



Evaluation, Measurement and Verification (EM&V) Approach

Purpose and Summary of MEEIA Cycle 4 EM&V Approach

The purpose of this EM&V approach document is to outline the key principles and methods to complete four comprehensive independent evaluation of the Evergy's DSM programs (program years ending in 2025, 2026, 2027 and 2028) implemented in accordance with the requirements of MEEIA and associated rules.

The Company strives to provide useful, impactful, and cost-effective DSM programs. Ongoing analysis of program performance through EM&V is an important tool to support that goal. To conduct the evaluation activities, an EM&V Contractor will be engaged, and will collaborate with the Company and the stakeholders, including the MPSC Staff, to develop procedures to assess program impacts, process improvements and cost-effectiveness in meeting MEEIA objectives through appropriate and rigorous EM&V practices.

The following sections comprise this MEEIA Cycle 4 approach document:

1. Evaluation guiding principles
 - 1.1 Evaluation principles
 - 1.2 Continuous Improvement of approaches
2. EM&V Scope
 - 2.1 Planning
 - 2.2 Impact evaluation
 - 2.3 Process evaluation
 - 2.4 Cost Effectiveness
3. TRM development and use
4. Reporting, timeline, budget, and review expectations
5. Use of EM&V results for Earnings Opportunity and Throughput Disincentive

This EM&V approach and plan is a living document that will be updated as needed. Updates will be coordinated to address issues identified by all stakeholders. This updating process will be completed as needed and with ample time for the next portfolio, program, and/or EM&V planning period as applicable.



1. Evaluation Guiding Principles

1.1 Evaluation Principles

Evaluation objectives and approaches focus on defining the intended use(s) of the information determined through evaluation activities and the intended audiences for such information.

Primary objectives include:

- Documenting program impacts and determining whether the program/portfolio meets its goals
- Providing insight as to why program-generated effects occurred, and identifying ways to improve current and future programs
- Determining cost-effectiveness of programs and portfolio
- Supporting energy demand forecasting, and resource planning in general, and/or more specifically in an integrated resource planning (IRP) effort by obtaining historical and future resource contributions of energy efficiency as compared to other energy resources

Related to evaluation planning and implementation:

- The data, methods, and assumptions should be appropriate for the evaluated program(s). The level of effort expended in the evaluation process should be balanced with respect to the value of the savings, the uncertainty of their magnitude, and the risk of overestimated or underestimated savings levels
- Evaluation results and calculations should be clear, complete, well-documented and transparent and in a format that enables stakeholders to understand and connect assumptions to data collection, data analysis, and results

The EM&V Contractor should be independent and free from bias and should not have an interest in the outcome of the evaluations with respect to the performance of the programs under consideration.

Evaluation budgets and resources should be adequate to support the evaluation scope, goals, and the level of rigor and quality (certainty) expected in the evaluation results over the entire time frame that program impacts are to be assessed. The overall evaluation budget will be determined and agreed upon by parties based on such factors as level of risk and uncertainty associated with the level of savings, expected impacts of programs, use of deemed savings, reliance on impact evaluation results to support lost revenue or cost-recovery, etc. In general, EM&V costs are inversely proportional to the magnitude of the savings (i.e., larger projects have lower per-unit evaluation costs) and are directly proportional to uncertainty of predicted savings (i.e., projects with greater uncertainty in the predicted savings warrant greater EM&V costs). The EM&V budget allocation should be flexible enough to support the need for evaluation of new programs with uncertain impacts and/or pilot or test programs. Test programs, programs that target new or emerging technologies, programs that are slow to launch, programs that are not enrolling the expected number of participants, or programs that have problems achieving their projected energy goals should be conducted using process and market study approaches that are more rigorous. Careful allocation of evaluation resources must be achieved to provide the



greatest value for the evaluation dollar. A maximum of five percent of the four-year MEEIA Cycle 4 program portfolio budget will be spent on EM&V.

1.2 Continuous Improvement of EM&V Approaches

The EM&V plan will follow EM&V best practices and guidance from the US DOE's Uniform Methods Project (UPM), the International Performance Measurement & Verification Protocol (IPMVP), recent EM&V results from MEEIA for its Missouri jurisdictions, and/or other authoritative industry sources and organizations. The Evaluator will also refer to any applicable statewide EM&V Protocols for guidance. Also, the EM&V contractor will utilize emerging methods that offer better information or certainty around EM&V impacts, net savings estimates and process evaluation findings.

To maximize the value of EM&V resources, the EM&V contractor will utilize emerging methods and best practices in MEEIA Cycle 4. In particular, evaluation activities will consider:

- *Impact Evaluations with AMI Data:* The industry has preferred to measure impacts using actual customer consumption data. This data reflects the combination of technologies and behavior, as it is part of billing systems already being collected. However, use of billing analysis techniques as a whole has been limited due to the traditional periodicity of billing data, generally in the form of just 12 observations annually. The Company has deployed AMI/interval meters and plan to utilize this data in EM&V impact evaluations during MEEIA Cycle 4. The selected evaluation contractor will consider impact methods that utilize this data, particularly where there can be significant data collection cost savings or accuracy improvements.
- *Fast Feedback Surveys:* These surveys are increasingly used by the industry. The concept is to survey participating customers on a consistent, rolling basis immediately after they participate. By conducting these surveys on an ongoing basis, we receive more timely and accurate feedback — and can use this information to guide program operations and potential adjustments. Fast feedback surveys evaluate topics such as customer satisfaction with the program, the quality of information provided, baseline assumptions and the impact of rebates on customer decision making, including free ridership.
- *Focused/Significant Research.* Historically, the EM&V contractor has performed detailed impact and process evaluations. The Company will work with the EM&V contractor — and the stakeholder group as needed — to identify opportunities to conduct innovative, targeted research to enhance evaluation and improve overall portfolio — and specific program — design and processes. This may include the EM&V contractor:
 - identifying opportunities to improve tracking of data, energy modeling and secondary research of other applicable evaluations or studies completed.



- conducting supplemental research to identify best performance by comparable utilities. The EM&V contractor's research may include identifying best performing program or portfolios, along with providing its experience and understanding of best practices obtained from other portfolio evaluations if/as available.
- identifying opportunities to enhance estimates of free ridership and spillover, and/or adjust methods and algorithms for savings calculations.

Requests for additional research throughout the program year can be identified and made by the Company, the stakeholders and/or the EM&V contractor. Reallocation of some funds from standard verification work may be necessary to support this effort.

Early Evaluation Results and Feedback

To assist in continuous improvement of programs, the EM&V contractor will provide the Company with interim, preliminary process and impact evaluations as appropriate. This interim feedback will enable the Company to make timely, in-cycle changes to maximize customer satisfaction and energy impacts. This interim reporting would include early results and/or feedback and would be provided to the Company in a manner and timeframe that allows for corrections, as needed. This interim feedback could be in the form of periodic ad-hoc reports, memorandums, dashboards, presentations, and/or conference calls.

The EM&V Contractor will work with the Company, the stakeholders, and the Commission's independent EM&V Auditor (Auditor) to establish a schedule of monthly or regular meetings whereby program results can be provided and discussed before the EM&V draft is issued. This reporting will likely be conducted via conference calls, virtual meetings, etc. in a format in which specific results can be readily viewed, discussed and open issues resolved. The stakeholder group is encouraged to provide comments during this process, as providing comments and recommendations earlier to the EM&V contractor will allow more time for research of open items as well the incorporation of comments and changes to the draft and final report.

2. EM&V Scope

2.1 EM&V Planning

The evaluation plan, or EM&V plan, outlines the approaches the EM&V contractor will use and serves as a guiding document for the evaluation. The EM&V contractor must complete an initial evaluation plan for each program and provide it to the MEEIA stakeholder group for review and approval prior to the start of the 4-year cycle. The plan may cover the first year only or the entire Cycle. If the latter, the EM&V plan may need to be revised within the program cycle. For example, early process evaluation feedback may indicate a need to change the program design, test additional (pilot) program approaches, address poor performance, or react to previously unknown market challenges



A selected independent, third-party, EM&V Contractor will work with the Company and stakeholders to develop an evaluation plan to determine how best to allocate and utilize the EM&V budget.

The EM&V contractor chooses the optimal structure and design for their evaluation plans; the evaluation plan will likely be a single electronic document with a section for each program in the portfolio. The evaluation plan should reflect an understanding of the program delivery mechanisms, research, and survey objectives and methodologies, data collection techniques, surveys, modeling, site inspection plans, monitoring activities, and intended deliverables. The EM&V contractor will discuss the gross impact evaluation, net-to-gross (NTG) analysis, process evaluation, and cost-effectiveness evaluation activities separately. The evaluation planning process should be part of the program planning process, so that the evaluation effort can support existing and future program implementation. Evaluation plans also should contain a proposed timeline of activities, including reporting.

2.2 Impact Evaluation

Energy Impact Metrics are indicators of the performance of a specific portfolio, program, project, or efficiency measure. Metrics are most useful when they can be compared against established targets for the metrics (e.g., savings goals), and establish requirements for the metrics, typically time (e.g., hourly, monthly, annual values). For demand savings, the choice of a definition of the metric is important (e.g., annual average, peak summer, coincident peak demand).

The major categories of metrics associated with evaluation are as follows:

- Gross energy savings, annual and lifetime
- Net energy savings, annual and lifetime
- Gross demand savings
- Net demand savings
- Utility system benefit

Gross savings and net savings are defined as follows:

- Gross savings: the change in energy consumption and/or demand that results directly from program-related actions taken by participants in a program, regardless of why they participated. This is the physical change in use after considering factors not caused by the efficiency actions (e.g., changes in weather or building occupancy). As indicated above, gross savings will be established by the best available method such as billing analysis, engineering analysis, or deemed savings estimates in the TRM. For deemed savings, ex-post goal achievement will be the savings as verified by the EM&V contractor and may reflect installation rate, quantity and measurement and valuation adjustments. Billing analysis and metering studies may be used to adjust deemed savings estimates, prospectively only, and incorporated into the TRM. Custom projects will require engineering or other evaluation estimates that will be applied retroactively.
- Net savings: the change in energy consumption and/or demand that is attributable to a particular program. Estimating net savings typically involves assessing free ridership and spillover. In other words, the energy savings that are attributable to a program's



intervention in the market, exclusive of other reasons for changes in energy use. Evaluations can use approaches that produce gross savings that are then adjusted for net.

Evergy's MEEIA Cycle 4 program impacts (energy and demand) will continue to be evaluated on a verified net basis. Gross savings will be determined by the best available method such as billing analysis, meter-based measurement, engineering analysis, or deemed savings estimates. Net savings will account for the effects of free riders and spillover on the total program savings. Free riders are participants who take advantage of a program, but who would have done exactly the same thing without the benefits of the program.

$$\text{Net Savings} = \text{Gross Savings} \times \text{Net to Gross Ratio}$$

In addition to being the basis to evaluate program impacts, net savings can be used to provide program design and marketing guidance that can support planning for future program years, to inform updates to the Technical Resource Manual (TRM), and to be used in program benefit costs analysis.

2.21 Gross Impact Evaluation

Impact evaluations determine program-specific benefits, which include reductions in electric energy usage and electric demand. Successful impact evaluations assess the costs incurred with the value received and balance the level of evaluation detail (rigor) with the level of effort (cost) required.

One of the primary objectives of an impact evaluation is to report ex post savings, which are the evaluated savings achieved by the program as determined by the independent third-party EM&V contractor, in accordance with appropriate savings protocols described in the approved EM&V plan. The EM&V contractors and the implementation contractors will use the same savings protocol, which should be the reported savings value, either determined through custom calculations or deemed via the TRM. The evaluator's role is then to verify those savings, adjusting for factors such as:

- Equipment usage
- Installation rate
- Building conditions
- Equipment baseline conditions

If needed, mainly for custom type projects, the EM&V contractor will conduct independent end-use level measurements for high-impact and high-uncertainty projects.

For program evaluations that rely on sampling, these independent estimates will typically be compared to the claimed savings for a sample of sites within each program to calculate a realization rate. This realization rate is then applied to the population of participants to determine the verified gross savings. When appropriate, the collective results of these EM&V impact evaluations also will be used to provide updates to the kWh and kW savings in the TRM



so that the next TRM version reflects the latest available information on measure and program savings.

The EM&V contractor will use various impact evaluation approaches based on the project size and characteristics. Overall EM&V approaches that could be used include the following listed generally from least rigorous and costly to the most:

- 1) Deemed savings
- 2) Engineering analysis (with or without desk reviews)
- 3) Surveys (to verify baseline, building, and installations)
- 4) Billing / consumption analysis
- 5) On-site / remote verification
- 6) Metering (short-term to long-term)

Energy and demand savings may also be a verification-only analysis. With the objective of confirming that measures are installed and operational, and the installation meets required standards. Installation verification should be conducted for a random sample of projects claiming energy savings. Verification may occur in person, over the phone, or via a review of project documentation. For each residential program, EM&V plans should specify whether onsite inspections are planned, and if so, whether EM&V contractors, or implementation contractors, will conduct these inspections.

The basic level of EM&V examination for the gross demand impact specifies that, at a minimum, on-peak demand savings be estimated based on the allocation of gross energy savings through the use of allocation factors, coincidence factors, or end-use load shapes during the peak hours on non-holiday weekdays. For TRM deemed measures, TRM deemed coincidence factors are to be used. Increased EM&V rigor for the gross demand impact will likely require primary data from the program participants.

A higher level of EM&V effort would involve verification of participation and measures installed with TRM savings algorithms, using documented site data without onsite measurement. An even higher level of evaluation rigor is the use of simple engineering models or straightforward algorithms, with onsite measurement. Increased levels of rigor will utilize engineering approaches, including IPMVP protocols as appropriate, additional site-specific data such as equipment baseline and consumption data, metering studies, retrofit isolation engineering models, billing regression analysis, or building energy simulation model(s).

This consumption data could be billing data, AMI interval-metered data, Energy Management System (EMS), or field measurement. If the methodology and data used can readily provide an 8760 savings profile, one should be calculated for the project. EM&V use of AMI offers the potential to provides a number of functions such as the ability to measure electricity use, connect and disconnect service, detect tampering, identify, and isolate outages, and monitor voltage automatically and remotely. Combined with customer technologies, such as in-home displays and programmable communicating thermostats, AMI also enables utilities to offer new time-based rate programs and incentives that encourage customers to reduce peak demand and manage energy consumption and cost. The EM&V function can potentially utilize advanced measurement and valuation techniques coupled with AMI data, such as AMI disaggregation.



For example, disaggregation of AMI data allows identifying individual appliances in a customer's home and knowing which are running inefficiently or too long.

2.22 Net Impact Evaluation

As indicated above, net savings is an important energy evaluation metric, reflecting savings attributable to program interventions, both tracked and untracked. Net savings are also useful to help with program design and planning, and will inform TRM updates, and benefit-cost analysis. The EM&V contractor will conduct NTG research, with additional data gathering to assess market conditions and market effects to determine net savings. NTG research can place more focus on attribution, which is adjusting gross savings to reflect actual program influence on savings and explaining customer decision-making and the contribution the program made to the customer's decision to install an energy-efficient measure. Net (kWh and kW) savings attributed to MEEIA programs will be used for the calculation of EO during the four-year cycle.

The EM&V Contractor will measure the following components of net savings, provided by the Uniform Methods Project, to calculate net savings.

- Free ridership (FR): The program savings attributable to free riders (i.e., program participants who would have implemented a program measure or practice in the absence of the program).
- Participant spillover (PSO): The additional energy savings that are achieved when a program participant -- as a result of the program's influence -- installs EE measures or practices outside the efficiency program after having participated.
- Non-participant spillover (NPSO): The additional energy savings that are achieved when a non-participant implements EE measures or practices as a result of the program's influence (e.g., through exposure to the program) but is not accounted for in program savings.

The EM&V Contractor will develop a NTG measurement approach for each program, and following the guidance established and approved by Evergy and stakeholder groups. EM&V contractors traditionally use one of several methods to assess a program's net savings, including self-report surveys and interviews with participating and nonparticipating customers, participating and nonparticipating trade allies, and statistical and econometric methods. When conducting NTG research, the methods require year-over-year consistency allowing the Company program to staff to use these metrics to inform analysis, and plan and incorporate necessary changes for program performance improvements. This research, review, and updating helps to determine whether a program should be modified, expanded, or eliminated based on its net-to-gross ratio (defined as the proportion of savings attributable to the program).

2.3 Process Evaluation

The purpose of process evaluation is to determine assess, document, report, and advise on a program's effectiveness (internal and external to the company) and drivers of impacts. It reviews the program's progress toward goals and customer experiences. As with impact evaluations,



process evaluations are designed and systematically implemented according to a scope of work, ensuring unbiased and useful results.

The process evaluation consists of in-depth examinations of the design, administration, delivery /implementation, and market response to DSM programs. As with all evaluations, a process evaluation should address the specific program goals, and primarily serve the Company's program staff. Below are examples of how decision-makers can use the results of process evaluations:

- Improve program performance with respect to internal administration and communications, promotional practices, program delivery, incentive/rebate levels, and data management
- Provide a means of improving customer satisfaction and identifying market threats and opportunities
- Provide information to MPSC and other stakeholders that programs are being implemented effectively and modified or refined as necessary

Process evaluations use program data, secondary data, document review, and different types of one-on-one or group interviews and surveys to gather information to assess programs. The design for each process evaluation should begin with the program's original design intent and should provide evidence of program progress in achieving its goals and objectives from the perspective of the program's various target audiences. Process evaluations help to:

- Highlight areas of program success and challenges
- Make recommendations for program modification and improvement
- Identify best practices that can be implemented in the future

Each process evaluation should have a detailed plan that describes the objectives, sampling plan, research activities, and specific issues to be addressed, along with a schedule of milestones and deliverables. All DSM programs should have at least one process evaluation in every cycle or phase. The process evaluation may be either an in-depth, comprehensive process evaluation or one of several types of focused process evaluations. Ideally process evaluations should be timed to coincide with decision-making for program design and implementation.

2.4 Cost-Effectiveness

Results from the EM&V Contractor's evaluation activities, evaluation reports, impact evaluations, and surveys will be input into cost effectiveness models to assess the Company's efforts at the program and portfolio levels. Programs have historically been assessed via tests such as, or similar to those, defined in the California Standard Practice Manual, or in some cases through the IRP process.

In accordance with the MPSC's requirements for determining cost-effectiveness, the Company's MEEIA DSM programs will be primarily evaluated based on the Total Resource Cost (TRC) Test. The TRC Test as a standard test that is met if, the net present value of the avoided monetary cost of supplying electricity is greater than the net present value of the monetary cost of energy efficiency conservation measures. The TRC Test also reflects the benefit to implementing an energy efficiency program throughout the Company's service territory.



In addition, Evergy recognizes the importance of minimizing increases in customer bills. Accordingly, the Company will also emphasize use and review another accepted test. The UCT test measures the change in the amount the Company must collect from customers every year to meet an earnings target (e.g., a change in revenue requirement). Other accepted tests to be conducted are the Participant Cost Test (PCT), and Societal Cost Test (SCT). The PCT measures the economic impact to the participant of adopting an energy efficiency measure; the SCT measures whether the benefits of a DSM resource will exceed its costs from the perspective of society as a whole. Another test used by some jurisdictions is the Ratepayer Impact Measure RIM test. The RIM test provides stakeholders with information regarding the effect on customer bills or rates that may occur if a MEEIA energy plan is implemented.

These five tests provide an all-encompassing perspective on the programs' annual cost effectiveness, as well as the cost effectiveness of the program over the portfolio cycle. The TRC and SCT cost tests help to answer whether energy efficiency is cost-effective overall. The PCT, UCT, and RIM help to answer whether the selection of measures and design of the program is balanced from participant, utility, and non-participant perspectives, respectively. The cost effectiveness model(s) should contain all inputs and outputs to the benefit/cost ratio(s). Key inputs include:

- Discount rate
- Line loss factors
- Avoided costs of generation energy and capacity as well as T&D avoided costs
- Incremental measure costs
- Program administration costs
- Verified savings
- Effective useful life of measures or measure groups
- End-use load shapes or on-peak/off-peak ratios used in benefit calculations
- Non-Energy benefits associated with program implementation or participation.

Program administrative costs, avoided cost data, retail rates, and discount rates, will be provided by the Company.

3. Technical Resource Manual (TRM) development and use

This document also provides an overview of the Technical Reference Manual (TRM) and defines guidelines for acceptable measurement protocols for custom measures in order to mitigate risks to delivering cost effective measures. This will necessitate a clear understanding of the methodologies to be used for determining verified energy and demand savings.

A TRM protocol is a measure-specific methodology for calculating energy and demand savings without overly burdening program implementation and evaluation staff TRM deemed or stipulated values are based on proven engineering principles and algorithms which provide reasonable estimates of measure energy and demand impacts while expending relatively few evaluation resources. These TRM measure savings protocols that determine savings for standard measures help to facilitate the implementation and evaluation of DSM programs. The TRM includes several data elements which include but not limited to the following:



- Engineering calculations/algorithms (for planning, gross impacts)
- Incremental Cost (for cost effectiveness)
- Energy and Peak Demand Savings
- Measure Life (for cost effectiveness)

The TRM will document the source of data inputs and the reasons for choosing that source. Sources for the TRM can include, but not be limited to the Company's DSM potential study, recent EM&V's from MEEIA for its Missouri jurisdictions, and/or other authoritative industry sources including TRMs from comparable jurisdictions or states (Illinois for example). The TRM will be unique to MEEIA and will be prepared by Eversource with a basis as described above along with specific input from the EM&V contractor and the implementers, and any feedback from stakeholders. TRM updates from the EM&V contractor will be based on the mostly completed program year evaluation as well as any other relevant input.

The TRM fulfills the following objectives:

- Serves as a common reference document for energy efficiency and demand measures to be used by all parties.
- Establishes standardized protocols to calculate energy and demand savings for measures. The program partners (implementers) use these protocols to estimate ex ante/deemed (reported) savings achieved for the energy efficiency measures. The EM&V contractor uses these protocols to estimate ex post (verified or net) savings achieved for energy efficiency measures.
- Increases transparency to all parties by documenting underlying assumptions and tracking references used to develop savings estimates for measures.
- Balances the accuracy and reliability of savings estimates with costs incurred to measure and verify the savings estimates.
- Reduces the number of savings measures that must be evaluated as custom measures.

Changes in deemed energy savings or other deemed assumptions that result from program evaluation shall not be applied retrospectively; however, shall be applied to the program and portfolio prospectively in the next program year (e.g., evaluation results from program year 2023 will be finalized in late 2024 and used to update the 2025 TRM). Changes to deemed savings assumptions shall be coordinated through the annual process of updating the TRM.

Unless the parties deem otherwise, it is expected that the TRM will be updated annually by Eversource with input from the EM&V contractor and the implementers. The effective date of the TRM typically coincides with the start of the program year and thus covers the period of time during which the TRM is actively used to determine energy and demand savings. The annual process to update the TRM typically begins promptly after the final EM&V reports are issued for the most recent program year. Recommended updates are reviewed by the appropriate parties culminating in MPSC approval of the TRM in the 4th quarter of the year in advance of the next program year launch on January 1st.

EM&V reports will provide an assessment of EM&V activities completed in a manner that is consistent with the guidelines outlined in this Framework and with established EM&V methodologies. The final reporting timeline will be established so that it can efficiently and cost-



effectively meet the needs of the MEEIA parties. Program cycle reporting will include both Impact and Process findings, as appropriate by program, and will be used to measure performance against program goals. Impact evaluations associated with this assessment will provide energy impact estimates for each year of the program's operations and for the program cycle in total. This reporting will allow the evaluation to document program-cycle impacts as well as annual impacts that support program planning and restructuring efforts to maintain high performing programs and portfolios.

4. Reporting, timeline, budget, and review expectations

Evaluators report evaluation results and, as appropriate, provide input to assess whether goals have been met, to include recommendations for current or future program improvements, and also to understand the historical role and future role of energy efficiency as an energy resource. Reporting also provides information to energy consumers and the general public.

Evaluation reports provide the results of the prior year's customer participation activities. The report documents the impacts, and typically cost-effectiveness, of a program, as well as the methods used to determine the impacts. There are draft versions of the evaluation report, which enables stakeholders' the opportunity to provide input on these reports. The final reports are made publicly available as they do not contain customer-specific or other confidential information. Information that is deemed confidential will be identified and the communication method will be agreed upon among the appropriate parties. The evaluation timeframe has several possible major components for consideration:

- The period over which the evaluation activities will take place i.e., evaluation activities and reporting will be based on an agreed upon schedule and/or will be tied to the portfolio cycle.
- The frequency in which each program will be evaluated (e.g., every program year, 18 months, etc.). The Company proposes that the EM&V reports will be completed annually during the proposed four-year cycle. The EM&V report is a critical part in this process as the results of the EM&V will be utilized to update the deemed measure values in the TRM, utilized in the Throughput disincentive (TD) true-up, and the resulting NTG ratios will be applied to the earnings opportunity (EO).
- The reporting period schedule will include when reports and supporting documents are due, which will be an agreed upon date, after the end of the program year.
 - The EM&V contractor will circulate a draft EM&V report to MPSC Staff and designated stakeholders one hundred twenty (120) days after the end of the first year following the effective date of the programs.
 - Approximately sixty (60) days after issuance of the draft EM&V Report, MPSC Staff and stakeholders will provide any comments and recommendations for report changes to the EM&V contractor and to MPSC Staff and all other Stakeholder Group participants.
 - A final draft EM&V Report will be provided by the EM&V contractor to MPSC Staff and stakeholders thirty (30) days after the deadline for comments and recommendations for report changes. Prior to issuing the final draft EM&V Report, the EM&V contractor will host at least one meeting with MPSC Staff and stakeholders to discuss the comments and recommendations for report changes. The EM&V contractor will determine what comments and/or changes are incorporated into the final draft EM&V Report.



- Any designated stakeholders that have concerns with the final draft EM&V Report will provide the Company, MPSC Staff and all other stakeholders, and the EM&V contractor written comments within twenty (20) days from issuance of the final draft EM&V Report.
- The EM&V contractor will issue a final EM&V Report within fifteen (15) days following the expiration of the comment period on the final draft EM&V Report. Such Final EM&V Report will be filed with the Commission.

Table 1. Annual EM&V Timeline (MEEIA Cycle 4 Program Year 1 Example)

# of Days	Projected Date	Description
	12/31/2025	Program Year Ends
	ongoing	EM&V Analysis
	TBD	Conduct update meetings if/as needed
120	04/1/2026	EM&V Draft Report Issued
60	05/28/2026	MPSC Staff and Stakeholder comments due
	TBD	Stakeholder meeting to discuss the comments and recommendations for report changes
30	07/1/2026	Final Draft EM&V Report due
20	08/20/2026	Designated stakeholder to provide written comments of any concerns on the final draft EM&V Report to the Company, MPSC Staff and all other stakeholders.
15	09/04/2026	Final Order on EM&V Report due

4.1 Evaluations /Reported Savings / Tracking Systems

A complete and consistent tracking system for all MEEIA programs will be maintained as a central repository of program activities recorded by the various program implementers. The values in the tracking system will be used for reporting ex ante savings, customer counts, and rebate amounts in the EM&V contractor’s reports. Records stored in the tracking system are the basis of the EM&V contractor’s sample selection processes. Additionally, tracking systems will reflect quality-assurance protocols. Consumer confidentiality will be properly



maintained by implementors and the EM&V contractor when developing, maintaining, and using the tracking data.

5. Use of EM&V results for Earnings Opportunity and Throughput Disincentive

The calculation of the Company's Throughput Disincentive (TD) Adjustment and Earnings Opportunity (EO) will be tied directly to the reporting and application of EM&V impact results. The impact evaluation plan will be designed to enable the Company to continuously improve its tracking of program energy and demand savings and to minimize adjustments from EM&V findings. This will be accomplished through annual updates to its Technical Resource Manual (TRM) for "prescriptive" measures and analysis methods and assumptions for "custom" measures. Updates and recommendations will be based on:

- Analysis of hourly or sub-hourly customer load data collected from AMI deployment, program participant devices (i.e. thermostats) and direct on-site measurement of equipment performance metrics (i.e. operation hours, efficiencies, unit sizes, load profiles).
- Parallel-path evaluation for non-prescriptive measures and programs, such as Custom and Home Energy Reports
- Customer surveys and trade ally interviews to understand influences of the program on purchase decisions and behavioral modifications

EM&V will be used for the calculation of the true-up of the TD (both Ex Post Gross and Net to Gross adjustments subject to a floor and a cap) for the purposes of determining Net (kWh and kW) savings attributed to the programs during the three-year cycle.

Each year the EM&V contractor will calculate the Ex-Post Gross program impacts (kW and kWh) and provide recommendations to update the TRM on a prospective basis only.

Also, for the purposes of calculating the TD, any measure installed after a shift in baseline conditions will reflect the baseline shift in the gross and net kWh and kW savings attributable to that measure. The baseline shift will not apply to gross and net kWh and kW savings attributable to any measure installed prior to the baseline shift. For example, if the baseline conditions for LED bulbs change in PY2, the Company would continue to calculate gross and net kWh and kW savings over the entire life of the LED bulbs installed in PY1 at the original baseline conditions. However, any LED bulbs installed in PY2 or later would use the new baseline for gross and net kWh and kW savings for the purposes of calculating the TD.

EM&V Use in the Earnings Opportunity Calculation

EM&V will be used for the calculation of EO for the purposes of determining the Net (kWh and kW) savings attributed to the programs during the four-year cycle.

Each year the EM&V contractor will review the gross and net program impacts and provide recommendations regarding the adjustment of gross and net energy and demand savings.



This review will help us improve the design and delivery of the energy efficiency programs. At the end of each year of the four-year MEEIA cycle, the EM&V contractor will determine the net energy and demand savings we will use to calculate the EO.

Also, for the purposes of calculating the Earnings Opportunity, any measure installed after a shift in baseline conditions will reflect the baseline shift in the gross and net kWh and kW savings attributable to that measure. The baseline shift will not apply to gross and net kWh and kW savings attributable to any measure installed prior to the baseline shift. For example, if the baseline conditions for LED bulbs change in PY2, the Company would continue to calculate gross and net kWh and kW savings over the entire life of the LED bulbs installed in PY1 at the original baseline conditions. However, any LED bulbs installed in PY2 or later would use the new baseline for gross net kWh and kW savings for the purposes of calculating the Earnings Opportunity.



Table 2: Evaluation, Measurement & Verification Update Status of Inputs to Establish Earnings Opportunity and Throughput Disincentive Adjustment

Earnings Opportunity and Throughput Disincentive Inputs Status			
Category	When is it updated?	Who updates?	Description
Net kWh/kW Savings	Ex Post Gross evaluated savings calculated after program years Net to Gross Ratio savings calculated after each year of the program cycle	Initially developed by EM&V Contractor subject to feedback from parties in case and approval from Commission	Ex Post Gross Energy and demand savings per measure. Net Savings = NTG Ratio * Ex Post Gross Savings
Net To Gross (“NTG”) Ratio	Annually by program for use on prospective basis only	Initially developed by EM&V Contractor subject to feedback from parties in case and approval from Commission	NTG Ratio = 1 - Free ridership rate + participant spillover rate + non-participant spillover rate
Technical Resource Manual (TRM)	Annually on prospective basis only	Company based on data provided by EM&V contractor	Listing of annual kWh/kW measure savings and incremental costs
Earnings Opportunity Award	Annually after post EM&V finalization	Company including data (Net kWh/kW savings) provided from EM&V contractor	Utilizing the Earnings Opportunity Matrix and detailed descriptions of metrics and how to calculate achievement