installed the measures at the same efficiency levels without the program?
- Would participants have installed the same quantity of measures without the program?
- In the program's absence, would participants have installed the measures at a different time?
- Was the purchase of the measures in the organization's most recent capital budget prior to learning about the program? (Non-Residential Rebate program only)

The EM&V team will use a scoring matrix to assign a single *intention* freeridership score to each participant based on his or her responses to the targeted survey questions.⁴ The team will aggregate all participants' scores into a verified gross savings-weighted average *intention* freeridership score for the entire program.

There is a particular process for determining an *intention* freeridership score:

- **Non-Freerider:** The team will categorize customers as *intention* non-freeriders (0%) in three instances:
 - They had no plans to install the measure in absence of the program's incentives and would not have installed the measure(s) within one year (for the Residential Rebate program) or within two years (for the Non-Residential Rebate program).
 - They had specific plans to install the measure before learning about the program but would not have done so without program incentives.
 - In the absence of program incentives, the customer would not have purchased or installed equipment to the same level of efficiency.
- **Full Freerider:** The team will categorize customers as full *intention* freeriders (100%) if they would have installed the measure(s) at the same time and at the same efficiency without the program, or if they had installed the measure before learning about the program.
- **Partial Freerider:** The team will assign partial *intention* freeridership scores (ranging from 12.5% to 75%) to customers who had plans to install the measure and who said their decision was influenced by the program in some way. This influence may have affected installation timing, the number of measures installed, or the efficiency levels of measures installed.

***Influence* Freeridership Methodology and Scoring**

To estimate program *influence*, the team will ask respondents one question with several response options to identify how program elements influenced their decisions about the energy efficiency measure they implemented. The team will use the influence of any one of these elements—such as program incentives or discounts, a recommendation from Distribution staff, information provided by Distribution about energy-savings opportunities, or previous participation in a Distribution program—to determine how influential the program was in their decision to install program-qualifying equipment. The program's *influence* score is equal to the maximum rating of any single program element, rather than an average, because it is assumed that if any given element had a great influence on the respondent's decision, then the program itself was successful in influencing the respondent's decision.

Based on the team's experience fielding self-report surveys, the language in the *influence* questions ask participants about the importance of the utility program, rebate, and/or product rather than about its influence. Using the term "important" rather than "influence" reduces customer bias that could emerge

⁴ The team will follow details from Chapter 21 of the UMP and from Khawaja, M. S. November 2007. *Model Energy Efficiency Program Impact Evaluation Guide*. p. 5-1. https://www.epa.gov/sites/default/files/2015-08/documents/evaluation_guide.pdf

because of the perceived reluctance to report being influenced in investment decision-making. As an example, the survey will include a question such as the one shown in Table 4 to capture the respondents' perspective on what drove them to take the energy-efficient action.

Table 4. General Freeridership Influence Component Question

Below is a list of possible factors that could have contributed to your decision. For each of the factors listed, please rate how important it was in your decision. Use a scale from 1 to 5, with 1 meaning the factor was <i>not at all important</i> and 5 meaning the factor was <i>extremely important</i> in your decision to purchase the energy-efficient [MEASURE][s].							
Rate Influence of Program Elements							
	1. Not at all important	2	3	4	5. Extremely important	Don't Know	Not Applicable
The National Fuel Gas incentive or discount	1	2	3	4	5	DK	N/A
Recommendation from National Fuel Gas program staff or program implementer	1	2	3	4	5	DK	N/A
Information provided by National Fuel Gas on energy-savings opportunities	1	2	3	4	5	DK	N/A
Previous participation in a National Fuel Gas energy efficiency program	1	2	3	4	5	DK	N/A

In this example, the highest score of 5 for the importance of the Distribution incentive or discount is the *influence* component freeridership score for the program. High program influence and freeridership have an inverse relationship—the greater the program *influence*, the lower the freeridership score.

Table 5 presents the freeridership level implied by each *influence* rating.

Table 5. Influence Freeridership Implied by Response to Influence Items

Influence Rating	Influence Freeridership Score
1 (<i>not at all important</i>)	100%
2	75%
3	50%
4	25%
5 (<i>extremely important</i>)	0%
Don't know	25%
Not applicable	25%

Consistency Checks

The EM&V team recommends including a consistency check for the estimate of freeridership. Including a consistency check is a best practice, as highlighted within the UMP and other NTG frameworks across the country.

It is possible that some survey participants will provide responses that are inconsistent (such as where the program *influence* score does not indicate freeridership while the participant *intention* score does indicate freeridership). Participants can misinterpret the closed-ended questions, and it is possible that the question wording does not capture the full range of program influences.

To account for these issues, the EM&V team will include open-ended question(s) about program influences. The EM&V team has found that this question(s) rarely changes the freeridership results, but can be invaluable for providing additional context for the results. An example of a question(s) the team will include is, “Finally, in your own words, can you tell me how influential the program was in your decision to install this measure(s) at the time you did? Consider all the areas discussed in this survey.”

If the EM&V team determine that a respondent is a non-freerider (0%) or a full freerider (100%) and their response to the open-ended consistency check question contradicts the determination of non-freeridership or full freeridership, the team will adjust that participant’s *intention* and *influence* freeridership scores to 50%.

Calculating Program Participant Freeridership

As noted earlier, the final freeridership value for a program or analysis category is calculated as the arithmetic mean of the verified gross savings-weighted *intention* (maximum score 100%) and verified gross savings-weighted *influence* (maximum score 100%) freeridership components, resulting in a value between 0% and 100%, as shown in this equation:

$$\text{Final Freeridership} = \frac{\text{Intention Score} + \text{Influence Score}}{2}$$

Participant Spillover Approach

Participant spillover reflects activities, purchases, and/or installations of high-efficiency equipment as a result of program participation that is not funded through the program. Participant spillover is quantified based on the installation and description of non-incented energy efficiency measures taken since program participation, an estimate of the energy savings generated by the measures, and the influence of the demand-side management programs on the decision to make energy efficiency improvements. The team will collect these data by asking program participants if the program prompted their decision to install other energy-efficient measures or to make other energy-efficient improvements beyond what was specifically rebated through the program:

- Have you take any energy-efficient actions that enhanced your home or facility’s level of efficiency without direct program support?
- Did these actions take place after your involvement with the program?
- Were these actions influenced by the program?

Calculation Details: Participant Spillover

For the 2021 and 2022 evaluations, the team will use the participant self-report survey to assess the purchase and installation of any energy-efficient measures, whether or not they are eligible for program

rebates and whether or not they are listed in the *New York Technical Reference Manual*.⁵ The EM&V team will capture data necessary to quantify spillover through the self-report survey and will include the number and description of non-incented energy efficiency measures purchased and installed since program participation, a rating of the program's influence on the participant's decision, and any information needed to inform an estimate of the energy savings for the measure(s). The self-report survey will include questions similar to, "Since participating in National Fuel Gas' program, have you installed any additional energy efficiency improvements for which you did not receive a rebate? If yes, please describe the actions you have taken."

The survey will then ask respondents about the level of influence the program participation had on their decision to install the added measures, such as, "On a scale from 1 to 5, with 1 meaning *not at all important* and 5 meaning *extremely important*, please rate how important your experience with the National Fuel Gas program was in your decision to install this energy-efficient product(s)."

The team will consider additional measure purchases associated with an *extremely important* program rating as spillover that is attributed to the program.

Calculating Participant Spillover

The EM&V team will calculate participant spillover savings in three categories:

- For program-eligible measures
- For measures in the *New York Technical Resource Manual* but not eligible for incentives through the program in question
- For measures not in the *New York Technical Resource Manual* but for which the EM&V team can provide reasonable documentation of savings

The EM&V team will ask residential participants an open-ended question about how they know the additional measures they purchased are high efficiency. The team will ask commercial participants measure-specific follow-up questions that provide them with information to determine whether the additional measures they purchased are high efficiency.

The EM&V team recommends adding one open-ended question to both residential and commercial participant surveys to gain further insights on the spillover savings: why the participants did not apply for a Distribution program incentive if the additional activity was similar to a measure rebated through a Distribution program.

⁵ New York State Joint Utilities. October 27, 2021. *New York Standard Approach for Estimating Energy Savings from Energy Efficiency Programs - Residential, Multi-Family, and Commercial/Industrial, known as the Technical Resource Manual, Version 9*.
[https://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/72c23decff52920a85257f1100671bdd/\\$FILE/NYS%20TRM%20V9.pdf](https://www3.dps.ny.gov/W/PSCWeb.nsf/96f0fec0b45a3c6485257688006a701a/72c23decff52920a85257f1100671bdd/$FILE/NYS%20TRM%20V9.pdf)

The team will follow four steps to determine participant spillover:

1. Calculate total spillover savings for each participant as the product of measure savings and the number of units associated with *extremely important* program influence ratings.

$$\text{Measure Spillover} = \text{Measure Savings} \times \text{No. of Units} \times \text{Program Influence}$$

2. Total the savings associated with each program participant (to obtain the overall participant spillover savings).

$$\text{Participant Spillover} = \text{Sum of Measure Spillover}$$

3. Multiply the mean participant spillover savings for the participant sample by the total number of participants to yield an estimated total participant spillover savings for the program.

$$\text{Total Participant Spillover (population)} = \frac{\text{Sum of Participant Spillover (sample)}}{\text{Sample } n} \times \text{Population N}$$

4. Divide the total participant spillover savings by the total program gross evaluated savings to yield a participant spillover ratio to include in the NTG ratio calculation.

$$\text{Participant Spillover Ratio} = \frac{\text{Sum of Participant Spillover (population)}}{\text{Program Savings}} \times 100\%$$

IV. Status Reporting

The EM&V team will provide regular status reports as well as the final EM&V report.

Status Reports

The EM&V team will provide Distribution with status updates on a monthly basis or more frequently as needed. Distribution and the EM&V team will review the status of each evaluation's activity. The EM&V team will track the status using a status log that the EM&V team will maintain and update bi-weekly. The status log will include all key EM&V activities and track the progress of each evaluation task.

Final EM&V Reports

Final EM&V reports will adhere to the outline provided in Appendix G of the *CE-05 Evaluation, Measurement & Verification Guidance*:

- Executive Summary
- Main Report
 - Introduction
 - Evaluation results
 - Methods
 - Conclusions and recommendations
- Appendices, as appropriate, to ensure brevity of the Main Report. Appendices will include, but are not limited to:
 - Glossary of terms
 - Detailed methodology
 - Interview guides
 - Survey instruments
 - Other relevant information

Distribution will file a process and NTG evaluation report in Q4 of 2024 for the Non-Residential Rebate program and the Residential Rebate program.