APPENDIX D EM&V TEAM STAFFING

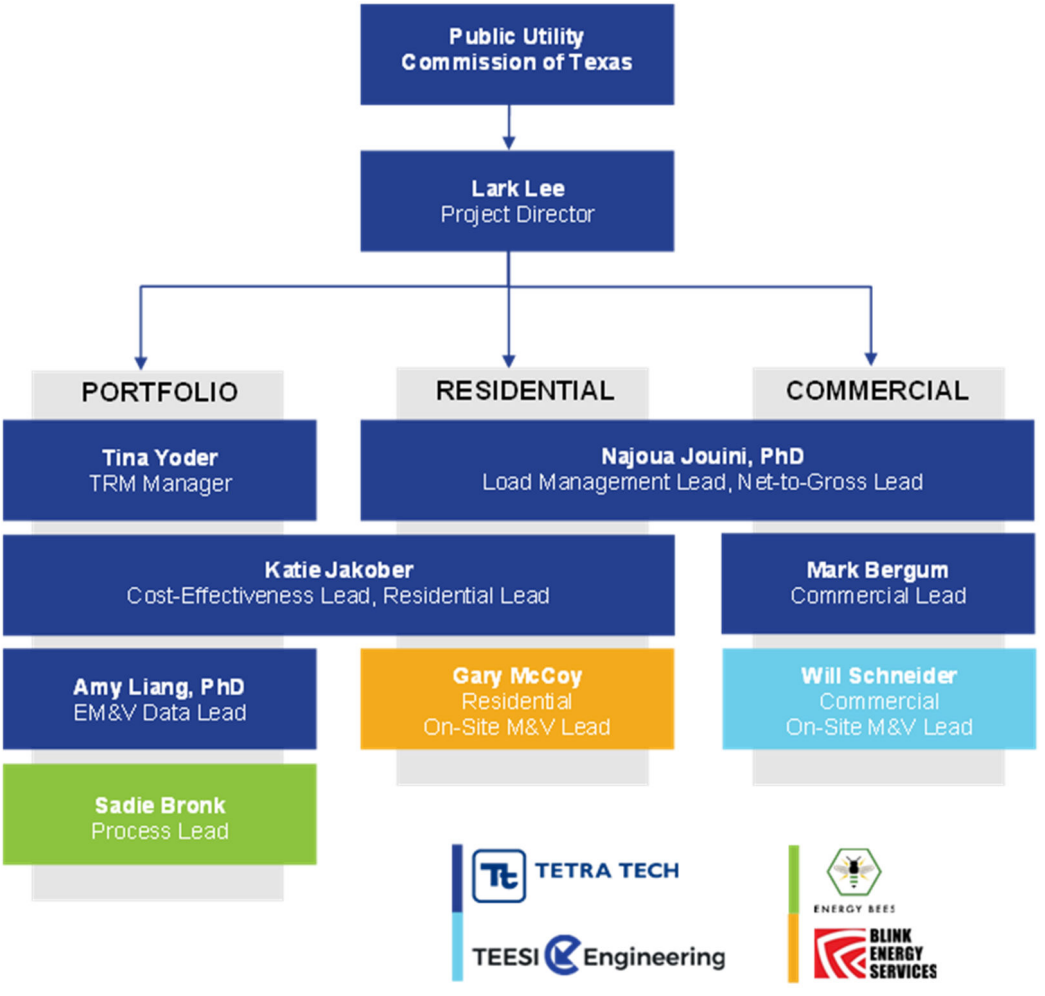
This appendix summarizes the EM&V team organization by task and team member for PY2024.

D.1 TEAM ORGANIZATION

The EM&V team brings substantial expertise and resources, but the effective structure of the EM&V team is equally important. Effective management ensures strong communication and responsiveness to the PUCT, utilities, and other stakeholders. Based on our experience managing other portfolio evaluations of similar size and scope and the strong, established working relationships among the EM&V team members, we developed a staffing and subcontracting plan to operate as one fully integrated team.

The management plan in the organizational chart below (Figure 3) was strategically developed to ensure quality and clear lines of responsibility and accountability.

Figure 3. EM&V Team Organizational Chart



The project manager is the primary point of contact for the PUCT and takes the lead in evaluation planning, reporting, and representing the EM&V team. She orchestrates the project by ensuring the EM&V team understands the PUCT's needs and that resources are in place to meet these needs. Due to the breadth and depth of the EM&V effort, the project manager is supported by the leads for the following areas: EM&V data, residential and nonresidential programs. This structure optimizes the use of our team's deep technical expertise while maintaining consistency and realizing cost efficiencies.

Public Utility Commission of Texas

Evaluation, Measurement, and Verification Plans for ERCOT Utilities' Energy Efficiency and Load Management Portfolios—PY2024

TETRA TECH

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ACKNOWLEDGEMENTS

The program evaluation plans contained in this document were developed based upon prior evaluation, measurement, and verification (EM&V) results and discussions with the Public Utility Commission of Texas (PUCT) staff, electric utilities program staff, and reviews of the utilities' program tracking and program documentation.

We would like to acknowledge the many individuals who contribute to the EM&V effort. This evaluation effort would not be possible without their assistance and support.

PUCT and electric utility staff provide input throughout the evaluation processes, starting with this EM&V Plan. The following individuals participated in ongoing evaluation deliverable reviews and discussions, attended multiple meetings, and responded to follow-up questions and program data and documentation requests:

- PUCT: Ramya Ramaswamy, Jenny DiLeo, Therese Harris, Patricia Garcia, Tugi Gotora, and James Harville;
- American Electric Power Texas (AEP Texas): Robert Cavazos and Pam Osterloh;
- CenterPoint Energy: Ana Baskharone, Shea Richardson, and Tim Griffin;
- Oncor: Garry Jones, Tim McConkie, Paul Jacks, and Joseph Nixon; and
- Texas-New Mexico Power (TNMP): Stefani Case and Josh Campbell.

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Please send any questions or comments on the EM&V Plan to PUCT staff (energyefficiency@puc.texas.gov) and Lark Lee (lark.lee@tetratech.com).

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Description
AEP Texas	American Electric Power Texas
C&I	Commercial and industrial
CATI	Computer-assisted telephone interview
CNP	CenterPoint Energy Houston Electric, LLC
CSOP	Commercial standard offer program
DI	Direct install
EEIP	Energy efficiency implementation project
EEPR	Energy efficiency plan and report
EESP	Energy efficiency service provider
EM&V	Evaluation, measurement, and verification
Entergy	Entergy Texas, Inc.
EPE	El Paso Electric Company
HTR	Hard-to-reach
IOU	Investor-owned utility
kW	Kilowatt
kWh	Kilowatt-hour
LI	Low-income
LM	Load management
M&V	Measurement and verification
mcf	1,000 cubic feet
MTP	Market transformation program
NTG	Net-to-gross
PUCT	Public Utility Commission of Texas
PV	Photovoltaic
PY	Program year
QA/QC	Quality assurance/quality control
RFP	Request for proposals
RSOP	Residential standard offer program
SOP	Standard offer program
SWEPCO	Southwestern Electric Power Company
TEESI	Texas Energy Engineering Services, Inc.
TNMP	Texas-New Mexico Power Company
TRM	Technical Reference Manual
Xcel Energy SPS	Xcel Energy Southwest Public Service, Inc.

1.0 INTRODUCTION

This document presents the evaluation, measurement, and verification (EM&V) plans for the ERCOT utilities' energy efficiency and load management programs implemented in program year (PY) 2024 (PY2024)[1]. It builds upon the prior program years' statewide EM&V efforts conducted annually since PY2012. This is the first EM&V Plan in the four-year EM&V contract period covering PY2024–PY2027 and responds to new research priorities and needs.

The EM&V provides a broad due diligence verification of claimed savings for all programs with targeted in-depth activities based on prioritization, which maximizes the value of EM&V. Prioritization allocates EM&V activities, including (1) engineering desk reviews, (2) on-site measurement and verification (M&V), (3) participant surveys, (4) in-depth interviews, (5) interval meter data analysis, and (6) consumption analyses.

In 2011, the Texas Legislature enacted SB 1125, which required the Public Utility Commission of Texas (PUCT) to develop an EM&V framework that promotes effective program design and consistent and streamlined reporting. The EM&V framework is embodied in P.U.C. SUBST. R. 25.181, relating to the energy efficiency goal.

The PUCT selected an independent, third-party EM&V contractor for the PY2024–PY2027 programs through the Request for Proposals (RFP) 473-24-00003, Project No. 56788. The selected EM&V team is led by Tetra Tech and includes Texas Energy Engineering Services, Inc. (TEESI), Energy Bees, and Blink Energy Services. This document is the deliverable for Task 1B of the Scope of Work in the RFP.

The objectives of the EM&V effort are to:

- document gross and net energy and demand impacts of utilities' individual energy efficiency and load management portfolios;
- determine program cost-effectiveness;
- provide feedback to the PUCT, utilities, and other stakeholders on program portfolio performance; and
- prepare and maintain a statewide technical reference manual (TRM).

This document addresses the planning to meet the first three objectives above. EM&V research and results inform the fourth objective, maintenance of the TRM, along with a collaborative TRM working group composed of the EM&V contractor, PUCT staff, the electric utilities, and contractors invited by the utilities. This EM&V Plan is a living document; there may be scope changes to meet new PUCT priorities, portfolio and program changes, issues encountered during data collection, or interim evaluation findings. Any changes in scope will be documented in the EM&V team's biweekly status reports to the PUCT.

ERCOT utility-specific evaluation plans are in Section 3.0 through Section 6.0. Prior to the ERCOT utility-specific sections, Section 2.0 discusses the Tetra Tech team's approach to evaluation activities that will be performed consistently statewide across all ERCOT utility portfolios. The remainder of this section discusses evaluation prioritization and EM&V research. An overview of the EM&V prioritization is provided, followed by summary tables of prioritization by program type across the four years.

[1] This document is subject to change based on the needs of the PUCT, industry conditions or regulatory conditions.

1.1 EVALUATION PRIORITIZATION

The EM&V plans are based on the prioritization for the EM&V effort that includes both PY2024 and the four-year contract-proposed prioritization, which the PUCT approved. To briefly summarize, the EM&V team identified program types across utilities that have similar program design, delivery, and target markets. We reviewed each program type and prioritized (high, medium, low) based on the following considerations:

- magnitude of savings—the percentage of contribution to the portfolio of programs' impacts (e.g., more than ten percent of portfolio savings are from a measure or program or the measure is rapidly expanding),
- level of relative uncertainty in estimated savings,
- level and value of existing quality assurance/quality control (QA/QC), and verification data from on-site inspections completed by utilities or by their contractors,
- stage of the program or programmatic component (e.g., pilot, early implementation, mature),
- importance to future portfolio performance,
- and priorities for PUCT and utilities prior EM&V results, and upcoming changes in the markets in which the programs operate.

As discussed above, we propose to build on the use of consumption analyses in the previous evaluation cycles. The use of consumption analyses will continue to improve the accuracy of TRM deemed savings in estimating energy savings and demand reductions and allow us to assess how effectively individual measures and IOU programs are performing.

The priority given to each utility program is indicated at the top of its EM&V Plan in the utility-specific sections. A streamlined EM&V effort will be conducted, coupling broad due diligence verification of savings for all programs with targeted in-depth activities, including engineering desk reviews, on-site M&V, interval meter data analysis, participant surveys and interviews, and consumption analyses based on the prioritization of the programs.

We carefully developed PY2024–PY2027 EM&V scopes that prioritize EM&V activities where they provide the greatest value. To continue the significant progress in improving IOU portfolios, programs, and the TRM, we propose the following prioritization and overview of the Portfolio EM&V Plan. The proposed Portfolio EM&V Plan, as summarized in Table 1 through Table 4, is based on our approach to implementing broad verification coupled with targeted in-depth evaluations[2].

1.1.1 PY2024 EM&V Prioritization Overview

For PY2024 EM&V to be completed in 2025, we propose a *high* priority for **HVAC tune-ups, smart thermostats, and major commercial end-uses** (e.g., lighting, HVAC, and custom). The number of HVAC tune-ups incentivized through the programs has increased rapidly in recent years, and more information on both gross and net savings (as measured through a net-to-gross ratio) is needed. A consumption analysis and participant survey for HVAC tune-ups for both residential and commercial customers is planned.

[2] Where sampling other than census is proposed, sample sizes will be designed to meet, at a minimum, the 90/10 confidence interval at the IOU portfolio level specified in the RFP.

The number of smart thermostats incentivized through the programs has also increased rapidly in recent years, necessitating more information on both gross and net savings. In addition, IOU program-incentivized smart devices can be utilized for demand response, which is relevant to broader PUCT initiatives. A process evaluation for the first Retail Electric Pilot is planned with in-depth interviews of program design and delivery staff, complemented with participant surveys for those receiving smart thermostats through sampling from other programs and delivery mechanisms such as retailer programs and online marketplaces.

Commercial projects delivered through Commercial Standard Offer Programs (CSOP) and Market Transformation Programs (CMTP) have seen increased complexity of projects where engineering desk reviews provide more information on the savings. In addition, through commercial participant surveys, we will verify measure installation, update the net-to-gross ratios used to calculate net savings for major end-uses and collect process information such as program satisfaction.

We have prioritized **residential retrofit measures and load management** as a *medium* priority for PY2024 EM&V. For residential retrofit measures, we will assess baseline documentation requirements that were added to the TRM to align better deemed savings with measured savings and complete desk reviews for measures that are heavily dependent on proper implementation such as air infiltration and duct sealing. These measures are implemented across Residential Standard Offer Programs (RSOPs), Residential Market Transformation Programs (RMPTs), Hard-to-Reach Programs (HTR SOPs) and Low-income Weatherization programs (LI programs). We will analyze interval meter data analysis for a census of load management, given that load management programs account for half or more of demand reductions across most IOU portfolios.

Table 1. Evaluation Prioritization and Plan Summary—PY2024 Completed in 2025

Measure, end-use, or program type	Sector	Evaluation priority	Claimed savings verification approach	Project desk reviews	On[3]-sites	Surveys and Interviews	Interval meter/ consumption analysis
HVAC tune-ups	Commercial and residential	High	Census sample	N/A	N/A	Participants[4]	Census sample
Smart thermostats	Commercial and residential	High	Census, tracking system data	Census retail electric provider pilot	N/A	Participants and retail electric providers[5]	Interval meter data for retail electric provider pilot
Commercial projects through	Commercial	High	Sample by end-use	73	N/A	Participants, census or	N/A

[3] While on-sites are foundational to the EM&V research and will be conducted all four calendar years, there is not sufficient time before impact reporting to complete on-site M&V for PY2024. On-sites across all IOUs are planned to begin in 2025 with PY2025 participants.

[4] The EM&V team and PUCT Staff are exploring with IOUs the possibility of incorporating EM&V participant surveys into program delivery.

[5] The EM&V team will interview IOU program design and delivery staff only, but will support IOUs in developing questions to interview Retail Electric Providers (REPs) to gather feedback as applicable for their pilots and engagement. The EM&V team and PUCT Staff are exploring with IOUs the possibility of incorporating participant surveys into program delivery.

Measure, end-use, or program type	Sector	Evaluation priority	Claimed savings verification approach	Project desk reviews	On³-sites	Surveys and Interviews	Interval meter/ consumption analysis
CSOP and CMTP						sample to meet 90/10	
Retrofit measures across RSOP, RMTP, HTR, and LI programs	Residential	Medium	Sample by end-use	40	N/A	N/A	N/A
Load management	Commercial and residential	Medium	Census	N/A	N/A	N/A	Census
All other measures and programs	Low	Census, tracking system data	N/A	N/A	N/A	N/A	

1.1.2 PY2025 EM&V Prioritization Overview

For PY2025 EM&V to be completed in 2026 (Table 2), we have prioritized **residential retrofit measures**—insulation, air infiltration, duct sealing, and central air conditioners—as a *high* priority. We will re-evaluate the two ERCOT utilities' where residential retrofit savings underperformed in the PY2023 consumption analysis.

Participant surveys for all IOU programs incentivizing residential retrofit measures will collect process information, update the net-to-gross factor for RSOP[6], and confirm measure installation. Desk reviews and on-sites will be conducted for residential retrofit IOU programs that are not included in the consumption analysis. Finally, as discussed further under Task 4, we propose developing a program participation metric for residential retrofit programs across ERCOT IOU territories to provide the PUCT insight on the percentage of residential customers served.

We have prioritized **residential new homes, commercial projects, and load management** as a *medium* priority. For residential new homes, we will assess how well the programs have responded to the PY2025 TRM baseline update and new performance paths open to the program through engineering desk reviews and program staff interviews. Given the complexity and uncertainty of project savings described above, we will sample for commercial project engineering desk reviews and on-sites. We will continue census interval meter data analysis for load management programs.

[6] It is industry standard practice to deem the net-to-gross ratio for low-income customers at 1 given the affordability barriers faced and therefore NTG questions are not planned at this time for these households.

Table 2. Evaluation Prioritization and Plan Summary—PY2025 Completed in 2026

Measure, end-use, or program type	Sector	Evaluation priority	Claimed savings verification approach	Project desk reviews or participation analysis	On-sites	Surveys and Interviews	Interval meter/ consumption analysis
Retrofit measures across RSOP, RMTP, HTR, and LI programs	Residential	High	Census sample, tracking system, or consumption analysis as specified	34	34	Participants, sample to meet 90/10	ERCOT IOU under-performing programs in PY2023 EM&V
New Homes	Residential	Medium	Sample by M&V approach (see desk reviews)	35	N/A	N/A	N/A
Commercial projects through CSOP and CMTP	Commercial	Medium	Sample by end-use (see desk reviews)	146	73	N/A	N/A
Load management	Commercial and residential	Medium	Census	N/A	N/A	N/A	Census interval meter data analysis
All other measures and programs		Low	Census, Tracking system data	N/A	N/A	N/A	N/A

1.1.3 PY2026 EM&V Prioritization Overview

For PY2026 EM&V to be completed in 2027 (Table 3), we have prioritized **heat pumps, residential new homes, and load management** as a *high* priority. A consumption analysis is proposed to assess heat pumps and variable speed heat pumps; the latter is a new measure in the PY2025 TRM. We will again assess how well the new homes programs have responded to the PY2025 TRM baseline update and new performance paths option coupled with an update in the net-to-gross ratio for these programs at the IOU-level. Load Management will include cooperation rate analysis coupled with in-depth interviews to understand IOU load management planning and optimization to provide performance feedback in addition to census interval meter data analysis.

We have prioritized **commercial and residential retrofit projects** as *medium* priorities to continue to assess the issues discussed above and have specified specific desk reviews for **HVAC tune-ups** to follow up on the results of the consumption analysis. Tetra Tech is proposing a new sampling stratum—*geography*—to provide additional feedback to the PUCT and IOUs on the quality of implementation across territories. Based on the experience with residential participation analysis for the outside-of-ERCOT IOUs, we will expand this analysis to the ERCOT IOUs, which will assist in developing the *geography* strata.

Table 3. Evaluation Prioritization and Plan Summary—PY2026 Completed in 2027

Measure, end-use, or program type	Sector	Evaluation priority	Claimed savings verification approach	Project desk reviews and participation analysis	On-sites	Surveys and Interviews	Interval meter/ consumption analysis
Heat pumps	Commercial and residential	High	Census sample	Baseline heating source	N/A	N/A	Census sample
New Homes	Residential	High	Sample by M&V approach	40	N/A	Approx. 20 builder and rater interviews	N/A
HVAC tune-ups	Commercial and residential	Medium	Sample	13 Residential and 7 Commercial	10	N/A	N/A
Retrofit measures across RSOP, RMTP, HTR, and LI programs	Residential	Medium	Sample by geography[7]	86 and census participation for ERCOT IOUs	43	N/A	N/A
Commercial projects through CSOP and CMTP	Commercial	Medium	Sample by end-use and geography	138	69	N/A	N/A
Load management	Commercial and residential	High	Census	N/A	N/A	Census program design and delivery staff in-depth interviews	Census interval meter data analysis
All other measures and programs		Low	Census, Tracking system data	N/A	N/A	N/A	N/A

[7] At this time, our proposed geography sampling strata approach is to group projects into 'metro', 'outside-of-metro' and 'rural' geographies to sample across population areas that may affect program services. Given competing priorities and condensed timeline at the beginning of the four-year contract period, we are proposing the geography sampling strata is discussed and first implemented starting with PY2026.

1.1.4 PY2027 EM&V Prioritization Overview

For PY2027 EM&V to be completed in 2028 (Table 4), we have placed a *high* priority on **residential retrofit measures**—insulation, air infiltration, duct sealing, and central air conditioners—**and small business and expanding commercial offerings** such as strategic energy management, recommissioning, and food services projects. We will conduct a residential retrofit consumption analysis for any programs found to be underperforming in the PY2025 consumption analysis. Desk reviews and on-sites will be conducted for residential retrofit IOU programs that are not included in the consumption analysis.

In addition, participant surveys for expanded commercial offerings will assess how effectively these programs serve commercial customers and update net-to-gross information. We will also evaluate how effectively programs reach the traditionally underserved small business customer segment. **Other commercial projects and load management** will continue as a *medium* priority for the above reasons.

Table 4. Evaluation Prioritization and Plan Summary—PY2027 Completed in 2028

Measure, end-use, or Program type	Sector	Evaluation priority	Claimed savings verification approach	Project desk reviews and participation analysis	On-sites	Surveys and Interviews	Interval meter/ consumption analysis
Retrofit measures across RSOP, RMTP, HTR, and LI programs	Residential	High	Census sample, tracking system, or consumption analysis as specified	34	34	N/A	Census analysis for under-performing programs in the PY2025 consumption analysis
Expanding offerings	Commercial	High	Sample by end-use and/or geography	16	8	Participants, census or sample to meet 90/10	N/A
Small business	Commercial	High	Sample end-use and/or geography	30 desk reviews, census analysis of measure mix and/or geography, participation analysis	15	N/A	N/A
Commercial projects through CSOP and CMTP	Commercial	Medium	Sampled by end-use (see desk reviews)	102	51	N/A	N/A
Load management	Commercial and residential	Medium	Census	N/A	N/A	N/A	Census interval meter data analysis
All other measures and programs		Low	Census, tracking system data	N/A	N/A	N/A	N/A

1.2 EVALUATION ACTIVITIES

Below, we briefly describe the major research activities listed in the tables above. These are discussed in more detail in Section 2 of this EM&V Plan.

Tracking system verification provides an independent third-party review of claimed savings; it assesses the accuracy of the data for all claimed savings in ERCOT utilities' annual Energy Efficiency Plans and Reports (EEPR). This verification includes a high-level review of programs' deemed measures to verify that all required tracking data is available and savings are calculated correctly for the applicable TRM. However, not all the information necessary to complete a census review of TRM-deemed savings calculations is in the tracking systems for residential and commercial programs; therefore, a sample of projects must be selected, and engineering desk reviews performed to verify savings.

Engineering desk reviews include reviewing the assumptions used for the savings calculations and, when available, utility M&V reports gathered through the supplemental data request for sampled projects.

On-site M&V checks the installation and equipment nameplate information to support the verification of claimed savings calculations and may include spot metering. Additional on-site metering will be completed when an enhanced level of rigor is warranted to validate key data inputs and assumptions. We expect to conduct metering or regression analyses for complex projects for which there is the greatest uncertainty in claimed savings in nonresidential applications or high-impact measures that represent a significant proportion of savings. We expect additional rigor in on-site M&V may be needed for project measures such as Strategic Energy Management projects, HVAC control system upgrades, fresh air pre-cooling, and air compressor upgrades, to name a few.

Consumption analyses of the utilities with interval meter data will be conducted to assess energy savings and demand reductions for several measures, end-uses, and programs, as described above in Table 1 through Table 4. These analyses will compare pre-program usage with post-program usage as well as comparisons with nonparticipant groups.

Interval meter data analyses will be conducted for all load management programs to recalculate kilowatt and kilowatt-hour savings from curtailment events as compared to the TRM baseline methodology.

Benchmarking research. Tetra Tech will conduct benchmarking research for net-to-gross ratios for similar upstream measures as offered through the Texas IOU programs when primary research is not warranted (e.g., small savings measures with low program uptake).

Participant analysis. Tetra Tech will work with PUCT Staff and IOUs to map multi-year program participation across IOU territories for specific customer segments as specified in the summary tables.

2.0 EVALUATION APPROACH

It is important to understand the energy efficiency and load management portfolios for each utility and the context in which they operate; this is necessary for the evaluation, measurement, and verification (EM&V) effort to result in actionable feedback that can be used to improve program performance and reporting accuracy. The EM&V team gathers information through meetings, program documentation, and data tracking reviews. The EM&V team reviews and compiles information from the annual Energy Efficiency Program Plans and Report (EEPR). In addition, the EM&V team collects and catalogs program documentation. Types of program-specific documentation reviewed included operating manuals, service provider applications, customer agreements, memoranda of understanding, sample customer reports (i.e., benchmarking), workshop presentations, and tools.

Scheduled biweekly status meetings between the EM&V team and the Public Utility Commission of Texas (PUCT) continue throughout the evaluation. Status reports are posted on the EM&V SharePoint site. The EM&V team and the PUCT will also hold periodic meetings with utilities and, when applicable, their implementation contractors throughout the evaluation period. The EM&V project manager will also email the utilities a monthly status update. In order to engage a wide range of stakeholders in the EM&V process in both up-front planning and the end results, an Energy Efficiency Implementation Project (EEIP) meeting will be held in the fall and spring, where the EM&V contractor presents.

Next, we discuss the EM&V team's approach to:

- the EM&V database,
- impact evaluations,
- performance feedback,
- cost-effectiveness testing, and
- reporting.

2.1 IMPACT EVALUATIONS

The impact evaluations will result in defensible lifetime and annual estimates of gross and net energy and demand impacts. The impact evaluations will be used to calculate realization rates; the realization rate is determined by dividing the evaluated savings by the utility-claimed savings.

We will complete program tracking system data verification for all demand reductions and energy savings. For a sample of projects, engineering desk reviews will verify that the measures installed are consistent with those listed in the tracking system, with a subset of on-site M&V for PY2025 through PY2027 to gain additional information and investigate areas of uncertainty found in the desk reviews. These impact evaluation activities are complemented by participant surveys and interviews to provide additional insight into program performance and to inform net-to-gross ratios to calculate net savings at the IOU program level. Next, we discuss the proposed evaluation approaches by sector, programs, and measures designated as *high* or *medium* priorities in Section 1.1.

Commercial sector energy efficiency proposed plan approach. The commercial SOPs and MTPs are similar in the sites they serve and the energy efficiency and demand reduction solution categories. Both program types have resulted in a large number of lighting and HVAC system improvement projects and customer measures, as well as a smaller number of projects of other measures (e.g., solar/PV, motors, roofs). Therefore, evaluation activities will be similar across both program types to strengthen results across this sector.

For each of the PY2025–PY2027 evaluations, we budgeted 200 desk reviews and 100 on-sites to verify key savings parameters. The PY2024 evaluation will include 100 desk reviews and participant telephone verifications instead of on-sites because of the limited time period in the first contract year before reporting. Compared to the residential sector, commercial buildings have a much larger variety of uses and operate similar equipment differently; therefore, a targeted measure approach that rotates across program years will focus the scope to provide actionable results. For example, HVAC tune-ups will be a focus for commercial and residential in PY2024 to provide useful results for this measure in addition to the highest savings measures of HVAC, lighting, and custom, while later years will focus on expanded measure offerings, including recommissioning, strategic energy management, food services and behavioral.

Residential sector energy efficiency proposed plan approach. The recommended evaluation approaches for the residential sector measures vary as the programs have different goals, designs, and delivery strategies and have different levels of proposed priority given prior years' evaluations. For major programs and measures, we will conduct a consumption analysis, discussed in more detail below, to evaluate savings through changes in participants' AMI meter data.

We will also conduct desk reviews to ensure the programs collect appropriate documentation and apply the TRM correctly. For desk reviews in the PY2025–PY2027 evaluations, we budgeted 340 desk reviews and 175 on-sites to verify key savings parameters. The PY2024 evaluation will include 60 desk reviews but no on-sites because of the limited time period in the first contract year before reporting. In PY2024, participant surveys evaluate the net-to-gross and assess performance for smart thermostats and tune-ups. Participant surveys to assess net-to-gross and performance for other residential programs and measures are planned for later years in the EM&V contract period. For new homes and measures that employ M&V approaches outlined in TRM Volume 5, we will conduct in-depth reviews of the M&V approach when those programs or measures are *medium* or *high* priority.

Measure-level consumption analysis. Each year's consumption analysis, with 12-month pre- and 12-month post-installation AMI data, normalized for weather, will detail the expected targeted measures and IOU programs for the year. Consumption analysis results are expected to provide insight into the accuracy of the TRM assumptions and calculations related to real-world installations. This process will improve the accuracy of TRM deemed savings and the effectiveness of implementation at the IOU-level over the course of the evaluation contract.

The Tetra Tech team will conduct consumption analyses for programs that target measures of interest as proposed in Task 1B, Portfolio EM&V Plan, particularly HVAC tune-ups, HVAC equipment, and building envelope measures. As utilities update their portfolios, the programs included in these analyses might expand given the measure focus of the consumption analyses in the evaluation contract period.

While previous consumption analyses focused on the four to five utilities that had AMI data available, as AMI meters become fully deployed across all IOUs, the Tetra Tech team will expand consumption analysis to all utilities as it makes sense based on program participation and the progress of AMI meter deployment. Conducting utility-specific consumption analyses is important to provide results specific to utilities to understand program effectiveness within their unique territories and support consistent performance across IOUs.

Load management programs proposed evaluation approach. As we have done in the past, the Tetra Tech team proposes to collect interval load data from all utilities for a census of load management program participants to verify their energy and demand savings impacts. We have also proposed cooperation rate analysis coupled with in-depth interviews to understand IOU load management planning and optimization to be conducted once during the four-year contract period to assess program performance and gather key information.

Specific sampling strategies for PY2024 will be part of the Detailed Research Plans (DRP) discussed in Section 2.3.

In implementing the impact evaluations, we consider the issues that could introduce potential bias and uncertainty. Biases can be introduced for a number of reasons within evaluation results. It is important to assess that there are no major systematic non-random errors embedded in the data that would bias the evaluation results. The EM&V team will make every effort to identify and address any potential biases occurring due to measurement errors resulting from inaccurate meters or errors in recording data; collection errors arising from non-representative sampling; refusal by some in the sample to participate in a survey; biased responses or interpretation of responses; poor questionnaire design; failure to take behavioral factors into account; modeling errors from the incorrect specification of relationships between variables; improperly included or excluded information or data; and other modeling deficiencies. Even when applying best research practices to address potential biases, some uncertainty will remain; the annual ERCOT Investor-Owned Utilities (IOUs) Energy Efficiency Report will discuss sources of biases and uncertainty associated with the evaluated savings estimates.

In addition to mitigating the biases, the impact evaluations will increase the confidence of results and reduce uncertainty by employing appropriate sampling approaches and reporting confidence intervals. A confidence interval is a range of values that describes the uncertainty surrounding an estimate. Confidence intervals are one way to represent how "good" an estimate is—the larger a confidence interval is for a particular estimate, the more caution is required when using the point estimate.

Demand-side management program evaluations routinely employ 90 percent confidence intervals with ±10 percent as the industry standard ("90/10"). The 90 percent in the confidence interval represents a level of certainty about the estimate. If we were to repeatedly obtain new estimates using exactly the same procedure (by drawing a new sample, conducting new interviews, calculating new estimates, and new confidence intervals), the confidence intervals would contain the true average of all the estimates 90 percent of the time. The EM&V activities will result in a maximum confidence interval of ±10 percent with 90 percent confidence at the utility portfolio level for gross evaluated savings estimates.

Next, we overview our impact evaluation approach, followed by a discussion of DRPs used for data collection and details of the EM&V data collection activities.

2.1.1 Overview of Impact Evaluation Approach

The EM&V team will use a combination of approaches to estimate and verify energy savings. Where standard offer programs (SOP), market transformation programs (MTP), and pilot programs are similar in terms of (1) the types of customers and sites they serve and (2) the end uses affected by the programs, the evaluation approaches will be similar to ensure the energy savings estimates are comparable for these program categories.

Below, we summarize the specific types of EM&V activities and analysis that the EM&V team will use to verify program impacts. The evaluated savings will be based on realization rate calculations; to calculate evaluated savings, we will apply the realization rates determined from the EM&V sample to the population of projects. Although the level of rigor varies by sector, program type, and measure, the following activities will be conducted by the EM&V team:

- **Tracking system review.** To review each utility's tracking system, which contains extensive information at the customer measure level, the EM&V team will use the technical reference manual (TRM) algorithms and deemed values to calculate aggregate savings at the utility program level. This review aims to verify that utilities have correctly applied these algorithms to all the programs' installed measures in the given program year. This tracking system review will allow the EM&V team to calculate the total program-deemed savings in order to conduct a final comparison to utilities' claimed savings. The tracking system review will be conducted for a sample of residential programs and commercial programs; utilities' tracking systems do not contain all of the information for a census review of commercial programs, and a supplemental data request to support desk reviews is needed.
- **Engineering desk reviews.** The EM&V team will review a sample of applications entered into the ERCOT utilities' tracking systems for accuracy and completeness. Our review will accomplish two primary objectives. First, it will ensure that the measures installed are consistent with those listed in the tracking system. For each program, the EM&V team will review the tracking system and its linkage to any deemed savings tools or methods used to estimate savings at the measure and site level. Second, the desk reviews will verify that the tracking system's savings estimates are consistent with those calculated in the "deemed" calculation tools, tables, or M&V methods used to estimate project savings. The EM&V team will review the assumptions used for the savings calculations. Our focus on this effort will be to review, if possible, available building simulation models and any work papers that were developed for the savings assumptions. Desk reviews will also include a review of the utility M&V reports gathered through the supplemental data request for sampled projects.
- **On-site M&V.** We will also conduct on-site M&V for a sample of participants. These on-site visits have two principal objectives: (1) to verify the installation and operation of the equipment/systems and (2) to verify key assumptions made in calculating claimed savings estimates.
    - Installations will be verified by collecting data on-site related to the number of measures installed, the location of the systems, equipment nameplate information, and a visual inspection to ensure the systems are working as intended. This basic inspection audit will take approximately one to two hours to complete.
    - Site measurements—and potentially spot metering—will be conducted to develop an independent estimate of savings to compare to the utility's claimed savings estimates. This more comprehensive audit seeks to verify key input assumptions used to develop ex-ante claimed savings estimates from deemed savings algorithms or M&V plans for custom projects (e.g., baseline energy use, operating hours, efficiency performance, and potentially interactive effects). For residential programs, blower door testing will also be performed.
- **Consumption analysis.** The EM&V team will conduct consumption analyses of the utilities with interval meter data to assess actual savings in comparison to the TRM for both commercial and residential high-impact measures. The consumption analyses will employ quasi-experimental designs that compare pre-participation and post-participation usage as well as comparisons with a representative nonparticipant group. Weather and outliers will also be addressed in the methodology. The primary goal of this analysis is to inform prospective updates to the TRM.

- **Interval meter data analysis.** For the load management programs, the EM&V team will perform interval meter data analysis to evaluate the energy and demand impacts of curtailment events compared to the TRM baseline methodology.
- **Benchmarking research.** Tetra Tech will conduct benchmarking research for net-to-gross ratios for similar upstream measures as offered through the Texas IOU programs.

2.2 EM&V DATABASE AND DASHBOARD

The EM&V database provides an integrated multi-purpose solution. It includes key data from all ERCOT and Outside-of-ERCOT utilities, which is critical for providing both the macro- and micro-level information needed to understand the programs and measures driving savings across the IOUs and allowing us to drill down to ERCOT and Outside-of-ERCOT utility-, program- and measure-specific data. We will continue to use the EM&V database to sample across utilities' programs efficiently and maintain accuracy and consistency in reporting evaluated results. The EM&V database allows the EM&V team to conduct efficient sampling across utilities and programs, complete tracking system reviews across all programs, and sample projects for additional activities, as summarized in Section 1.0. In addition, the EM&V team reviews the utilities' final program tracking data to reconcile the EM&V's tracking system savings with the claimed savings that utilities report in their EEPRs.

In addition to the EM&V database, which manages the tracking data, the evaluation team plans to provide the PUCT with an interactive dashboard detailing the status of each program evaluation. Overall, the dashboard tracks progress toward goals across programs, including the number of completed desk reviews, surveys, and site verifications. At a more granular level, the dashboard allows the PUCT to examine all documentation and calculations the evaluation team used—by project or site—at any time.

Critical components of any successful evaluation include the secure collection, archival, organization, and maintenance of program and portfolio data. The Tetra Tech team has continuously improved the centralized, statewide EM&V database to carefully manage the data request process, which has improved the data quality and reduced the burden on utilities and their contractors. Data security protocols have also continuously improved to ensure secure transmission and storage.

2.2.1 Data Requests and Security

The EM&V team will periodically submit data requests to utilities, as indicated on the data request timeline maintained on the EM&V SharePoint site. Supplemental data requests will be sent for the *high* and *medium* priority programs to obtain additional documentation. Per the communication protocols agreed upon by the utilities for prior EM&V efforts, the EM&V team will direct data requests to the utilities as well as implementation contractors who host the data and have been authorized by the utilities to release data to the EM&V team.

Care needs to be taken to transfer and store customer data to ensure data integrity and security. The confidentiality of customer data and personally identifiable information (PII) relies on the following solid security plan:

- File transfers
    - All data are encrypted when in transit; Tetra Tech uses a secure OneDrive file transfer application that encrypts files during the transfer process, ensuring data integrity and security.

- Storage
  - Data containing PII are encrypted while at rest.
  - Data are stored on a server located in a physically secured data center.
- Access
  - Exposure to PII is limited to designated staff members.
  - Non-PII/clean data will be made available to the project team.
  - Database user access rights are limited in order to prevent exposure to PII.

2.2.2 Front- and Back-End Data Management

The first approach to ensure data integrity is front-end data management, which involves data collection and organization. Keeping data well-organized begins with how it is requested, collected, and saved. The EM&V team will continue to use two key software programs that will allow efficient and effective data requests, collection, and repository—a SharePoint server and a secure file transfer site.

Tetra Tech maintains a secure SharePoint site for broadcasting relevant information and documentation about the PUCT EM&V project. The site is accessible to utilities, all relevant contractors, PUCT staff, and stakeholders who have requested access. The site has a Wiki-style interface for users to share information in near-real-time. This documentation and information interface is editable and linkable by all users and maintained by Tetra Tech staff.

As introduced above, Tetra Tech also maintains and hosts a secure file transfer website (OneDrive) for storing and transferring datasets and other project-related materials. The site is securely accessible to all relevant utilities, contractors, and PUCT staff. The site is used primarily for two purposes: (1) storing and sharing large datasets of relevant program information, such as contractor metering data and utility tracking and consumption data; and (2) sharing supporting documentation with other contractors and the PUCT. This site also allows the EM&V team to oversee and document the data as they come in, providing an extra quality control step to the evaluation process.

The second approach to ensure data integrity is through back-end data management, which involves dynamic data compilation, auditing, maintenance, algorithm development, and reporting. A critical element of our approach entails assessing each program's database at the earliest opportunity to determine whether the program implementers are collecting the data required for accurate evaluations. We use SQL Server as our core back-end technology.

2.2.3 Preliminary Data Validation

Identifying data issues in the program's evaluation as soon as possible is critical. Data quality issues can reduce the integrity of the evaluation results or impede conducting specific activities that rely on this data. We will, therefore, review the program data for data completeness as well as data quality.

To determine whether the relevant information is being collected, we will review each program's database as they are sent to the EM&V team. After comparing the information in the database to the information required to evaluate the program, we will offer recommendations regarding additions or changes as appropriate. Our review will assess the fields in the database and the quality and detail of the data itself. Although a data field may have been created for vital information, this information is not always collected or collected in sufficient detail.

The EM&V team will implement EM&V data validation tasks that can be efficiently accomplished through SQL procedures. In general, the EM&V team will review the data for:

- missing but required data fields, including ex-ante savings estimates, fields needed for calculations or engineering review, fields needed to contact participants for additional research, and date fields to verify the timing of participation;
- duplicate records;
- inconsistent terminology, such as inconsistent naming of measures, which can result in ambiguities about what measure has been installed; and
- values that appear to be out of the expected range within fields, such as participation dates, values used as inputs within savings calculations (such as square footage for homes or quantities installed), and ex-ante savings.

A visual representation of the data import, review, and validation process can be found in Appendix A.

2.3 DETAILED RESEARCH PLANS AND SUPPLEMENTAL DATA REQUESTS

This EM&V plan describes EM&V activities we will complete by utility program. The DRPs provide a more in-depth discussion of the sampling and specific research activities and supplemental program data needed for specific utility program-level evaluations implemented throughout the evaluation period. DRPs will only be completed for the *high-* and *medium-priority* programs with primary data collection.

DRPs will be distributed for utility review; the utilities' review of the savings and sample characterization in the DRPs is particularly critical. For example, a population mischaracterization could indicate issues with the data housed in the EM&V database or a misunderstanding of the program data itself.

Supplemental data requests (SDR) for the associated sampled projects will be distributed to each utility within one week of the DRPs. The SDRs will request documentation to support the desk review and on-site verification activities. Utilities will be asked to send complete project documentation for the EM&V sample of program participants. Project files should include any documentation related to the project and energy calculations, such as invoices, application forms, project sponsor specification sheets, the completed energy savings calculators for the project, and other relevant materials. The project files should also include the quality assurance/quality control (QA/QC) inspection reports if the sampled projects received QA/QC.

2.4 COST-EFFECTIVENESS TESTING

The EM&V team will conduct cost-effectiveness testing using the program administrator cost test (PACT), also known as the utility cost test, using actual results except for LI programs, as discussed below. Cost-effectiveness tests will be run using a uniform model for all utilities; the EM&V team will collect required inputs for the model from several sources, including program tracking data, deemed savings, and the PUCT and utilities. Table 5 lists the required inputs to the cost-effectiveness model and the sources of information.

Table 5. Cost-Effectiveness Model Inputs and Sources

Model input	Measurement level	Source
Reported energy/demand savings	Measure type	EM&V database
Summer/winter peak coincidence factors	Measure type	Deemed savings
Effective useful life	Measure type	Deemed savings
Incentive payments	Program	EEPRs

Model input	Measurement level	Source
Administrative and research and development (R&D) costs	Program/portfolio	EEPRs
EM&V costs	Program/portfolio	EM&V team budgets
Performance bonus[8]	Portfolio	EEPRs
Avoided costs	Statewide	PUCT (utilities)
Weighted average cost of capital	Utility	Utilities
Line loss factor (non-ERCOT utilities only)	Utility	Utilities
Realization rates	Program	Evaluation results
NTG rates	Program	Evaluation results

The EM&V team will conduct cost-effectiveness tests separately using claimed gross savings, evaluated gross savings, and evaluated net savings. The model produces results at the portfolio, program category,[9] and program levels.

All benefits and costs are expressed in PY dollars. Benefits resulting from energy savings occurring in future years are net-to-PY dollars using the utility's weighted average cost of capital (WACC) as the discount rate.

When tests are conducted at a more disaggregated level than data are available, allocations will be made proportionate to costs. For example, the performance bonus will be calculated for the overall portfolio and allocated to individual programs proportionate to the programs' costs associated with meeting demand and energy goals. Program costs include program administrative and incentive costs; portfolio-level costs include the performance bonus; and EM&V, administrative, and R&D costs.

LI programs are evaluated using the savings-to-investment ratio (SIR). This model only includes net incentive payments under program costs. The SIR methodology is only used when specifically testing LI programs.

Portfolio-level cost-effectiveness analyses are based on the PACT and will be shown both including and excluding LI programs.

The calculations used for the PACT cost-effectiveness methodology are in Appendix B.

In addition, the EM&V team will report the cost per lifetime kilowatt-hours and kilowatts; this is calculated by attributing costs to energy savings and avoided demand based on their portion of total benefits and then applying that proportion to the total program costs.

[8] Performance bonuses as an input into cost-effectiveness testing came into effect in 2012.
[9] Program categories are currently defined as *nonresidential*, *residential*, *low-income*, *load management*, and *pilot*.

2.5 PERFORMANCE FEEDBACK

Savings and cost-effectiveness alone do not completely explain a program or portfolio's effectiveness. Other factors, including internal and external utility operations, program maturity, service provider and implementation contractor activities, and markets, can influence a program's effectiveness. Identifying program process improvements is a best practice in EM&V and is critical to maximizing the value provided. Due to the emphasis placed on a broad reach of impact evaluation activities within a limited EM&V budget, the EM&V team will work with PUCT staff to prioritize process issues so that resources are spent on the areas of the highest importance. For PY2024, process issues will include timing of savings progress toward program goals, retail electric provider (REP) participation in the programs[10], customer segment analysis, support for a potential future energy efficiency rulemaking if needed, and other process items identified throughout the program year.

2.6 REPORTING AND PROJECT MANAGEMENT DELIVERABLES

There are two EM&V report deliverables per program year: (1) Interim Impact Evaluation Reports and (2) the annual IOU Energy Efficiency Report. The EM&V team will also deliver status reports, ad hoc data collection, and sampling deliverables as needed.

The Interim Impact Evaluation Reports will be separate for each utility and present detailed impact results for each utility's portfolio. For example, the reports will include detailed desk reviews and M&V results for the specified utility. The Interim Impact Evaluation Report findings will be discussed with the PUCT and each utility *prior* to drafting the annual IOUs Energy Efficiency Report; this will allow the EM&V team to discuss the impact results with the PUCT and utilities, receive their input, and conduct supplemental analysis if needed prior to the final annual IOUs Energy Efficiency Report.

The annual IOUs Energy Efficiency Report is a comprehensive report across all utility portfolios. It will include an overarching section presenting statewide findings and recommendations. The following quantitative metrics will be used as the basis for recommendations in the reports as well as others: gross savings realization rates, NTG ratios, and program cost-effectiveness.

Accuracy and transparency are a priority in the reporting of results. All reports will clearly document drivers of differences and consistencies between evaluated and utility-claimed savings; the reliability of evaluated savings values, precision levels, threats to validity, and approaches used to increase the reliability of the findings; and the feasibility and trade-offs inherent in program recommendations.

Additional deliverables that will be provided to the PUCT include:

- biweekly progress reports that summarize the status of current evaluation activities, key issues identified and their resolution, problems requiring resolution and proposed solutions, tracking of the schedule of deliverables, and any action items requiring PUCT or utility input before the EM&V team can proceed with specific tasks;
- guidance memorandums;
- data collection tools, including on-site data collection forms, participant and market actor surveys, and utility interview guides;
- any ad hoc interim reports as requested by the PUCT or utilities or deemed necessary by the EM&V team;
- on-site and desk review reports documenting the claimed savings, observations while on-site, on-site methods employed, and any adjustments resulting from the on-site visit; and

[10] The planned process activities will update the retail electric provider (REP) research conducted in 2015 as part of the PY2014 EM&V scope.

- the EM&V database and dashboard.

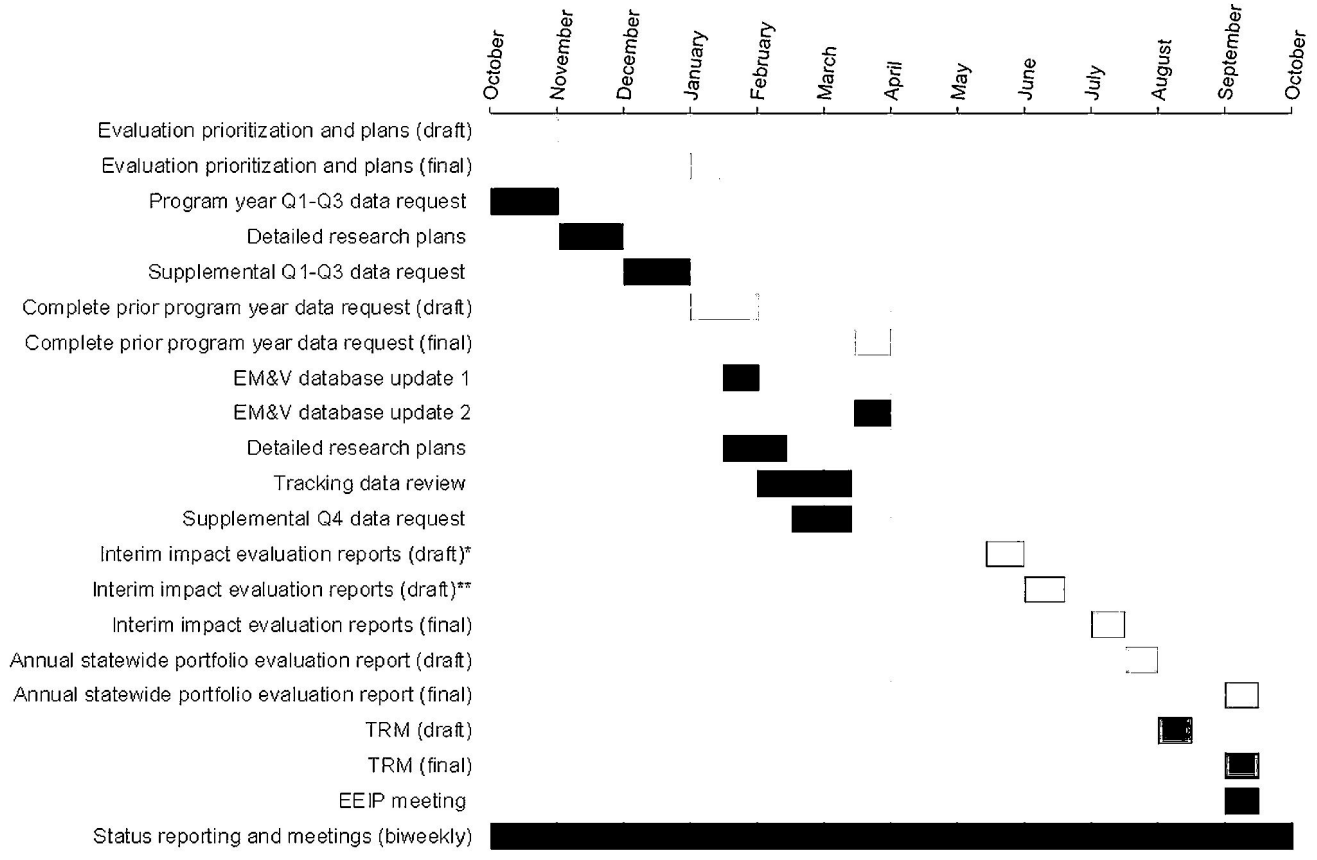
2.7 EM&V TIMELINE

The EM&V team maintains an EM&V SharePoint site to facilitate communication with all relevant stakeholders throughout the evaluation process and house EM&V deliverables and documents. Detailed timelines for data requests, data collection activities, and deliverables are on the EM&V SharePoint under the *EM&V Communications* folder and are regularly updated.

Periodic tracking of data requests and evaluation planning deliverables (DRPs and SDRs) ensures the EM&V team can meet reporting deadlines. Interim impact evaluation reports are scheduled to be delivered to utilities corresponding to the date of their Energy Efficiency Cost Recovery Factor (EECRF) filings. This allows sufficient time to complete data collection for sampled projects and discuss interim results individually with utilities prior to their EECRF filings and the annual IOUs Energy Efficiency Report.

Figure 1 shows the annual timeline for EM&V activities and TRM updates for PY2025–PY2027. For PY2024, Evaluation Prioritization and Planning will occur in December and January with the complete prior program year data request due to the contract start date of January 1, 2025. The remainder of the January through December deliverables will follow the same schedule as shown below for PY2025-P2027.

Figure 1. Annual Evaluation, Measurement, and Verification Timeline



*Activities that include draft and final deliverables are shown using the same color.

3.0 AEP TEXAS

This section addresses the energy efficiency and load management portfolio for AEP Texas. The overall portfolio[11] is summarized below, followed by details for each program in the portfolio.

3.1 PORTFOLIO OVERVIEW

Table 6 shows the projected demand and energy savings for AEP Texas' programs.

Table 6. AEP Texas—PY2024 Projected Demand and Energy Savings

Program category	Program name	Program type	PY2024 demand savings (kW)	Percentage of total portfolio (demand)	PY2024 energy savings (kWh)	Percentage of total portfolio (energy)
Commercial MTP	Commercial Solutions MTP	Commercial Solutions MTP	4,125	7	21,317,683	24
Commercial SOP	Commercial SOP	Commercial SOP	3,313	5	13,166,101	15
Commercial MTP	CoolSaver A/C Tune-Up MTP	A/C Programs (Distributor and CoolSaver AC Tune-up) MTP	3,466	6	8,047,475	9
Commercial MTP	Foodservice Pilot MTP	Commercial MTP	41	0	276,622	0
Commercial MTP	Open MTP	Small Business Direct Install (DI)	1,215	2	5,234,159	6
Commercial MTP	SCORE/CitySmart MTP	SCORE/CitySmart MTP	2,463	4	8,259,385	9
Commercial MTP	SMART Source Solar PV MTP	PV Solar MTP/SMART SOURCE PV MTP	391	1	1,282,784	1
Commercial Load Management	Winter Load Management SOP	Load Management SOP	10,000	16	10,000	0
Commercial Load Management	Load Management SOP	Load Management SOP	25,709	42	25,709	0
LI/HTR SOP	Hard-to-Reach (HTR) SOP	HTR SOP	1,449	2	4,005,591	5
LI/HTR SOP	Targeted Low-Income Energy Efficiency Program	Low-Income/HTR Weatherization Programs	1,804	3	3,274,197	4

[11] See AEP Texas' Application to Adjust Its Energy Efficiency Cost Recovery Factor filed on May 31, 2024, under Docket Number 56553. AEP Texas also filed an Amended Schedule S on June 6, 2024, under Docket Number, 56553.

Program category	Program name	Program type	PY2024 demand savings (kW)	Percentage of total portfolio (demand)	PY2024 energy savings (kWh)	Percentage of total portfolio (energy)
Residential MTP	CoolSaver A/C Tune-Up MTP	A/C Programs (Distributor and CoolSaver AC Tune-up) MTP	1,594	3	6,250,000	7
Residential MTP	High-Performance New Homes MTP	New Home Construction MTP	2,273	4	3,731,061	4
Residential SOP	Residential SOP	Residential SOP	3,020	5	10,133,001	11
Residential MTP	SMART Source Solar PV MTP	PV Solar MTP/SMART SOURCE PV MTP	913	1	3,002,285	3
Residential SOP	Multifamily Smart Thermostat SOP (Pilot)	Smart Thermostat SOP (Pilot)	0	0	831,000	1

Next, we present two summary tables for each program in the AEP Texas portfolio; each table provides a high-level overview of the applicable programs. The overview is based on program documentation review and discussions with utilities, PUCT, implementation contractors, and prior years' evaluation, measurement, and verification (EM&V) efforts. This information is followed by the program's EM&V Plan, including the evaluation priority, key researchable questions, and EM&V activities. In addition to program-specific researchable questions listed in the EM&V Plan, the following researchable issue will be investigated for each program:

- What are the drivers of differences, if any, between claimed and evaluated savings?

3.2 COMMERCIAL MARKET TRANSFORMATION

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Commercial Market Transformation program in the utility's portfolio.

3.2.1 Commercial Solutions Market Transformation Program (MTP)

Table 7. Commercial Solutions Market Transformation Program Summary

Commercial Solutions MTP	Summary
Program description	The Commercial Solutions MTP targets commercial customers (other than governmental and educational entities) that do not have the in-house expertise to (1) identify, evaluate, and undertake energy efficiency improvements; (2) properly evaluate energy efficiency proposals from vendors; and (3) understand how to leverage their energy savings to finance projects. Assistance from the program includes communications support, administrative program management, and technical assistance to identify, assess, and implement energy efficiency measures. Incentives are paid to customers for eligible energy efficiency measures that are installed in new or retrofit applications that result in verifiable demand and energy savings.

Commercial Solutions MTP	Summary
Target markets	• Market segments: Commercial facilities (other than government and education) • Eligibility criteria: Commercial facilities within AEP Texas' service territory • Applications: Retrofit or new construction projects

Marketing strategies and project sponsors	• Marketing strategies: AEP Texas plans to market the availability of this program in the following manner:
	  ○ contract with a third-party program implementer to conduct outreach and planning activities;
	  ○ maintain an internet website to provide information to potential participants;
	  ○ conduct workshops as necessary to explain elements of the program, such as the responsibilities of the participants, project requirements, incentive information, and the application and reporting process;
	  ○ conduct contractor training sessions as necessary based on the energy efficiency programs being implemented;
	  ○ participate in local, regional, statewide, and industry-related outreach activities as may be necessary; and
	  ○ facilitate earned media opportunities, spotlighting successful projects and interesting stories as applicable.
	• Project sponsors: Utility

Implementation and delivery	• Implementers: CLEAResult is the third-party implementer.
Measures/products, services, offerings	• Measure offerings: HVAC, lighting, motors, window film, roofing, or others that may require M&V planning and metering • Technical assistance: Communications support, administrative program management, and identification and evaluation of energy efficiency measures • Rebates/incentives: Provided to the end-use customer ○ kW (demand savings): $150–$200 per kW (varies by measure type)
QA/QC	• Pre- and post-on-site inspections for 100 percent of projects when detailed equipment invoices are not provided • Pre- and post-inspection conducted by a third-party implementer • In addition, some verification is conducted by the utility

Table 8 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 8. Commercial Solutions Market Transformation Program EM&V Plan

Commercial Solutions MTP	Description	2024
Evaluation priority	The Commercial Solutions MTP is a *high* priority in PY2024. The majority of savings are from deemed measures.	High
Key researchable issues	• How are program data handled? Are all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace? • Is the current mixture of rebated measures still appropriate, or are there some measures that could be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt in order to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines?	
Program evaluation approach	Program tracking system review: Review tracking data on a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	8
	Participant surveys: Interviews will be completed with participants for smart thermostats	Census sample to meet 90/10

3.2.2 Open Market Transformation Program

Table 9. Open Market Transformation Program Summary

Open MTP	Summary
Program description	The Open MTP targets traditionally underserved small commercial customers who may not employ knowledgeable personnel with a focus on energy efficiency, who are limited in the ability to implement energy efficiency measures, and/or who typically do not actively seek the help of a professional EESP. Small commercial customers with a peak demand not exceeding 150 kW in the previous twelve consecutive billing months may qualify to participate in the program. Available incentives are paid directly to the contractor, thereby reducing a portion of the project cost for the customer. The program is intended to overcome market barriers for participating contractors by providing technical support and incentives to implement energy efficiency upgrades and produce demand and energy savings.

Open MTP	Summary
Target markets	• Market segments: Small commercial facilities • Eligibility criteria: Small commercial facilities within AEP Texas' service territory, with ≤150 kW peak demand at one facility or a total demand of ≤250 kW at all facilities owned by the same customer • Applications: Retrofit or new construction projects
Marketing strategies and project sponsors	• Marketing strategies: AEP Texas plans to market the availability of this program in the following manner: o contract with a third-party program implementer to conduct outreach and planning activities; o identify and recruit contractors to develop a network of participating contractors who will deliver the program directly to customers; o maintain an internet website to provide information to potential participants; o develop a recruitment packet with outreach information and enrollment materials that participating contractors can use when marketing the program to customers; o conduct training as necessary to explain elements of the program, such as responsibilities of the participants, project requirements, incentive information, and the application and reporting process; and o participate in local, regional, statewide, and industry-related outreach activities as may be necessary. • Project sponsors: Utility/contractor
Implementation and delivery	• Implementers: CLEAResult is the third-party implementer
Measures/products, services, offerings	• Measure offerings: Lighting currently with additional measures such as refrigeration measures as they are added to the field application tool • Technical assistance: Energy assessment provided by the contractor • Rebates/incentives: Provided to the contractor • Program direct install: Direct install approach
QA/QC	• Pre- and post-on-site inspections for 100 percent of the initial five projects of every enrolled contractor and randomly selected pre- and post-on-site inspections for 20 percent of each additional project submitted • Pre- and post-inspection is conducted by a third-party implementer • In addition, some verification is conducted by the utility

Table 10 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 10. Open Market Transformation Program EM&V Plan

Open MTP	Description	2024
Evaluation priority	The Open Market Transformation program is a *low* priority in PY2024. The majority of savings are from deemed measures.	Low
Key researchable issues	• What are the challenges and opportunities to serve this hard-to-reach business sector? • How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace? • Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt in order to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines?	
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census

3.2.3 SCORE/CitySmart Market Transformation Program

Table 11. Texas SCORE/CitySmart Market Transformation Program Summary

Texas SCORE/CitySmart MTP	Summary
Program description	The SCORE/CS MTP provides energy efficiency and demand reduction solutions for public and private educational entities grades K-12 as well as colleges and universities. In addition to educational facilities, SCORE/CS MTP provides these same solutions to local, state, county, and federal government customers. This program is designed to help educate and assist these customers in lowering their energy use by facilitating the integration of energy efficiency into their short- and long-term planning, budgeting, and operational practices. Incentives are paid to participating customers for eligible energy efficiency measures that are installed in new or retrofit applications that result in verifiable demand and energy savings.

Texas SCORE/CitySmart MTP	Summary
Target markets	• Market segments: Education and government facilities • Eligibility criteria: Education and government facilities within AEP Texas' service territory • Applications: Retrofit or new construction projects

Marketing strategies and project sponsors	• Marketing strategies: AEP Texas plans to market the availability of this program in the following manner:
	  ○ contract with a third-party program implementer to conduct outreach and planning activities;
	  ○ maintain an internet website to provide information to potential participants;
	  ○ conduct workshops as necessary to explain elements of the program, such as the responsibilities of the participants, project requirements, incentive information, and the application and reporting process;
	  ○ conducts contractor training sessions as necessary based on the energy efficiency programs being implemented;
	  ○ participate in local, regional, statewide, and industry-related outreach activities as may be necessary; and
	  ○ facilitate earned media opportunities, spotlighting successful projects or interesting stories as applicable.
	• Project sponsors: Utility

Implementation and delivery	• Implementers: CLEAResult is the third-party implementer
Measures/products, services, offerings	• Measure offerings: HVAC, lighting, motors, window film, roofing, or others that may require M&V planning and metering • Technical assistance: Communications support, financing assistance, performance benchmarking, and energy master planning workshops, in addition to identifying energy efficiency measures • Rebates/incentives: Provided to the end-use customer
QA/QC	• Pre- and post-on-site inspections for 100 percent of projects when detailed equipment invoices are not provided • Pre- and post-inspection is conducted by a third-party implementer • In addition, some verification is conducted by the utility

Table 12 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 12. Texas SCORE/CitySmart Market Transformation Program EM&V Plan

SCORE/CitySmart MTP	Description	2024
Evaluation priority	The Texas SCORE/CitySmart MTP is a *high* priority in PY2024. The majority of savings are from deemed measures.	High
Key researchable issues	• How are program data handled? Are all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace? • Is the current mixture of rebated measures still appropriate, or are there some measures that could be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt in order to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines?	
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	4
	Participant surveys: Interviews will be completed with participants for smart thermostats	Census sample to meet 90/10

3.3 COMMERCIAL STANDARD OFFER

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Commercial Standard Offer program in the utility's portfolio.

3.3.1 Commercial Standard Offer Program

Table 13. Commercial Standard Offer Program Summary

Commercial SOP	Summary
Program description	The Commercial SOP targets commercial customers of all sizes. Variable incentives are available to project sponsors based on verified demand and energy savings for eligible measures installed in new or retrofit applications.
Target markets	• Market segments: Large and small commercial/industrial businesses • Eligibility criteria: Achieve energy consumption or summer and winter peak demand reductions that result in at least $500 in energy efficiency incentives • Applications: New or retrofit applications

Marketing strategies and project sponsors	• Marketing strategies: AEP Texas may market this program in the following manner:
	  ○ use of the AEP efficiency website (www.aeptexasefficiency.com);
	  ○ utilize mass email notifications, bill inserts, radio ads, billboards, home shows, etc.
	• Project sponsors include:
	  ○ national or local energy service companies,
	  ○ local contractors,
	  ○ national or local companies that provide energy-related services or products (such as lighting or HVAC equipment),
	  ○ retail electricity providers, and
	  ○ individual distribution customers within the eligible service territories who install measures in their own nonresidential facilities.

Implementation and delivery	• Implementers: Utility-administered
Measures/products, services, offerings	• Measure offerings: HVAC, lighting, controls, refrigeration, food service, motors, window film, cool roofs • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: Provided to the project sponsor, who then passes rebates/incentives on at its discretion to the end-use customer • Program direct install: N/A
QA/QC	• Pre- and post-on-site inspections for a census of projects • Conducted by utility or third-party implementer or combination

Table 14 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 14. Commercial Standard Offer Program EM&V Plan

Commercial SOP	Description	2024
Evaluation priority	The Commercial SOP is a *high* priority in PY2024. The majority of savings are from deemed measures.	High
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace? • Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines?	
Program evaluation approach	Program tracking system review: Review tracking data of a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	4
	Participant surveys: Interviews will be completed with participants for smart thermostats or HVAC tune-ups	Census Sample to meet 90/10

3.4 LOAD MANAGEMENT

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Load Management program in the utility's portfolio.

3.4.1 Load Management Standard Offer Program (Commercial)

Table 15. Load Management Standard Offer Program (Commercial) Summary

Load Management SOP (Commercial)	Summary
Program description	The Load Management SOP targets nonresidential customers with a peak electric demand of 500 kW or more and able to reduce at least 5 kW demand or more during a curtailment event. Curtailment events occur during the program operating period June 1 through September 30, from 1 pm through 7 pm, excluding weekends and federal holidays. Program participants include nonresidential customers and market actors, including national or local energy efficiency service providers, commercial aggregation groups, and retail electric providers (REP). Load curtailment events are dispatched by AEP Texas to the program participants, providing a 30-minute advance notification, and will last one to four hours. Incentive payments are based on the average measured and verified demand reduction during the program's operating period.

Target markets	• Market segments: Large commercial/industrial businesses
	• Eligibility criteria:
	  ○ Peak demand ≥500 kW and can reduce ≥5 kW per event
	  ○ Must have interval data recorders or advanced meters (AMI)
	  ○ Must be located in the AEP Texas distribution system.
	• Applications: Existing

Marketing strategies and project sponsors	• Marketing strategies: AEP Texas plans to market the availability of this program in the following manner:
	  ○ maintain a website containing the requirements for project participation, forms required for project submission, and the links to databases containing currently-available funding; and
	  ○ leverage of retail providers.
	• Project sponsors: National or local EESPs, REPs, or individual customers that identify interruptible load in their own facilities.

Implementation and delivery	• Implementers: The third-party implementer or individual customers
Measures/products, services, offerings	• Measure offerings: N/A • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: AEP Texas will pay a participating customer (or the project sponsor, if different) up to $35 per kW of verified curtailed load each year of participation
QA/QC	• AEP Texas will verify actual demand savings from interruptions.

Table 16 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 16. Load Management Standard Offer Program (Commercial) EM&V Plan

Load Management SOP (Commercial)	Description	2024
Evaluation priority	The load management program is a *medium* priority in PY2024.	Medium
Key researchable issues	• Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable?	
Program evaluation approach	Program tracking data review: Review data for accuracy and alignment with demand interval metered data. Metered data review: Program rules require the installation of demand interval metering to record real-time participant demand profiles. A review of these data will verify program tracking data.	Census
	Data reviews: Review participant interval-load data. Periods ahead of, during, and following load interruption notices will verify load reduction and persistence during demand response events and provide a comparison to similar-condition non-interrupt baseline days to validate impact estimates.	Census

3.4.2 Winter Load Management (WLM) Standard Offer Program

Table 17. Winter Load Management Standard Offer Program Summary

Winter Load Management SOP	Summary
Program description	The Winter Load Management SOP targets nonresidential customers with a peak electric demand of 500 kW or more and able to reduce at least 100 kW demand or more during a curtailment event. Curtailment events occur during the program operating period, December 1 through February 28, 24 hours a day, seven days a week. Program participants include nonresidential customers and market actors, such as national or local energy efficiency service providers, commercial aggregation groups, and REPs. Load curtailment events are dispatched by AEP Texas to the program participants, providing a 30-minute advance notification, and will last one to four hours. Incentive payments are based on the average measured and verified demand reduction during the program's operating period.
Target markets	• Market segments: Large commercial/industrial businesses • Eligibility criteria: Nonresidential customers with a peak demand of 500 kW or more and able to reduce at least 100 kW demand or more during a curtailment event. • Applications: Existing

Marketing strategies and project sponsors	• Marketing strategies:
	  ○ maintain a website containing the requirements for project participation, forms required for project submission, and the links to databases containing currently-available funding; and
	  ○ leverage of retail providers.
	• Project sponsors: National or local EESPs, REPs, or individual customers that identify interruptible load in their own facilities.

Winter Load Management SOP	Summary
Implementation and delivery	• Implementers: The third-party implementer or individual customers
Measures/products, services, offerings	• Measure offerings: N/A • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: AEP Texas will pay a participating customer (or the project sponsor, if different) $35 per kW of verified curtailed load each year of participation
QA/QC	• AEP Texas will verify actual demand savings from interruptions.

Table 18 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 18. Winter Load Management Standard Offer Program EM&V Plan

Winter Load Management SOP	Description	2024
Evaluation priority	The load management program is a *medium* priority in PY2024.	Medium
Key researchable issues	• Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable?	
Program evaluation approach	Program tracking data review: Review data for accuracy and alignment with demand interval metered data. Metered data review: Program rules require the installation of demand interval metering to record real-time participant demand profiles. A review of these data will verify program tracking data.	Census
	Data reviews: Review participant interval-load data. Periods ahead of, during, and following load interruption notices will verify load reduction and persistence during demand response events and provide a comparison to similar-condition non-interrupt baseline days to validate impact estimates.	Census

3.5 RESIDENTIAL MARKET TRANSFORMATION

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Residential Market Transformation program in the utility's portfolio.

3.5.1 High-Performance New Homes Market Transformation Program

Table 19. High-Performance New Homes Market Transformation Program Summary

High-Performance New Homes MTP	Summary
Program description	The New Homes MTP targets several market participants, primarily homebuilders and consumers. The program's goal is to create conditions in which consumers demand energy-efficient homes and homebuilders supply them. Incentives are paid to homebuilders who construct homes according to strict energy-efficient building guidelines that are at least five percent above the Texas Baseline Reference Home and meet all minimum energy code requirements. The program has a tiered design that uses a combination of mandatory, additional elective, and innovative measures to promote market transformation and drive deep energy savings. ENERGY STAR® and complete foam encapsulated homes are offered as alternative pathways to Tiers. Bonus incentives are offered for heat pump water heaters, prewiring for future installation of Level 2 EV chargers, ENERGY STAR smart thermostats, affordable/low-income housing, right-sized HVAC, and builders who switch from electric resistance furnaces to heat pumps. Each home results in verifiable demand and energy savings. In addition to homebuilder and consumer outreach, the New Homes MTP targets key market actors in the homebuilding production and sales cycle: home energy raters, homebuilder sales agents, real estate agents, HVAC contractors, mortgage lenders, product manufacturers, homebuilder associations, and media outlets.
Target markets	• Market segments: Home builders, HVAC contractors, and home energy raters • Eligibility criteria: Depending upon the home's physical location, homes will be paid based on kW and kWh that is calculated for each home • Applications: New home construction applications
Marketing strategies and project sponsors	• Marketing strategies: AEP Texas markets the New Homes MTP in the following manner: ○ Contract with a third-party implementer to conduct outreach and planning activities; ○ email and phone notifications of informational meetings to home builders, home energy raters, HVAC contractors, real estate agents, home builder sales agents, mortgage lenders, and other allies; ○ maintain internet website with detailed project eligibility, incentives, procedures, and application forms; ○ direct outreach to consumers at home and garden shows and through a multi-city advertising campaign; ○ participate in appropriate industry-related meetings to generate awareness and interest;

High-Performance New Homes MTP	Summary
	○ conduct training workshops as necessary to explain elements such as responsibilities of and benefits to each party or ally, project requirements, incentive information, and the application and reporting process; and ○ support home builder sales efforts by providing sales training, marketing materials (inclusion in print advertisements and the program's website), technical training, home plan analysis, and answers to questions as needed. • Project sponsors: In addition to homebuilder and consumer outreach, the New Homes MTP targets key allies in the home building production and sales cycle: home energy raters, homebuilder sales agents, real estate agents, HVAC contractors, mortgage lenders, product manufacturers, homebuilder associations, and media outlets.
Implementation and delivery	• Implementers: ICF is the third-party implementer; Frontier Energy is the data source
Measures/products, services, offerings	• Measure offerings: This is a whole-home program—features included are high-efficiency windows, HVAC equipment, tight ductwork and building envelope, lighting upgrades, and advanced framing • Technical assistance: Builders must work with raters • Rebates/incentives: Homes will be paid based on kW and kWh that are calculated for each home
QA/QC	• Five percent of both the builder and rater; various stages of new construction • Conducted by ICF

Table 20 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 20. High-Performance New Homes Market Transformation Program EM&V Plan

High-Performance New Homes MTP	Description	2024
Evaluation priority	The program is receiving a *low* evaluation priority in PY2024 due to the PY2022 impact evaluation results.	Low
Key researchable issues	• How can the program adapt to the changing codes and standards climate? Are there viable strategies the program can adopt in order to meet and exceed set goals given the new baselines? Have changes in residential baselines affected the program's ability to meet goals? • How are program data handled? Are all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Are goals established appropriately, and will they be met? • To what degree is the program encouraging adopting energy-efficient technologies that would otherwise not have taken place?	

High-Performance New Homes MTP	Description	2024
Program evaluation approach	Review tracking data on a census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census

3.6 RESIDENTIAL STANDARD OFFER

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Residential Standard Offer program in the utility's portfolio.

3.6.1 Residential Standard Offer Program

Table 21. Residential Standard Offer Program Summary

Residential SOP	Summary
Program description	The Residential SOP targets all residential customers, paying incentives to project sponsors for eligible measures installed in new and retrofit applications that result in verified demand and energy savings. Project comprehensiveness is encouraged.
Target markets	• Market segments: Residential single-family and multifamily homes built prior to 2012 • Applications: Retrofit applications

Marketing strategies and project sponsors	• Marketing strategies:
	  ○ utilize mass email notifications to inform and update potential project sponsors such as REPs, EESPs, and national and local companies that provide energy-related services;
	  ○ provide additional outreach using direct mail as necessary to attract more participants;
	  ○ maintain a website with detailed project eligibility, end-use measures, incentives, procedures, and application forms
	  ○ participate in appropriate industry-related meetings to generate awareness and interest;
	  ○ participate in statewide outreach activities, as available;
	  ○ conducts workshops as necessary to explain elements such as the responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process; and
	  ○ project sponsors develop their own marketing materials.
	• Project sponsors represent a range of EESPs

Implementation and delivery	• Implementers: Utility-administered

Residential SOP	Summary
Measures/products, services, offerings	• Measure offerings: Any Commission-approved measure included in the statewide Residential SOP template or any Commission-approved measure assigned a deemed savings value in the Texas TRM for the residential customer class is eligible under the SOP, including attic insulation, duct sealing, caulking/weatherstripping, air conditioning, heat pumps, water heaters, ENERGY STAR windows, refrigerators, dishwashers, clothes washers, wall insulation, floor insulation, water heater jackets, and renewable energy sources • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: Provided to a project sponsor who then passes rebates/incentives on to the end-use customer at their discretion. Higher incentives are available for customers in underserved counties.
QA/QC	• Around ten percent post-inspection per report, per project sponsor • Conducted by AEP Texas

Table 22 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 22. Residential Standard Offer Program EM&V Plan

Residential SOP	Description	2024
Evaluation priority	This program is a *medium* priority for PY2024, as the program has recently responded to TRM updates.	Medium
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and documentation storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace?	
Program evaluation approach	Program tracking system review: Review tracking data on a census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of residential projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	3

3.7 LOW-INCOME/HARD-TO-REACH STANDARD OFFER

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Low-Income and Hard-to-Reach Standard Offer program in the utility's portfolio.

3.7.1 Hard-to-Reach Standard Offer Program

Table 23. Hard-to-Reach Standard Offer Program Summary

Hard-to-Reach SOP	Summary
Program description	The Hard-to-Reach SOP targets residential customers with total annual household incomes at or below 200% of current federal poverty guidelines. Incentives are paid to project sponsors for eligible measures installed in new and retrofit applications that result in verifiable demand and energy savings. Project comprehensiveness is encouraged, and project sponsors distribute customer education materials regarding energy conservation behavior.
Target markets	• Market segments: HTR residential customers • Eligibility criteria: Residential customers at or below 200 percent of the federal poverty level or have been designated as HTR through another PUCT-approved verification methodology (e.g., Section 8 housing) • Applications: Retrofit applications
Marketing strategies and project sponsors	• Marketing strategies: AEP Texas plans to market the availability of this program in the following manner: o utilize mass email notifications to enroll and keep potential project sponsors interested and informed; o maintain a website with detailed project eligibility, end-use measures, incentives, procedures, and application forms; o participate in appropriate industry-related meetings to generate awareness and interest; o participate in statewide outreach activities as available; o conduct workshops to explain elements such as the responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process; o project sponsors develop their own marketing materials. • Project sponsors represent a range of EESPs
Implementation and delivery	• Implementers: Utility-administered
Measures/products, services, offerings	• Measure offerings: Insulation, infiltration, HVAC, water heating, lighting, ENERGY STAR appliances, windows, renewable energy installations • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: Provided to the project sponsor, who then passes rebates/incentives on at their discretion to the end-use customer. Higher incentives are available for customers in underserved counties and under-installed measures.
QA/QC	• 10 percent post-inspection per report, per project sponsor

Table 24 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 24. Hard-to-Reach Standard Offer Program EM&V Plan

Hard-to-Reach SOP	Description	2024
Evaluation priority	This program is a *medium* priority for PY2024 as it has recently responded to TRM updates as well as a new low-income and hard-to-reach protocol.	Medium
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace?	
Program evaluation approach	Program tracking system review: Review tracking data on the census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of residential projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	2

3.7.2 Targeted Low-Income Energy Efficiency Program

Table 25. Targeted Low-Income Energy Efficiency Program Summary

Targeted Low-Income Energy Efficiency Program	Summary
Program description	The Targeted Low-Income Energy Efficiency Program is designed to cost-effectively reduce energy consumption and energy costs for low-income residential customers in the AEP Texas service territory. Weatherization service providers install eligible weatherization and energy efficiency measures in qualified households that meet the Department of Energy (DOE) income-eligibility guidelines of at or below 200 percent of the federal poverty guidelines. A savings-to-investment ratio of 1.0 or higher is required for each serviced dwelling unit.
Target markets	• Market segments: Low-income residential customers • Eligibility criteria: Receives electric power service through the utility's distribution system; meets the Department of Energy's income-eligibility guidelines (i.e., 200 percent of the federal poverty level); has electric air-conditioning • Applications: Retrofit applications

Targeted Low-Income Energy Efficiency Program	Summary
Marketing strategies and project sponsors	• Marketing strategies: Frontier Energy, the third-party implementer, conducts outreach to weatherization service providers in the AEP Texas service territory • Project sponsors: Weatherization service providers
Implementation and delivery	• Implementers: Frontier Energy
Measures/products, services, offerings	• Measure offerings: Weatherization and energy education • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: Provided to the project sponsor, who then passes rebates/incentives on to the end-use customer at their discretion
QA/QC	• Third-party nonprofit agencies inspect 100 percent, and AEP Texas verifies less than five percent of those submitted • Conducted by AEP Texas and third-party nonprofit agencies

Table 26 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 26. Targeted Low-Income Energy Efficiency Weatherization Program EM&V Plan

Targeted Low-Income Energy Efficiency Program	Description	2024
Evaluation priority	Senate Bill 1434 requires transmission & distribution utilities to spend ten percent of their energy efficiency budget on targeted low-income weatherization programs. The priority is *medium* for PY2024, as the program has recently responded to TRM updates.	Medium
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace?	
Program evaluation approach	Program tracking system review: Review tracking data on a census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of residential projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	2

3.8 CROSS-SECTOR PROGRAMS

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Cross-Sector program in the utility's portfolio.

3.8.1 CoolSaverSM A/C Tune-Up Market Transformation Program

Table 27. CoolSaver[SM] A/C Tune-Up Market Transformation Program Summary

CoolSaver[SM] A/C Tune-Up MTP	Summary
Program description	The CoolSaver MTP is designed to overcome market barriers that prevent residential and small commercial customers from receiving high-performance air conditioning (A/C) system tune-ups. The program works through local A/C networks to offer key program components, including: • Training and certifying A/C technicians on the tune-up and air flow correction services and protocols; • Paying incentives to A/C contactors for the successful implementation of A/C tune-up and air flow correction services; and • Paying incentives to A/C contractors who replace existing residential air conditioners and/or heat pumps with new high-efficiency units of 16 SEER or higher. Additional incentives are paid for early retirement of operational equipment and for "right-sizing" replacement units.
Target markets	• Market segments: Residential and commercial customers, HVAC contractors • Eligibility criteria: Equipment eligible for tune-ups includes high-efficiency A/C equipment of up to 25 tons in cooling capacity; the customer must accept recommendations from a tune-up analysis • Applications: Retrofit applications
Marketing strategies and project sponsors	• Marketing strategies: AEP Texas markets the CoolSaver[SM] A/C Tune-Up MTP in the following manner: o contracts with CLEAResult to conduct outreach and planning activities; o targets commercial A/C contractors that service customers served by AEP Texas; o conducts training workshops with contractor staff on the specific tune-up and airflow correction services promoted by the program, as well as the M&V process to document savings; o conducts workshops as necessary to explain elements of the program, such as responsibilities of the contractors, project requirements, incentive information, and the application and reporting process; and o participates in appropriate industry-related meetings to generate awareness and interest. • Project sponsors: Utility/contractors
Implementation and delivery	• Implementers: CLEAResult is the third-party implementer and the data source

CoolSaver℠ A/C Tune-Up MTP	Summary
Measures/products, services, offerings	• Measure offerings: Heat pumps, central air conditioners, custom/others pending approval, A/C tune-up • Technical assistance: Customer must accept recommendations from a tune-up analysis • Rebates/incentives: Up to $150 for residential and up to $350 for commercial (provided to contractor); discounts on tool purchases
QA/QC	• During technician training, CLEAResult ride-alongs • 10 percent for contractors and technicians • Post-on-site inspections conducted by the implementer

Table 28 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 28. CoolSaver℠ A/C Tune-Up Market Transformation Program EM&V Plan

CoolSaver℠ A/C Tune-Up MTP	Description	2024
Evaluation priority	The CoolSaver℠ A/C Tune-Up MTP (residential and commercial) represents a growing portion of the portfolio's current energy use and demand savings. The program is set to a *high* priority for PY2024.	High
Key researchable issues	• To what degree does the program encourage adopting energy-efficient operational techniques and technologies that would otherwise not have occurred? • Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? Are incentive values set optimally? • What changes to the program design and delivery may improve program performance? Are there major differences in how this program is delivered and performs compared to similar programs at other utilities? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt in order to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines? • Is sufficient data being captured to allow for appropriate verification effectively? Are there significant differences in how data is captured and calculation methodologies used compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies compared to industry standards?	

CoolSaver℠ A/C Tune-Up MTP	Description	2024
Program evaluation approach	Program tracking system review: Review tracking data on a census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of residential projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	0
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2024 consumption analysis will help all stakeholders better understand the savings resulting from measures installed through this program and inform prospective updates to the TRM for PY2026.	Census
	Participant surveys: Interviews will be completed with HVAC tune-up participants	Census sample to meet 90/10

3.8.2 SMART Source Solar Photovoltaic Market Transformation Program

Table 29. SMART Source Solar Photovoltaic Market Transformation Program Summary

SMART Source Solar PV MTP	Summary
Program description	The PV MTP offers incentives to residential and commercial customers for the installation of solar photovoltaic (PV) systems interconnected on the customer's side of the meter. The incentives help offset the initial costs of installing solar PV systems and encourage service providers to seek more installation opportunities. In addition to demand and energy savings achieved from the installations, the PV MTP aims to transform the solar PV market by increasing the number of qualified technicians and installers and decreasing the average installed cost of PV systems, thereby creating greater market economies of scale.
Target markets	• Market segments: Residential and nonresidential • Eligibility criteria: Residential systems rebated up to 10 kW_{DC}, nonresidential rebated up to 200 kW_{DC} • Applications: New or retrofit applications

Marketing strategies and project sponsors	• Marketing strategies: Contract with a third-party implementer to conduct outreach and planning activities, maintain a website, provide clear documentation, conduct workshops, and facilitate media opportunities.
	• Project sponsors include:
	  ○ national or local energy service companies (ESCOs),
	  ○ national or local companies that provide energy-related services (e.g., contracting) or products; and
	  ○ REPs.

SMART Source Solar PV MTP	Summary
Implementation and delivery	• Implementers: Frontier Energy is the third-party implementer
Measures/products, services, offerings	• Measure offerings: Solar PV • Technical assistance: The program manager intends to provide and support technical training and technical assistance opportunities to service providers, local code officials, and potential customers • Rebates/incentives: provided to EESPs who may designate the customer, themselves, or a manufacturer or supplier to receive the incentive payment
QA/QC	• Pre-inspections via desk reviews for a census of projects • Post-installation on-site inspections of approximately 40 percent of projects installed • Conducted by the program manager • EESPs must supply a revenue-grade electrical meter to measure the energy produced by the solar electric system

Table 30 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 30. SMART Source Solar Photovoltaic Market Transformation Program EM&V Plan

SMART Source Solar PV MTP	Description	2024
Evaluation priority	The SMART Solar PV MTP (commercial and residential) is set to a *medium* priority for PY2024.	Low
Key researchable issues	• How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Are program goals established appropriately, and will they be met?	
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	0

3.9 PILOT

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Pilot program in the utility's portfolio.

3.9.1 Foodservice Pilot Market Transformation Program

Table 31. Foodservice Pilot Market Transformation Program Summary

Foodservice Pilot MTP	Summary
Program description	The Food Service Pilot MTP targets commercial Food Service participants and market actors. This program will feature a point-of-sale rebate at the Food Service equipment dealer and will engage other key market actors to stimulate the adoption of energy-efficient equipment.
Target markets	• Market segments: Commercial foodservice participants and market actors • Eligibility criteria: Point-of-sale rebate at the foodservice equipment dealer • Applications: Retrofit or new construction projects

Marketing strategies and project sponsors	• Marketing strategies: AEP Texas plans to market the availability of this program in the following manner:
	  ○ Contract with a third-party program implementer to conduct outreach and planning activities;
	  ○ identify and recruit contractors to develop a network of participating contractors who will deliver the program directly to customers;
	  ○ maintain an internet website to provide information to potential participants;
	  ○ develop a recruitment packet with outreach information and enrollment materials that participating contractors can use when marketing the program to customers;
	  ○ conduct training as necessary to explain elements of the program, such as responsibilities of the participants, project requirements, incentive information, and the application and reporting process; and
	  ○ participate in local, regional, statewide, and industry-related outreach activities as may be necessary.
	• Project sponsors: Utility/contractor

Implementation and delivery	• Implementers: CLEAResult is the third-party implementer
Measures/products, services, offerings	• Measure offerings: foodservice equipment • Rebates/incentives: Provided to distributor
QA/QC	• Review of each incentive request to validate equipment and program eligibility

Table 10 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 32. Foodservice Pilot Market Transformation Program EM&V Plan

Foodservice Pilot MTP	Description	2024
Evaluation priority	The Foodservice Pilot MTP is set to a *medium* priority for PY2024. The savings are from deemed measures.	Medium
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures are included in the midstream implementation? Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt in order to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines? • Are utility verification regimes sufficient and reliable?	
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	0

3.9.2 Multifamily Smart Thermostat Pilot Market Transformation Program

Table 33. Multifamily Smart Thermostat Pilot Market Transformation Program Summary

Multifamily Pilot MTP	Summary
Program description	The Multifamily Smart Thermostat Pilot MTP targets residential multifamily properties and provides incentives for the installation of qualified ENERGY STAR thermostats in an eligible property. To be eligible, properties must be individually metered AEP Texas meters with individual electric resistance heating systems. Existing thermostats cannot already be ENERGY STAR smart thermostats. Participants in the program may include property owners, management companies, and EESPs.
Target markets	• Market segments: Residential and commercial customers, HVAC contractors • Eligibility criteria: Equipment eligible for tune-ups includes high-efficiency A/C equipment of up to 25 tons in cooling capacity; the customer must accept recommendations from a tune-up analysis • Applications: Retrofit applications

Multifamily Pilot MTP	Summary

Marketing strategies and project sponsors	• Marketing strategies: AEP Texas plans to market the availability of this program in the following manner:
	  ○ Contract with a third-party program implementer to conduct outreach and planning activities;
	  ○ identify and recruit contractors to develop a network of participating contractors who will deliver the program directly to customers;
	  ○ maintain an internet website to provide information to potential participants;
	  ○ develop a recruitment packet with outreach information and enrollment materials that participating contractors can use when marketing the program to customers;
	  ○ conduct training as necessary to explain elements of the program, such as responsibilities of the participants, project requirements, incentive information, and the application and reporting process; and
	  ○ participate in local, regional, statewide, and industry-related outreach activities as may be necessary.
	• Project sponsors: Utility/contractor

Implementation and delivery	• Implementers: xxx is the third-party implementer
Measures/products, services, offerings	• Measure offerings: • Rebates/incentives:
QA/QC	• Review of each incentive request to validate equipment and program eligibility

Table 10 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 34. Multifamily Smart Thermostat Pilot Market Transformation Program EM&V Plan

Multifamily Pilot MTP	Description	2024
Evaluation priority	The Multifamily Smart Thermostat Pilot MTP is set as a *high* priority for PY2024. The savings are from deemed measures.	High
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures are included in the midstream implementation? Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt in order to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines? • Are utility verification regimes sufficient and reliable?	

Multifamily Pilot MTP	Description	2024
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	0
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2024 consumption analysis will help all stakeholders better understand the savings resulting from measures installed through this program and inform prospective updates to the TRM for PY2026.	Census
	Participant surveys: Interviews will be completed with participants	Census sample to meet 90/10

4.0 CENTERPOINT ENERGY

This section addresses CenterPoint Energy's energy efficiency and load management portfolio. The overall portfolio[12] is summarized below, followed by details for each program in the portfolio.

4.1 PORTFOLIO OVERVIEW

Table 35 shows the projected energy and demand savings for the CenterPoint Energy programs for PY2024.

Table 35. CenterPoint Energy—PY2024 Projected Demand and Energy Savings

Program category	Program name	Program type	PY2024 demand savings (kW)	Percentage of total portfolio (demand)	PY2024 energy savings (kWh)	Percentage of total portfolio (energy)
Commercial SOP	Commercial SOP	Commercial SOP	13,200	6	65,000,000	30
Commercial MTP	Commercial MTP (SCORE, Healthcare, Data Center)	SCORE/Healthcare /Data Center MTP	7,500	3	48,500,000	22
Commercial MTP	Retro-Commissioning MTP	Retro-commissioning MTP	977	0	5,132,000	2
Commercial MTP	Commercial High Efficiency Foodservice MTP	Commercial Food Service	536	0	3,500,000	2
Commercial MTP	Retail Products and Services MTP	Commercial MTP	1,225	1	4,000,000	2
Commercial Load Management	Commercial Load Management SOP	Load Management SOP	110,000	47	660,000	0
Commercial Load Management	Winter Load Management Pilot Program	Commercial Load Management	50,000	21	300,000	0
Residential Load Management	Residential Load Management SOP	Load Management SOP	22,000	9	66,000	0

[12] See CenterPoint Energy's Application to Adjust Its Energy Efficiency Cost Recovery Factor filed on May 31, 2024 under Docket Number 56690.

Program category	Program name	Program type	PY2024 demand savings (kW)	Percentage of total portfolio (demand)	PY2024 energy savings (kWh)	Percentage of total portfolio (energy)
LI/HTR SOP	Hard-to-Reach (HTR) SOP	HTR SOP	527	0	1,000,000	0
LI/HTR MTP	Multi-Family MTP Hard-to-Reach	Water and Space Heating, Direct Install (DI)	551	0	1,673,000	1
LI/HTR MTP	Targeted Low Income MTP (Agencies in Action)	Low-Income Weatherization MTP	4,800	2	7,600,000	3
Residential MTP	Retail Products and Services MTP	Residential MTP	6718	3	41,642,000	19
Residential MTP	CenterPoint Energy High Efficiency Home MTP	ENERGY STAR® New Homes MTP	12,496	5	25,537,000	12
Residential SOP	Residential & Small Commercial Standard Offer Program	Residential SOP	535	0	1,400,000	1
Residential MTP	Midstream MTP (HVAC and Pool Pump Distributor)	Midstream (HVAC and Pool Pump Distributor) MTP	3,500	1	7,385,000	3
Residential MTP	Multi-Family MTP Market Rate	MF Water and Space Heating and MF New Construction MTP	1,837	1	5,576,000	3

Next, we present two summary tables for each program in the CenterPoint Energy portfolio. Each table provides a high-level overview of the applicable programs. The overview is based on a review of program documentation and discussions with utilities, PUCT, and implementation contractors. This information is followed by the Evaluation, Measurement, and Verification (EM&V) Plan for the program, which includes the evaluation priority, key researchable questions, and EM&V activities. In addition to program-specific researchable questions listed in the EM&V Plan, the following researchable issue will be investigated portfolio-wide:

- What are the drivers of differences, if any, between claimed and evaluated savings?

4.2 COMMERCIAL MARKET TRANSFORMATION

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Commercial Market Transformation program in the utility's portfolio.

4.2.1 Commercial Market Transformation Program

Table 36. Commercial Market Transformation Program Summary

Commercial MTP	Summary
Program description	The Commercial MTP includes the following three offerings: Schools/Cities (SCORE) program, the Healthcare Energy Efficiency Program (HEEP), and the Data Center Energy Efficiency Program (DCEEP). The SCORE program targets public and private K-12 schools, public and private higher education, cities, counties, state governmental agencies, and non-profit and faith-based organizations. SCORE provides technical support and financial incentives for implementing energy efficiency projects. Program participants are provided with technical assistance, engineering analysis, strategic energy management planning, and performance benchmarking to help them make informed decisions about cost-effective investments. HEEP provides technical support and financial incentives for implementing energy efficiency projects to eligible healthcare facilities, including hospitals, clinics, laboratories, medical office buildings, and assisted living/nursing care facilities. Program participants are provided with technical assistance, engineering analysis, and performance benchmarking to help them make informed decisions about installing cost-effective energy-efficient measures. DCEEP provides technical support and incentives for implementing energy efficiency projects to commercial customers who have a dedicated data center, server room, or server closets. Program participants are incentivized to install a variety of energy-saving measures such as data storage, web hosting, and telecommunications.
Target markets	• Market segments: Commercial, education, government, and healthcare facilities • Eligibility criteria: Commercial, education, government, and healthcare facilities within CenterPoint Energy Houston Electric, LLC (CNP)'s service territory • Applications: Retrofit or new construction projects
Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy Houston plans to market the availability of this program in the following manner: o contract with a third-party program implementer to implement outreach and planning activities; o participate in appropriate industry-related meetings and events to generate awareness and interest; o Collaborate with internal company departments such as Commercial Customer Relationship; o Management, Energy Sales and Transportation Services, Local Relations, Distribution Operations, and Service Delivery to leverage existing relationships with commercial customers, informing them of energy efficiency opportunities; o Conduct training as necessary to explain elements of program requirements, incentive information, application, and reporting processes. • Project sponsors: N/A

Commercial MTP	Summary
Implementation and delivery	• Implementers: CLEAResult is the third-party implementer for SCORE/CitySmart; Willdan Energy Solutions is the third-party implementer for HEEP and DCEEP.
Measures/products, services, offerings	• Measure offerings: HVAC, lighting, motors, window film, roofing, or others that may require M&V planning and metering • Technical assistance: Includes communications assistance, financing assistance, performance benchmarking, energy master planning workshops, and identifying energy efficiency measures • Rebates/incentives: Provided to the end-use customer
QA/QC	• Pre- and post-on-site inspections for 100 percent of projects • Pre-inspections conducted by a third-party implementer • Post-inspections conducted by the utility

Table 37 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 37. Commercial Market Transformation Program EM&V Plan

Commercial MTP	Description	2024
Evaluation priority	The Commercial MTP is a *high* priority in PY2024. The majority of savings are from deemed measures with some custom measures.	High
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace? • Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt in order to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines?	
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	13
	Participant surveys: Interviews will be completed with participants for smart thermostats or HVAC tune-ups	Census sample to meet 90/10

4.2.2 Retro-Commissioning Market Transformation Program

Table 38. Retro-Commissioning Market Transformation Program Summary

Retro-Commissioning MTP	Summary
Program description	The Retro-Commissioning MTP is an optimization program that identifies no cost or low-cost measures (up to a three-year simple payback) the customer can implement to reduce the demand and energy usage in existing commercial facilities. The program provides end-users with a free engineering analysis to identify measures that will improve the performance within their facilities by reducing electric demand and consumption. Facility owners are required to implement all identified measures with a simple payback of less than one and a half years or pay the cost of the engineering analysis. Customers are also eligible to receive incentives based on kWh savings and how quickly the low-cost or no-cost measures are implemented.
Target markets	• Market segments: Commercial facilities (manufacturing, hospitals, educational campuses, retail stores, etc.) within CNP's service territory • Eligibility criteria: Customers are required to commit funds of $3,000 toward the implementation of identified RCx measures with simple paybacks of less than 1.5 years • Applications: Existing facilities

Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy Houston plans to market the availability of this program in the following manner:
	  ○ Maintain website with detailed project eligibility, procedures, and application forms;
	  ○ Participate in appropriate industry-related meetings and events to generate awareness and interest;
	  ○ Conduct workshops as necessary to explain elements such as project sponsor responsibilities and Retro-Commissioning Agents, program requirements, incentive information, and the application and reporting process;
	  ○ Collaborate with internal company departments such as Commercial Customer Relationship Management, Energy Sales and Transportation Services, and Distribution Operations and Service Delivery to leverage existing relationships with commercial customers, informing them of energy efficiency opportunities.

Implementation and delivery	• Implementers: Resource Innovations is the third-party implementer
Measures/products, services, offerings	• Measure offerings: May include HVAC temperature reset, outside air reduction, optimization of HVAC start-up, lighting (de-lamping, daylighting, etc.), the addition of variable frequency drives, etc. • Technical assistance: Includes technical energy analysis for identification of energy efficiency measures • Rebates/incentives: Provided to RCx agents based on the square footage of the project and the amount of energy savings
QA/QC	• Pre- and post-on-site inspections for 100 percent of projects • Pre- and post-inspections conducted by a third-party implementer • Some verification conducted by the utility

Table 39 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 39. Retro-Commissioning Market Transformation Program EM&V Plan

Retro-Commissioning MTP	Description	2024
Evaluation priority	The Retro-Commissioning MTP is a *low* priority in PY2024. The majority of savings are from custom project implementation.	Low
Key researchable issues	• Is the RCx implementation appropriate for the number of projects planned to be completed in the program for the long term? • Is the focus of low/no-cost measures affecting the participants' need for potentially more capital-intensive projects with further energy savings? • How are program data handled? Are all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace? • Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design, delivery, or data collection may improve program performance?	
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census

4.2.3 Commercial High-Efficiency Foodservice

Table 40. Commercial High-Efficiency Foodservice Market Transformation Program Summary

Commercial High-Efficiency Foodservice (Pilot)	Summary
Program description	The Commercial High-Efficiency Foodservice (CHEF) program is a midstream Market Transformation Program designed to influence and incentivize the adoption of energy-efficient commercial kitchen equipment measures. This program targets all commercial foodservice segments in the CenterPoint Houston electric territory, including restaurants, schools, quick service restaurants, convenience stores, government facilities, hospitality, healthcare, and other end-users that utilize commercial foodservice equipment.
Target markets	• Market segments: Small- and mid-sized business segments, including restaurants, schools, quick-service restaurants, government facilities, and other customers that utilize commercial food service equipment. • Eligibility criteria: Commercial customers must have qualified equipment installed on a nonresidential meter in CenterPoint Energy's electric service territory. • Applications: Retrofit or new construction

Commercial High-Efficiency Foodservice (Pilot)	Summary
Marketing strategies and project sponsors	Marketing strategies: TRC Companies (implementer) plans to market the availability of this program in the following manner: ○ Partner with a third-party implementer to assist with delivery; ○ Recruit vendors to join the program's Market Partner Network of participating sponsors; ○ Participate in appropriate industry-related meetings and events to generate awareness and interest; ○ Collaborate with internal company departments such as Commercial Customer Relationship Management, Distribution Operations, and Service Delivery to leverage existing relationships with commercial customers, informing them of energy efficiency opportunities; and ○ Provide marketing materials, such as brochures and program fact sheets, to potential participants.
Implementation and delivery	• Implementers: TRC Companies
Measures/products, services, offerings	• Measure offerings: ENERGY STAR-qualified new electric appliances, including commercial dishwashers, commercial ice makers, commercial combination ovens, commercial convection ovens, commercial fryers, commercial steam cookers, hot food holding cabinets, commercial solid or glass door reach-in refrigerators or freezers
QA/QC	• Review of each incentive request to validate equipment and program eligibility • Post-on-site inspections

Table 41 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 41. Commercial High-Efficiency Foodservice Market Transformation Program EM&V Plan

Commercial High-Efficiency Foodservice (Pilot)	Description	2024
Evaluation priority	The commercial High-Efficiency Foodservice (pilot) program is a *medium* priority in PY2024. The savings are from deemed measures.	Medium
Key researchable Issues	• How is program data handled? Is all data being tracked accurately and effectively? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures are included in the midstream implementation? Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines? • Are utility verification regimes sufficient and reliable?	

Commercial High-Efficiency Foodservice (Pilot)	Description	2024
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	0
	Participant surveys: Interviews will be completed with participants for smart thermostats and HVAC tune-ups	Census sample to meet 90/10

4.3 COMMERCIAL STANDARD OFFER

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Commercial Standard Offer program in the utility's portfolio.

4.3.1 Commercial Standard Offer Program

Table 42. Commercial Standard Offer Program Summary

Commercial SOP	Summary
Program description	The Commercial SOP has three target facility types: large commercial, small commercial, and multifamily/strip centers. Large commercial customer: owns or operates a single site with a total maximum peak demand of more than 100 kW or multiple sites with a combined maximum peak demand greater than 250 kW. Small commercial customer: owns or operates a single site with a total maximum peak demand of less than 100 kW. Multifamily/strip center customer: owns a single location space that may have multiple meters servicing common areas. The maximum peak demand must be more than 100 kW. Incentives are paid to project sponsors for certain measures installed in new or retrofit applications. The utility has a limited group of participating project sponsors determined through a selection process based on meeting minimum eligibility criteria. Project sponsors must comply with all program rules and procedures, submit documentation describing their projects, and enter into a Standard Agreement with the IOU.

Target markets	• Market segments: Large and small commercial businesses
	• Eligibility criteria:
	  ○ For large commercial and multifamily customers, each project within one site must provide a total estimated peak demand reduction of at least 15 kW or annual energy savings of at least 100,000 kWh. This limitation is included to ensure that projects contribute to the primary program goal of reducing peak demand and minimizing the administrative costs associated with smaller projects.
	  ○ Small commercial projects must include facilities with a maximum peak demand of less than 100 kW (or 250 kW combined for multiple sites in the same project). Each project must provide a total estimated peak demand reduction of up to 15 kW or 100,000 kWh.
	• Applications: New or retrofit applications

Commercial SOP	Summary
Marketing strategies and project sponsors	• Marketing strategies: Examples may include websites, trade shows, retailer partners, bill inserts, radio ads, billboards, home shows, etc.
Implementation and delivery	• Any entity that installs eligible energy efficiency measures at a facility with a nonresidential electricity distribution service provided by CenterPoint Energy is eligible to participate in the Commercial SOP as a project sponsor.
Measures/products, services, offerings	• Most energy-efficiency measures in retrofit or new construction applications that reduce electric energy consumption and peak demand are eligible for the Commercial SOP. CenterPoint Energy does not specify eligible measures in order to provide project sponsors flexibility in packaging services. Therefore, project sponsors may propose the inclusion of any measure in their project that meets the following requirements: ○ The measure may produce a measurable and verifiable electric demand reduction during the peak period(s), reduce electricity consumption, or produce both peak demand and energy savings. ○ The measure must produce savings through increasing energy efficiency or substituting another energy source for electricity supplied through the transmission and distribution grid. ○ The measure must exceed the minimum equipment standards established in the Program Manual (in manual Appendices). ○ Measures may provide for self-generation using renewable technologies, such as: ▪ solar, ▪ wind, ▪ geothermal, ▪ hydroelectric, ▪ wave/tidal, ▪ biomass, and ▪ projects involving combined heat and power (CHP) will be reviewed on a case-by-case basis for qualification by CenterPoint Energy • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: Provided to project sponsor who passes on at their discretion to end-use customer • Incentive ○ For projects using only deemed savings, the project sponsor is eligible to receive 100 percent of the project incentive payment after the project is installed and approved by CenterPoint Energy. ○ For all other projects, the project sponsor will receive an initial payment of 40 percent of the total estimated project incentive payment. M&V activities must be completed, documented, and accepted before the project sponsor will receive the remaining incentive payment based on the one-year verified savings.
QA/QC	• Pre-inspections for a sample of projects and post-on-site inspections for a census of projects • Conducted by the utility or third-party implementer (or combination thereof)

Table 43 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 43. Commercial Standard Offer Program EM&V Plan

Commercial SOP	Description	2024
Evaluation priority	The Commercial SOP is a *medium* priority in PY2024. The majority of savings are from deemed measures.	Medium
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace? • Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt in order to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines?	
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	15
	Participant surveys: Interviews will be completed with participants for smart thermostats and HVAC tune-ups	Census sample to meet 90/10

4.4 LOAD MANAGEMENT

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Load Management program in the utility's portfolio.

4.4.1 Commercial Load Management Standard Offer Program

Table 44. Commercial Load Management Standard Offer Program Summary

Commercial Load Management SOP	Summary
Program description	The Commercial Load Management SOP is available to nonresidential distribution customers, as well as governmental, educational, and non-profit transmission customers. Curtailments are initiated when the Electric Reliability Council of Texas (ERCOT) declares an Energy Emergency Alert 2 (EEA2) event or deems that an EEA2 event is imminent or to support local system emergency conditions. Incentives are paid for measured and verified W reductions to project sponsors based on the average performance of all their events. Participating facilities must be equipped with an Interval Data Recorder (IDR) or smart meter and be able to curtail a minimum of 50 kW to be eligible. Originally designed to deliver demand reduction during the summer peak period (1:00 p.m. to 7:00 p.m. during the months of June through September, excluding weekends and holidays), the program has been modified to support load curtailment 24 hours per day, seven days per week from June through November.

Target markets	• Market segments: Large commercial/industrial businesses
	• Eligibility criteria:
	  ○ Participants are required to have a normal aggregate peak demand of 750 kW or greater, with each participating site having at least 250 kW normal peak demand and capable of curtailing at least 100 kW.
	  ○ Must have an interval data recorder meter.
	  ○ Must be nonresidential customers taking service at the distribution level or be a nonprofit customer or government entity, including educational installations.
	• Applications: Existing

Marketing strategies and project sponsors	• Marketing strategies: Website, retailer partners; • Project sponsors: National or local EESPs, retail electric providers (REP), or individual customers that identify interruptible load in their own facilities; • Maintain program information in the program tracking database; • Conduct training as necessary to explain elements such as responsibilities of the project participant, program requirements, incentive information, and the application and reporting process; and • Participate in appropriate industry-related meetings and events to generate awareness and interest. • Collaborate with internal company departments such as Commercial Customer Relationship Management, Energy Sales and Transportation Services, and Distribution Operations and Service Delivery to leverage existing relationships with commercial customers, informing them of energy efficiency opportunities.

Commercial Load Management SOP	Summary
Implementation and delivery	• Implementers: Third-party implementers or individual customers
Measures/products, services, offerings	• Measure offerings: N/A • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: CenterPoint Energy will pay a participating customer (or the project sponsor, if different) up to $30 per kW of verified curtailed load each year of participation
QA/QC	• CenterPoint Energy will verify actual demand savings from interruptions.

Table 45 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 45. Commercial Load Management Standard Offer Program EM&V Plan

Commercial Load Management SOP	Description	2024
Evaluation priority	The load management program is a *medium* priority in PY2024.	Medium
Key researchable issues	• Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable?	
Program evaluation approach	Program tracking data review: Review data for accuracy and alignment with demand interval metered data. Metered data review: Program rules require the installation of demand interval metering to record real-time participant demand profiles. A review of these data will verify program tracking data.	Census
	Data reviews: Review participant interval-load data. Periods ahead of, during, and following load interruption notices will verify load reduction and persistence during demand response events and provide a comparison to similar-condition non-interrupt baseline days to validate impact estimates.	Census

4.4.2 Residential Load Management Standard Offer Program

Table 46. Residential Load Management Standard Offer Program Summary

Residential Load Management SOP	Summary
Program description	The Residential Load Management program provides demand reduction during the summer peak period when ERCOT issues an EEA2. Participants are randomly tested twice during the summer peak period and agree to be available for up to five additional load management events. Like the Commercial Load Management Program, the Residential Load Management Program was originally designed for the summer peak period but has been expanded to support load curtailment 24 hours per day, seven days per week, from June through November.
Target markets	• The program targets residential homes with central air conditioning.

Residential Load Management SOP	Summary
Marketing strategies and project sponsors	• Maintain a website with detailed project eligibility, end-use measures, incentive structure, procedures, application forms, and list of third-party program sponsors; and • Partner with aggregators and REPs to enroll customers wanting to participate.
Implementation and delivery	• The third-party vendor manages and controls implementation and load management event activation.
Measures/products, services, offerings	• Third-party vendors manage and may offer competing air conditioner demand-response services through the BYOD approach.
QA/QC	• Actual demand reductions will be determined by CenterPoint Energy using advanced meter data.

Table 47 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 47. Residential Load Management Standard Offer Program EM&V Plan

Residential Load Management SOP	Description	2024
Evaluation priority	The load management program is a *medium* priority in PY2024.	Medium
Key researchable issues	• Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable?	
Program evaluation approach	Program tracking data review: Review data for accuracy and alignment with demand interval metered data.	Census
	Interval metered data review: Review participant interval-load data. Periods ahead of, during, and following load interruption notices will verify load reduction and persistence during demand response events and provide a comparison to similar-condition non-interrupt baseline days to validate impact estimates in accordance with the TRM.	Census

4.5 RESIDENTIAL MARKET TRANSFORMATION

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Residential Market Transformation program in the utility's portfolio.

4.5.1 Multi-family Market Transformation Program Market Rate

Table 48. Multi-family Market Transformation Program Summary

Multi-family MTP	Summary
Program description	The Multi-family MTP Market Rate encompasses two program elements: • Multi-family Water and Space Heating and • Multi-family High Efficiency New Construction. Multi-family Water and Space Heating promotes the installation of energy-efficient non-electric water heating in multi-family housing developments. Multi-family High Efficiency New Construction incentivizes energy efficiency in new multi-family buildings.
Target markets	• Market segments: Multi-family housing; • Eligibility criteria: Multi-family housing facilities within CenterPoint Energy's electric service territory; new housing must be built to ENERGY STAR Version 3.0 Standards. Natural-gas-storage tank water heaters must meet or exceed current federal efficiency standards or local building codes. Service water heating systems that serve multiple units must exceed the most current IECC standards adopted by the state of Texas. Peak kW and annual kWh savings are to be determined based on building simulation modeling using DOE-2, with eQUEST 3.60 used as the interface. • Applications: New construction projects
Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy plans to market the availability of this program in the following manner: o Contract with a third-party program implementer to conduct outreach and planning; and o Marketing materials provided to potential participating developers and property managers, which includes brochures, cut sheets, and a program guidebook; and o Participate in appropriate industry-related meetings and events to generate awareness and interest. • Project sponsors: Developer
Implementation and delivery	• Implementers: Frontier Energy is the third-party implementer
Measures/products, services, offerings	• Measure offerings: Boiler systems and individual non-electric water and space heating units. Natural-gas-storage tank water heaters must meet or exceed current federal efficiency standards or local building codes. Incentives differ for individual water heaters versus central service water heating systems. Energy-efficient direct-install measures may include LEDs, water savings measures (faucet aerator, low-flow showerhead), water heater tank wrap, and water heater pipe insulation. • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: Rebates/incentives are provided to multifamily project developers who agree to facilitate the installation of non-electric water heating in market-rate multifamily projects
QA/QC	• Monitoring progress or project through reservation period and post-on-site inspections for 100 percent of projects • Progress monitoring and post-inspection conducted by a third-party implementer

Table 49 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 49. Multi-family Market Transformation Program EM&V Plan

Multi-family MTP	Description	2024
Evaluation priority	The Multi-family MTP represents a growing portion of the portfolio's current energy use and demand savings and will receive a *medium* priority in PY2024.	Medium
Key researchable issues	• How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Are program goals established appropriately, and will they be met?	
Program evaluation approach	Program tracking system review: Review tracking data on the census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	2

4.5.2 High-Efficiency Homes Market Transformation Program

Table 50. High Efficiency Homes Market Transformation Program Summary

High-Efficiency Homes MTP	Summary
Program description	The High-Efficiency Home MTP incentivizes the construction of new ENERGY STAR-certified, DOE Zero Energy Ready, and other high-efficiency qualified homes. To qualify for incentives, all homes, at a minimum, must be rated and registered in the RESNET registry. Incentives can also be earned by meeting minimum prescriptive technology requirements such as high-efficiency HVAC systems, heat pump water heaters, and other efficient appliances. An additional bonus is offered for those builders who build ENERGY STAR Version 3.1 certified homes. Each home is reviewed for verifiable demand and energy savings.

Target markets	• Market segments: Homebuilders, HVAC contractors, and home energy raters
	• Eligibility criteria:
	  ○ All program homes must achieve ten percent kWh savings better than the IECC 2015 reference home.
	  ○ Homes may qualify for higher Tier 1, Tier 2, or High-Efficiency Tier incentives based on minimum kWh savings, percentage of kWh savings, or prescriptive home attributes.
	  ○ Homes that are certified as ENERGY STAR may receive a bonus incentive in addition to the tiered incentives above.
	  ○ Homes with an ENERGY STAR-certified smart thermostat may receive a bonus incentive in addition to the tier incentives above.
	  ○ Raters receive an incentive for each approved home to defray the cost of qualifying for the program.
	• Applications: New home construction applications

High-Efficiency Homes MTP	Summary
Marketing strategies and project sponsors	Marketing strategies: CenterPoint Energy promotes the High-Efficiency Homes MTP in the following manner: • contracts with a third-party program implementer to implement outreach and planning activities; • advertises using a multitude of news media, including billboards, radio and television announcements, and targeted relocation publications, as well as supporting the local home builder association publications; • provides point-of-purchase materials, including yard signs, door mats, and brochures, free to participating builders; • maintains a website with detailed program information, links to participating builders' websites, and the general features and benefits of ENERGY STAR homes; • conducts various testing for all local raters or air conditioning contractors as needed; • conducts training sessions for builders' sales staff throughout the year to increase the knowledge and awareness of the features and benefits of ENERGY STAR homes; • participates in quarterly roundtables with the builder's home energy raters to discuss and exchange information concerning program issues; • attends appropriate industry-related meetings and seminars to generate awareness and interest; • participates in statewide outreach activities; • Conducts builder workshops covering program requirements, incentive information, and the application and reporting process • Project sponsors: In addition to homebuilder and consumer outreach, the High-Efficiency Homes MTP targets key allies in the homebuilding production and sales cycle: home energy raters, homebuilder sales agents, real estate agents, HVAC contractors, mortgage lenders, product manufacturers, homebuilder associations, and media outlets
Implementation and delivery	• Implementers: TRC is the third-party implementer, and the data source is CenterPoint Energy

High-Efficiency Homes MTP	Summary

Measures/products, services, offerings	• Measure offerings: The energy savings earned by high-efficiency new homes are calculated on a whole-home basis. Energy savings are typically achieved through a combination of:
	  ○ exterior construction upgrades;
	  ○ high-performance windows;
	  ○ controlling the amount of air leaking out through the duct system or unsealed holes;
	  ○ controlling the amount of air entering the home from the outside;
	  ○ properly installed insulation;
	  ○ high-efficiency and properly-sized heating and air conditioning systems;
	  ○ high-efficiency water heating equipment;
	  ○ fresh-air mechanical ventilation system;
	  ○ high-efficiency light bulbs and fixtures; and
	  ○ ENERGY STAR-certified new refrigerators, clothes washers, and dishwashers.
	• Technical assistance: Builders must work with raters
	• Rebates/incentives: Builders will be paid for homes based on the incentive tiers described above

QA/QC	• The Home Energy Rating System (HERS) process provides an initial level of QA/QC on all program homes. • CenterPoint Energy or their third-party implementer will conduct field inspections of a sampling of homes. • The third-party implementer will conduct desk QA/QC of homes submitted to the program.

Table 51 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 51. High-Efficiency Homes MTP EM&V Plan

High-Efficiency Homes MTP	Description	2024
Evaluation priority	The High-Efficiency Homes MTP represents a moderate portion of the portfolio's current and future energy use and demand savings and will receive a *medium* priority in PY2024.	Medium
Key researchable issues	• How can the program adapt to the changing codes and standards climate? Are there viable strategies the program can adopt in order to meet and exceed set goals given the new baselines? Have changes in residential baselines affected the program's ability to meet goals? • How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Are goals established appropriately, and will they be met?	

High-Efficiency Homes MTP	Description	2024
	• To what degree is the program encouraging adopting energy-efficient technologies that would otherwise not have taken place?	
Program evaluation approach	Program tracking system review: Review tracking data on a census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census

4.5.3 Midstream Market Transformation Program (HVAC and Residential Pool Pump Distributors)

Table 52. Midstream Market Transformation Program Summary

Residential Pool Pump and A/C Distributor MTP	Summary
Program description	The Mid-Stream MTP (HVAC and Pool Pump Distributor) provides incentives to HVAC and pool pump distributors who agree to facilitate the installation of high-efficiency pool pumps, air conditioners, heat pumps, smart thermostats, and heat pump water heaters in existing single-family properties.
Target markets	• Market segments: Single-family properties • Application: Retrofit

Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy plans to market the availability of this program in the following manner:
	  ○ Contract with a third-party program implementer to conduct outreach, marketing, and planning activities; and
	  ○ Conduct workshops as necessary to explain elements such as the responsibilities of the distributors and contractors, program requirements, incentive information, and the application and reporting process.

Implementation and delivery	• Implementers: CenterPoint Energy
Measures/products, services, offerings	• Measure offerings: High-efficiency pool pumps, air conditioners, and heat pumps • Technical assistance: N/A • Rebates/incentives: Provided to distributors
QA/QC	• Monitoring project progress through the reservation period and post-on-site inspections • A third-party implementer conducts progress monitoring and post-inspection

Table 53 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 53. Midstream MTP EM&V Plan

Residential Pool Pump and AC Distributor MTP	Description	2024
Evaluation priority	This program has a *medium* priority for PY2024	Medium
Key researchable issues	• How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Are program goals established appropriately, and will they be met?	
Program evaluation approach	Program tracking system review: Review the tracking system data for completeness and accuracy	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	0

4.6 RESIDENTIAL STANDARD OFFER

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Residential Standard Offer program in the utility's portfolio.

4.6.1 Residential and Small Commercial Standard Offer Program

Table 54. Residential and Small Commercial Standard Offer Program Summary

Residential & Small Commercial SOP	Summary
Program description	The Residential & Small Commercial SOP targets retrofit measures for residential and small commercial customers, with incentives being paid to project sponsors for qualifying measures that provide verifiable demand and energy savings. The program is open to all qualifying energy efficiency measures, including, but not limited to, HVAC, duct sealing, weatherization, ceiling insulation, water-saving measures, solar photovoltaics, and ENERGY STAR appliances.
Target markets	• Market segments: Residential single-family and multifamily homes • Eligibility criteria: Maximum demand <100 kW • Applications: Retrofit applications

Residential & Small Commercial SOP	Summary

Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy plans to market the availability of this program in the following manner:
	  ○ maintain an internet website with detailed project eligibility, end-use measures, incentive structure, procedures, application forms, and a list of third-party project sponsors; and
	  ○ conduct workshops as necessary to explain elements such as the responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process.
	• Project sponsors include a range of EESPs

Implementation and delivery	• Implementers: CenterPoint Energy
Measures/products, services, offerings	• Measure offerings: Any Commission-approved measure included in the statewide Residential SOP template or any Commission-approved measure included in the TRM for the residential customer class is eligible under SOP, including attic insulation, duct sealing, caulking/weatherstripping, air conditioning, heat pumps, water heaters, ENERGY STAR windows, refrigerators, dishwashers, clothes washers, wall insulation, floor insulation, water heater jackets, and renewable energy sources • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: Provided to the project sponsor who passes the rebates/incentives on at their discretion to end-use customer
QA/QC	• Pre- and post-on-site inspections for approximately ten percent of homes • Conducted by CenterPoint Energy

Table 55 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 55. Residential and Small Commercial Standard Offer Program EM&V Plan

Residential & Small Commercial SOP	Description	2024
Evaluation priority	This program is a *medium* priority as it has recently responded to TRM updates.	Medium
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace?	
Program evaluation approach	Program tracking system review: Review tracking data on a census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	2

4.7 LOW-INCOME/HARD-TO-REACH MARKET TRANSFORMATION

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Low-Income and Hard-to-Reach program in the utility's portfolio.

4.7.1 Hard-to-Reach Standard Offer Program

Table 56. Hard-to-Reach Standard Offer Program Summary

Hard-to-Reach SOP	Summary
Program description	The Hard-to-Reach Standard Offer Program provides incentives to project sponsors for qualifying measures installed in retrofit applications, which provide verifiable demand and energy savings to customers whose annual total household income is less than 200% of current federal poverty guidelines. Qualifying energy efficiency measures include, but are not limited to, HVAC replacement, duct sealing, weatherization, ceiling insulation, water-saving measures, and ENERGY STAR windows.
Target markets	• Market segments: HTR residential customers • Eligibility criteria: Participants must have a total annual household income at or below 200 percent of the federal poverty level • Applications: Retrofit applications and new construction through the Affordable Single-Family component

Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy plans to market the availability of this program in the following manner:
	  ○ Maintain a website with detailed project eligibility, end-use measures, incentive structure, procedures, application forms, and a list of third-party project sponsors;
	  ○ conduct workshops as necessary to explain elements such as the responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process.
	• Project sponsors represent a range of EESPs

Implementation and delivery	• Implementers: CenterPoint Energy
Measures/products, services, offerings	• Measure offerings: Envelope measures, water heating, ENERGY STAR refrigerators, HVAC • New construction for not-for-profit housing or social services organizations built to current ENERGY STAR Version 3.0 Standards • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: Provided to the project sponsor, who then passes rebates/incentives on at their discretion to the end-use customer
QA/QC	• Post-on-site inspections for approximately five percent of homes • Conducted by CenterPoint Energy

Table 57 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 57. Hard-to-Reach Standard Offer Program EM&V Plan

Hard-to-Reach SOP	Description	2024
Evaluation priority	Given the updates in savings for key measure offerings in PY2024, this program has a *medium* priority for PY2024 as it will be prioritized for in-depth impact assessment in PY2024.	Medium
Key researchable issues	• How are program data handled? Are all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace?	
Program evaluation approach	Program tracking system review: Review tracking data on the census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	2

4.7.2 Multi-family Market Transformation Program Hard-to-Reach

Table 58. Multi-family Market Transformation Program Hard-to-Reach Summary

Multi-family MTP Hard-to-Reach	Summary
Program description	The Multi-family MTP Market Rate encompasses two program elements: • Multi-family Water and Space Heating and • Multi-family High Efficiency New Construction. Multi-family Water and Space Heating promotes the installation of energy-efficient non-electric water heating in multi-family housing developments. Multi-family High Efficiency New Construction incentivizes energy efficiency in new multi-family buildings.
Target markets	• Market segments: Multifamily housing; • Eligibility criteria: Multifamily housing facilities within CenterPoint Energy's electric service territory; new housing must be built to ENERGY STAR Version 3.0 Standards. Natural-gas-storage tank water heaters must meet or exceed current federal efficiency standards or local building codes. Service water heating systems that serve multiple units must exceed the most current IECC standards adopted by the state of Texas. Peak kW and annual kWh savings are to be determined based on building simulation modeling using DOE-2, with eQUEST 3.60 used as the interface. • Applications: New construction projects

Multi-family MTP Hard-to-Reach	Summary

Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy plans to market the availability of this program in the following manner:
	  ○ Contract with a third-party program implementer to conduct outreach and planning; and
	  ○ Marketing materials, including brochures, cut sheets, and program guidebook provided to potential participating developers and property managers; and
	  ○ Participate in appropriate industry-related meetings and events to generate awareness and interest.
	• Project sponsors: Developer

Implementation and delivery	• Implementers: Frontier Energy is the third-party implementer
Measures/products, services, offerings	• Measure offerings: Boiler systems and individual non-electric water and space heating units. Natural-gas-storage tank water heaters must meet or exceed current federal efficiency standards or local building codes. Incentives differ for individual water heaters versus central service water heating systems. Energy-efficient direct-install measures may include LEDs, water savings measures (faucet aerator, low-flow showerhead), water heater tank wrap, and water heater pipe insulation. • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: Rebates/incentives are provided to multifamily project developers who agree to facilitate the installation of non-electric water heating in market-rate multifamily projects
QA/QC	• Monitoring progress or project through reservation period and post-on-site inspections for 100 percent of projects • Progress monitoring and post-inspection conducted by a third-party implementer

Table 49 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 59. Multi-family Market Transformation Program Hard-to-Reach EM&V Plan

Multi-family MTP Hard-to-Reach	Description	2024
Evaluation priority	The Multi-family MTP represents a growing portion of the portfolio's current energy use and demand savings and will receive a *medium* priority in PY2024.	Medium
Key researchable issues	• How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Are program goals established appropriately, and will they be met?	

Multi-family MTP Hard-to-Reach	Description	2024
Program evaluation approach	Program tracking system review: Review tracking data on the census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	1

4.7.3 Targeted Low-Income (Agencies in Action) Market Transformation Program

Table 60. Targeted Low-Income (Agencies in Action) Market Transformation Program Summary

Targeted Low-Income (Agencies in Action) MTP	Summary
Program description	The Targeted Low-Income MTP facilitates the installation of energy efficiency upgrades for low-income residential customers in single-family or multifamily homes. Local non-profit organizations and energy service companies provide comprehensive, whole-house retrofits that maximize electricity savings to homes with a savings-to-investment ratio (SIR) greater than one. This is accomplished by installing attic and wall insulation, solar screens, lighting retrofits, water-saving measures, ENERGY STAR room air conditioners, central air conditioning systems, duct efficiency, and air infiltration control for participants that have an annual household income of less than 200 percent of the federal poverty guidelines. A maximum expenditure of $8,250 is allowed per home.
Target markets	• Market segments: Low-income residential customers • Eligibility criteria: Participants must have a total annual household income at or below 200 percent of the federal poverty level • Applications: Retrofit applications
Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy plans to market the availability of this program in the following manner: ○ Participate in appropriate industry-related meetings and events to generate awareness and interest; ○ conduct workshops as necessary to explain elements such as the responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process; ○ contact nonprofit organizations and local housing authorities for potential participation; and ○ promote program participation in under-served areas of the CenterPoint Energy Houston electric service territory ○ Maintain a website with detailed participant eligibility, end-use measures, incentive structure, procedures, and application forms.
Implementation and delivery	• Implementers: Frontier Energy is the third-party implementer.

Targeted Low-Income (Agencies in Action) MTP	Summary
Measures/products, services, offerings	• Measure offerings (requires a SIR of ≥1): Attic insulation, wall insulation, solar screens, CFLs, water-saving measures, ENERGY STAR room air conditioning, central air conditioning, heat pumps, ENERGY STAR refrigerators, duct efficiency improvements, and air infiltration control
	• Technical assistance: At the discretion of the project sponsor, not part of the program design
	• Rebates/incentives: Provided to the project sponsor, who then passes rebates/incentives on at their discretion to end-use customer
QA/QC	• Post-on-site inspections for approximately five percent of homes • Conducted by CenterPoint Energy

Table 61 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 61. Targeted Low-Income (Agencies in Action) Market Transformation Program EM&V Plan

Targeted Low-Income (Agencies in Action) MTP	Description	2024
Evaluation priority	Senate Bill 1434 requires transmission and distribution utilities to spend ten percent of their energy-efficiency budget on targeted low-income weatherization programs. CenterPoint Energy's Agencies in Action MTP is prioritized as a *medium* priority in PY2024.	Medium
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace?	
Program evaluation approach	Program tracking system review: Review tracking data on the census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	3

4.8 CROSS-SECTOR PROGRAMS

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Cross-Sector program in the utility's portfolio.

4.8.1 Retail Products and Services Market Transformation Program

Table 62. Retail Products and Services Market Transformation Program Summary

Retail Products and Services MTP	Summary
Program description	The Retail Products and Services MTP incorporates three program offerings previously delivered as stand-alone programs: • REP MTP • Smart Thermostat Program • Advanced Retail Products Program (previously the Advanced Lighting MTP) Components of the Retail Products and Services MTP include: **REP component:** The REP component offers energy-saving products and services to end-use residential and/or commercial customers through REPs. Participating REPs market energy-saving measures and services to their customers in the CenterPoint Houston service territory. REPs can participate in the following program components: • The CoolSaver A/C Tune-Up program component utilizes specially trained air conditioning contractors to perform comprehensive A/C tune-ups for residential and commercial customers. The program pays A/C contractors to reduce the customer's upfront cost of system diagnosis and correction. It also provides participating trade allies with training on best practices and discounts on high-quality diagnostic tools. • The Efficiency Connection program component is an online marketplace that enables customers to shop for discounted energy-efficiency products. Through the program's third-party vendors, products are delivered directly to qualifying residential customers. Program marketing informs the customer of the importance of installing LED lighting in high-use areas and replacing existing incandescent, fluorescent, and halogen lamps to increase savings. **Smart Thermostat component:** The Smart Thermostat component enables customers to receive discounts for the purchase of ENERGY STAR-certified smart thermostats at online retail locations. **Advanced Retail Products component:** The Advanced Retail Products component offers point-of-purchase discounts to residential customers at participating retail stores to purchase qualified (i.e., ENERGY STAR-rated) high-efficiency products.
Target markets	• Market segments: Residential and small commercial customers • Eligibility criteria: Residential and small commercial customers at participating retailers • Applications: Retrofit or new construction projects

Retail Products and Services MTP	Summary
Marketing strategies and project sponsors	**REP component:** • Contract with a third-party implementer to conduct outreach and planning activities; • REPs market to existing customers via e-mail, social media, and direct mail; and • Participating contractors may do direct marketing to customers via e-mail, direct mail, and flyers **Smart Thermostat component:** • Contract with third-party to deliver online marketplace; and • Provide in-store marketing materials at participating retailers. **Advanced Retail Products component:** • In-store promotions of the program via signage and • Participation in appropriate industry-related meetings and events to generate awareness and interest.
Implementation and delivery	**REP component:** The REP **component** collaborates with REPs to recruit and enroll customers. Incentives are paid to program service providers or contractors for the average verified demand and energy savings achieved. **Smart Thermostat component:** This component utilizes an online marketplace and that offers an instant coupon code and allows the customer to shop for discounted energy-efficiency products. **Advanced Retail Products component:** The Advanced Retail Products component is implemented by a third-party implementer. Point-of-purchase discounts will be applied to residential customers at participating retailers.
Measures/products, services, offerings	**REP component:** • Measure offerings: Heat pumps, central air conditioners, custom/others pending approval, A/C tune-ups • Technical assistance: Customer must accept recommendations from a tune-up analysis • Rebates/incentives: Up to $350 provided to the end-use customer in the form of instant discounts at the time of service; up to $350 provided to the contractor; discounts on tool purchases **Smart Thermostat component:** • Measure offerings: Smart thermostats • Technical assistance: N/A • Rebates/incentives: Rebates paid to customers **Advanced Retail Products component:** • Measure offerings: Certified residential LED lighting • Technical assistance: N/A • Rebates/incentives: Provided to end-use customer

Retail Products and Services MTP	Summary
QA/QC	**REP component:** • During technician training, CLEAResult ride-alongs • Ten percent for contractors and technicians • Post-on-site inspections conducted by the implementer **Smart Thermostat component:** • Monitoring project progress through reservation period and post on-site inspections for 100 percent of projects • Progress monitoring and post-inspection conducted by a third-party implementer **Advanced Retail Products component:** • N/A

Table 63 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 63. Retail Products and Services Market Transformation Program EM&V Plan

Retail Products and Services MTP	Description	2024
Evaluation priority	The Retail Products and Services MTP represents a large portion of the portfolio's current and future energy use and demand savings.	High
Key researchable issues	• How is the program engaging retail electric providers? What areas are working well, and what areas need improvement? • To what degree does the program encourage adopting energy-efficient operational techniques and technologies that would otherwise not have occurred? • Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? Are incentive values set optimally? • What changes to the program design and delivery may improve program performance? Are there major differences in how this program is delivered and performs compared to similar programs at other utilities? • Is sufficient data being captured to allow for appropriate verification? Are there significant differences in how data are captured, and calculation methodologies used compared to similar programs within the state? Are there significant differences in how data are captured, and calculation methodologies compared to industry standards?	
Program evaluation approach	Program tracking system review: Review tracking data on a census of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of REP projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	7
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts for **HVAC tune-ups**, which are a component of this program. The PY2024 consumption analysis will help all stakeholders better understand the savings resulting from measures installed through this program and inform prospective updates to the TRM for PY2026.	Census
	Participant surveys: Interviews will be completed with participants for smart thermostats	Census sample to meet 90/10

4.9 PILOT

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Pilot program in the utility's portfolio.

4.9.1 Winter Load Management Pilot Program

Table 64. Winter Load Management Pilot Program Summary

Winter Load Management Pilot Program	Summary
Program description	The Winter Load Management Pilot program provides load shed capability twenty-four hours per day, seven days per week during the months of December – May. The program is available to non-residential distribution customers, as well as governmental, educational, and non-profit transmission customers. Curtailments are initiated when the Electric Reliability Council of Texas (ERCOT) declares an Energy Emergency Alert 2 (EEA2) event or deems that an EEA2 event is imminent or to support local system emergency conditions. Incentives are paid for measured and verified kW reductions to project sponsors based on the average performance of all their events. Participating facilities must be equipped with an Interval Data Recorder (IDR) or smart meter. The program objectives are: • Attain reliable peak demand reduction during grid emergencies; and • Evaluate program impacts and processes to gain insights that support the design of future emergency load management activities.

Target markets	• Market segments: Large commercial/industrial businesses
	• Eligibility criteria:
	  ○ Participants are capable of curtailing twenty-four hours per day, seven days per week, during the months of December – February.
	  ○ Must have an interval data recorder meter.
	  ○ Must be nonresidential customers taking service at the distribution level or be a nonprofit customer or government entity, including educational installations.
	• Applications: Existing

Marketing strategies and project sponsors	• Marketing strategies: Website and retailer partners • Project sponsors: National or local EESPs, REPs, or individual customers that identify interruptible load in their own facilities • Recruit participants through direct outreach to customers and aggregation groups; • Conduct training as necessary to explain elements such as responsibilities of the project participant, program requirements, incentive information, and the application and reporting process; and • Participation in appropriate industry-related meetings and events to generate awareness and interest.

Winter Load Management Pilot Program	Summary
Implementation and delivery	• Implementers: Third-party implementers or individual customers
Measures/products, services, offerings	• Measure offerings: N/A • Technical assistance: At the discretion of the project sponsor, not part of the program design • Rebates/incentives: CenterPoint Energy will pay a participating customer (or the project sponsor, if different)
QA/QC	• CenterPoint Energy will verify actual demand savings from interruptions.

Table 45 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 65. Winter Load Management Pilot Program EM&V Plan

Winter Load Management Pilot Program	Description	2024
Evaluation priority	The load management program is a *medium* priority in PY2024.	Medium
Key researchable issues	• Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable?	
Program evaluation approach	Program tracking data review: Review data for accuracy and alignment with demand interval metered data. Metered data review: Program rules require the installation of demand interval metering to record real-time participant demand profiles. A review of these data will verify program tracking data.	Census
	Data reviews: Review participant interval-load data. Periods ahead of, during, and following load interruption notices will verify load reduction and persistence during demand response events and provide a comparison to similar-condition non-interrupt baseline days to validate impact estimates.	Census

5.0 ONCOR

This section addresses Oncor's energy efficiency and load management portfolio. The overall portfolio[13] is summarized below, followed by details for each program in the portfolio.

5.1 PORTFOLIO OVERVIEW

Table 66 shows the projected energy and demand savings for the Oncor programs for PY2024.

Table 66. Oncor—PY2024 Projected Demand and Energy Savings

Program category	Program name	Program type	PY2024 demand savings (kW)	Percentage of total portfolio (demand)	PY2024 energy savings (kWh)	Percentage of total portfolio (Energy)
Commercial SOP	Commercial SOP	Commercial SOP	15,211	8	66,093,340	33
Commercial SOP	Small Business Direct Install SOP	Small Business DI	781	0	3,694,597	2
Commercial MTP	Commercial Midstream MTP	Upstream/midstream Commercial MTP	191	0	1,250,000	1
Commercial MTP	Master-Metered Smart Thermostat Direct Install MTP	Commercial	0	0	2,000,000	1
Commercial MTP	Strategic Energy Management MTP	Pilot Commercial SEM MTP	1,411	1	10,173,329	5
Commercial Load Management	Commercial Load Management SOP	Load Management SOP	70,000	36	210,000	0
Commercial Load Management	Commercial Winter Load Management SOP (Pilot)	Commercial Winter Load Management SOP (Pilot)	21,000	11	63,000	0
Residential Load Management	Residential Load Management SOP	Load Management SOP	30,000	15	90,000	0
Residential Load Management	Residential Winter Load Management SOP (Pilot)	Residential Winter Load Management SOP (Pilot)	10,000	5	30,000	0
LI/HTR SOP	Hard-to-Reach (HTR) SOP	HTR SOP	15,470	8	21,423,558	11

[13] See Oncor Electric's Application to Adjust Its Energy Efficiency Cost Recovery Factor filed on May 31, 2024 under Docket Number 56682.

Program category	Program name	Program type	PY2024 demand savings (kW)	Percentage of total portfolio (demand)	PY2024 energy savings (kWh)	Percentage of total portfolio (Energy)
LI/HTR MTP	Low-Income MF Smart Thermostat Direct Install MTP	HTR	0	0	2,000,000	1
LI/HTR MTP	Low-Income HVAC Tune-Up MTP	HTR MTP	1,223	1	5,626,950	3
LI/HTR SOP	Targeted Weatherization Low-Income SOP	Low-Income/HTR Weatherization Programs SOP	3,432	2	6,301,159	3
Residential SOP	Home Energy Efficiency SOP	Residential SOP	17,209	9	33,316,204	17
Residential MTP	Multi-Family Smart Thermostat Direct Install MTP	Residential	0	0	2,150,000	1
Residential MTP	Retail Products MTP	Retail Platform MTP	5,754	3	36,328,263	18
Residential MTP	Residential New Home Construction MTP	Residential MTP	2,432	1	6,512,563	3
Residential SOP	Solar PV SOP	Residential Solar SOP	1,015	1	3,409,927	2

Next, we present two summary tables for each program in the Oncor portfolio. Each table provides a high-level overview of the applicable programs. The overview is based on a review of program documentation and discussions with utilities, PUCT, and implementation contractors. This information is followed by the Evaluation, Measurement, and Verification (EM&V) Plan for the program, which includes the evaluation priority, key researchable questions, and EM&V activities. In addition to program-specific researchable questions listed in the EM&V Plan, the following researchable issue will be investigated portfolio-wide:

- What are the drivers of differences, if any, between claimed and evaluated savings?

5.2 COMMERCIAL MARKET TRANSFORMATION

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Commercial Market Transformation program in the utility's portfolio.

5.2.1 Commercial Midstream Market Transformation Program

Table 67. Commercial Midstream Market Transformation Program Summary

Commercial Midstream MTP	Summary
Program description	The Commercial Midstream provides distributors incentives who agree to facilitate the installation of high-efficiency equipment in commercial facilities. The program will utilize the midstream, distributor-focused model, which is designed to provide incentives to the manufacturers and distributors of equipment and reaches down the entire supply chain to ensure incentives engage service providers and customers. The program will continue to analyze measures that will fit in the midstream distributor-focused model and will incorporate those measures into the program. 2024 Program Design Update The program is focusing on encouraging the purchase and installation of ENERGY STAR®-certified commercial kitchen measures through a targeted implementation effort. Commercial kitchens have high energy use and lengthy operating hours. This program design update aims to reduce consumption and demand for these high-intensity end uses. CHEF is considered a hybrid midstream/downstream program allowing incentives for both dealers and end users. The hybrid option and incentives encourage dealers to sell efficient equipment while also providing an incentive to help cover part of the incremental cost purchasing energy efficient equipment.
Target markets	• Market segments: Commercial and small commercial customers • Applications: Retrofit or new construction projects
Marketing strategies and project sponsors	• Marketing strategies include: • Program implementers market direct to dealers as well as food service equipment end users, e.g. Mom and Pop restaurants, chains, ghost kitchens etc. ○ Oncor maintains the Take a Load off Texas website and provides printed collateral for remote and in-person solicitation.
Implementation and delivery	Implementers: TRC is the third-party implementer.
Measures/products, services, offerings	• Measure offerings: Dishwashers, Ice Machines, Steamers, Griddles, Convection & Combination Ovens, Refrigerators & Freezers (Vertical and Horizontal Reach In), Demand Control Kitchen Ventilation, Hot Food Holding Cabinets, Zero Energy Ready Refrigeration Doors • Technical assistance: N/A • Rebates/incentives: Dealer/Distributor discounts directly to the customer through point of sale or post sale purchases.
QA/QC	QA 1. Roles and responsibilities, process documents, online application forms, flowcharts and training for qualifying and submitting products 2. Checklist of what is needed to qualify project

Commercial Midstream MTP	Summary
	• Qualified Product List • TRM • ENERGY STAR database • California Energy Wise database and spec qualification calculations • Participant application form (downstream) - dealer agreement (midstream) • Paperwork for payment for both downstream and midstream participants Examples: • All products are in Energy Star Database – Oncor will confirm model nomenclature with manufacturers if unsure • Email confirmation on installation of design projects • Confirm installation is within proper year • Dishwashers require email confirmation on: Hot water heaters & Temp use of machine (high temp versus low temp on dual sanitizing machines) • Demand Control Kitchen Ventilation require engineering specs to confirm exhaust HP • All projects must provide final invoice QC review projects in various stages to ensure correct information • Reviewing invoices: checking for models, installation address, correct ESID, correct entry into worksheet, check with QPL and sometimes TRM to ensure all data is correct. • Reviewing submissions, ensuring all invoices and spec sheets are included • Site visits and/or confirmation of installation by manufacturers, manufacturer reps and dealers • Review team knowledge on participants, TRM and QPL • Review process to discuss suggestions/corrections/bottlenecks etc.

Table 68 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 68. Commercial Midstream Market Transformation Program EM&V Plan

Commercial Midstream MTP	Description	2024
Evaluation priority	The Commercial Midstream MTP is a *high* priority in PY2024. The savings are from deemed measures.	High
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures are included in the midstream implementation? Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design and delivery may improve program performance? • Have the changes in equipment baselines affected the program's ability to meet goals? Are there viable strategies the program can adopt in order to adapt to the changing codes and standards climate to meet and exceed set goals given the new baselines? • Are utility verification regimes sufficient and reliable?	
Program evaluation approach	Program tracking system review: Review tracking data for accuracy and confirm that estimated savings concur with TRM.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	4

5.2.2 Master-Metered Smart Thermostat Market Transformation Program

Table 69. Master-Metered Smart Thermostat Market Transformation Program Summary

Master-Metered Smart Thermostat MTP	Summary
Program description	The Master-Metered Smart Thermostat Direct Install MTP is focused on replacing existing HVAC thermostats with ENERGY STAR-qualifying smart thermostats in multifamily properties with a commercial rate classification (master-metered). The program will support efforts to increase awareness of the program, including outreach to property owners, managers, and service providers, as well as HVAC contractors, housing agencies, and community organizations. The goals of the program will be achieved through a cross-cutting multi-program outreach effort that will allow service providers a similar experience whether directly installing in commercial, residential, or hardto-reach target markets. This program is being rebranded as Master Metered Multifamily HVAC MTP in the 2025 plan.
Target markets	• Market segments: multifamily property owners, managers, and service providers, as well as HVAC contractors, housing agencies, and community organizations. • Eligibility criteria: premises identified as master-metered complexes.

Master-Metered Smart Thermostat MTP	Summary
Marketing strategies and project sponsors	• Marketing strategies: Outreach to leading property management companies in Texas, HVAC contractors that specialize in multifamily replacements, community organizations, and HVAC equipment manufacturers
Implementation and delivery	• Implementers: EnerChoice
Measures/products, services, offerings	Select Core Measures • 2.2.8 ENERGY STAR® Connected Thermostats • Incentives: $125 per qualified and installed thermostat
QA/QC	• Inspections conducted by the utility; typically, a photo of the unit installed or, occasionally, another pre-approved method of installation verification may be used. • If the project is low-income, then the program implementer will review the documentation to validate the project's low-income status in compliance with the requirements listed in Texas TRM Volume 5.

Table 100 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 70. Master-Metered Smart Thermostat Management Market Transformation Program EM&V Plan

Master-Metered Smart Thermostat MTP	Description	2024
Evaluation priority	The Master-Metered Smart Thermostat MTP program is a *high* priority in PY2024.	High
Key researchable issues	• How is program data handled? Is all data being tracked accurately and effectively? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Are utility verification regimes sufficient and reliable?	
Program evaluation approach	Program tracking data review: Review data for accuracy and alignment with demand interval metered data.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	0
	Participant surveys: Interviews will be completed with participants and retail electric providers (REP), if applicable	Census sample to meet 90/10

5.2.3 Strategic Energy Management Market Transformation Program

Table 71. Strategic Energy Management Market Transformation Program Summary

Strategic Energy Management MTP	Summary
Program description	The Strategic Energy Management MTP uses a custom fit and energy concierge approach to identify deep energy savings for large commercial and agricultural customers. It enlists a relationship-building approach with the customer to ensure that

Strategic Energy Management MTP	Summary
	their specific needs and opportunities are addressed. The program investigates the customer's current operations and system parameters to identify opportunities for improvement. The implementer and customer develop an annual Action Plan based on identified projects, and the program provides on-going coaching to support the implementation of the Action Plan measures. A key aspect of the approach is to uncover and influence the implementation of operational efficiency measures in addition to capital efficiency measures.
Target markets	• Market segments: large commercial, industrial, and agricultural customers who have not opted out of the EECRF tariff.
Marketing strategies and project sponsors	• Marketing strategies: primarily driven through an outreach campaign to the target audience. 3rd party data analytics used to identify potential customers for participation, ongoing/continued engagement in industry events and organizations. Oncor Area Managers and Oncor Large Customer and Industrial Account Managers are solicited and surveyed for eligible potential customers.
Implementation and delivery	• Implementers: Leidos
Measures/products, services, offerings	Select Core Measures • 2.5.4 Nonresidential Measurement and Verification • 2.5.3 Nonresidential Custom • 2.1.1 Lamps and Fixtures • 2.2.2 Split and Packaged Air Conditioners and Heat Pumps • 2.2.3 HVAC Chillers Added Services & Offerings • Technical support, customer coaching, and financial project incentives are provided to program participants (Participants), including commercial, industrial, and agricultural customers • Uses an Energy Concierge approach for customers with under 5 MW demand that uses key elements of SEM, like Treasure Hunts and Energy Action Plans, to engage customers in projects and to encourage a continual improvement approach • For larger customers with greater than 5 MW demand, the program uses a full SEM approach to teach the customers the elements of SEM and coaches them to implement them continually • Provides specific assistance in uncovering and supporting operational efficiency improvements • Incentives are based on either standard incentives or actual energy savings from custom projects
QA/QC	The inspection process will verify based on the type, quantity, and performance of existing and new systems, including taking pictures of equipment, systems, and existing and new equipment or process nameplates. The inspection report will summarize the pre- and post-savings. Routine meetings with EM&V are required to ensure approved saving methodologies are utilized for Nonresidential Custom and Nonresidential Measurement and Verification measure applications.

Table 72 documents the evaluation priority and methodologies for the Strategic Energy Management Market Transformation (Pilot) program.

Table 72. Strategic Energy Management Market Transformation Program EM&V Plan

Strategic Energy Management MTP	Description	2024
Evaluation priority	The Strategic Energy Management MTP is a *medium* priority in PY2024. The majority of savings are from custom measures.	Medium
Key researchable issues	• Is the implementation appropriate for the number of projects planned to be completed in the program in the long term? • Is the focus of low/no-cost measures affecting the participants' need for potentially more capital-intensive projects with further energy savings? • How is program data handled? Is all data being tracked accurately and effectively? How does the program manage and store supplemental data? Is there room for improvement to make the data entry and storage process more streamlined and effective? • Which measures have been installed, and what type of equipment did they replace? • Is the current mixture of rebated measures still appropriate, or could some measures be included or removed? • What changes to the program design, delivery, or data collection may improve program performance?	
Program evaluation approach	Program tracking system review: Review tracking data for a sample of projects. Ensure all project activity is included and check for consistency with reported savings in annual utility reports.	Census
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project-level realization rates.	2

5.3 COMMERCIAL STANDARD OFFER

This section includes a program summary and the details of the activities to be performed as part of the evaluation of each Commercial Standard Offer program in the utility's portfolio.