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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: Therese Harris, Patricia Garcia, Tugi Gotora, James Harville, and Chase Lipscomb
- American Electric Power Texas (AEP Texas): Russell Bego, Robert Cavazos, and Pam Osterloh;
- CenterPoint Energy: Tim Griffin and Shea Richardson
- El Paso Electric: Crystal Enoch and Araceli Perea;
- Entergy: Mark Delavan
- Oncor: Garry Jones, Joseph Nixon, and Jean Perez
- Southwestern Electric Power Company (SWEPCO): Debra Miller and Steve Mutiso;
- Texas-New Mexico Power (TNMP): Stefani Case and Morgan Nielsen;
- Xcel Southwestern Public Service (SPS): Jeremy Lovelady and Bryan Whitson.

We also wish to thank the staff at the following utility consulting firms who provide program data, documentation, and insight into program implementation: CLEAResult, Frontier Energy, ICF International, Resource Innovations, Resource Action Programs, and Willdan.

Please send any questions on the EM&V Plan to Therese Harris (therese.harris@puc.texas.gov) and Lark Lee (lark.lee@tetratech.com).

ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Description
AEP Texas	American Electric Power Texas—consolidation of AEP TCC and AEP TNC
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 Texas electric utilities' energy efficiency and load management programs implemented in program year (PY) 2023 (PY2023). It builds upon the prior program years' statewide EM&V efforts conducted annually since PY2012. This is the fourth EM&V Plan in the four-year EM&V contract period covering PY2020–PY2023 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 PY2020–PY2023 programs through the Request for Proposals (RFP) 473-20-0002, Project No. 51021. The selected EM&V team is led by Tetra Tech and includes Texas Energy Engineering Services, Inc. (TEESI) and Energy Bees. 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.

Utility-specific evaluation plans are in Section 3.0 through Section 10.0. Prior to the utility-specific sections, Section 2.0 discusses the Tetra Tech team's approach to evaluation activities that will be performed consistently statewide across all 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.

1.1 EVALUATION PRIORITIZATION

The EM&V plans are based on the prioritization for the EM&V effort that includes both PY2023 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,
- level of relative uncertainty in estimated savings,
- stage of the program or programmatic component (e.g., pilot, early implementation, mature),
- importance to future portfolio performance and PUCT and Texas utilities' priorities,
- prior EM&V results, and
- known and anticipated changes in the markets in which the programs operate.

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 that couples 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 PY2020–PY2023 EM&V scopes that prioritize EM&V activities where they provide the greatest value. To continue the significant progress that the PUCT staff, the utilities, and the EM&V team have made while working together, we will implement targeted in-depth impact evaluations for particular programs and end-uses, as summarized in Table 1 through
Table 4. We will couple this with tracking system reviews to provide a due diligence verification of claimed savings across all programs. This approach maximizes both the cost-effectiveness and the value of the proposed EM&V activities. We have prioritized evaluation efforts in terms of the level of effort they may receive as *high*, *medium*, or *low* for utility programs each program year.

Commercial. The commercial sector has the largest savings programs; commercial standard offer programs (CSOP) and the largest savers of the commercial market transformation programs (CMTP) are at least a *medium* priority across the four program years. These programs represent the largest percentage of statewide savings and plan to explore new customer segments and technologies. While prior EM&V generally found evaluated savings similar to the utilities' claimed savings, it also resulted in several recommendations for changes to reported claimed savings and recommendations. Therefore, a *medium* priority is justifiable across the four program years due to the savings contributions, the heterogeneity of projects and customer types, and the associated levels of uncertainty in savings. For PY2020 and PY2021, we placed a *high* priority on the largest commercial savers to conduct a consumption analysis. The consumption analyses gauge the effectiveness of the TRM for lighting for key building types. The CSOPs and largest CMTPs were also a *high* priority in PY2021 to update the NTG information and collect key information identified in the PY2020 consumption analysis through participant surveys. Small business programs are designated a *medium* priority twice in the four years (PY2021 and PY2023). While these programs are not large contributors to statewide savings, small businesses are recognized as an important sector to serve. This sector traditionally faces more barriers to energy efficiency program participation than other commercial sectors, and utilities have been trying to expand the range of measures offered.

Residential. We have categorized the residential standard offer programs (RSOP), hard-to-reach (HTR), and low-income (LI) programs as *high* evaluation priorities in PY2021 and PY2023. These programs comprised a substantial percentage of overall statewide portfolio savings in the last five years and responded to TRM updates to the *heat pump* and *envelope* measures in PY2021. The programs

were evaluated via desk reviews, on-sites, a targeted consumption analysis for PY2021, and a full consumption analysis in PY2023. We conduct RSOP participant surveys to update net-to-gross (NTG) information, collect key process information, and confirm measure installation in PY2021. The HTR and LI programs implemented new eligibility processes in PY2022; therefore, these programs were also a *high* priority in PY2022 to support this process improvement. Residential new construction programs were medium in PY2022, preparing for a *high* evaluation priority in PY2023; a new statewide baseline code is expected, and these programs will need to continue to push the market in future program years. Residential upstream and midstream programs have grown in utility portfolios and are given a *high* evaluation priority in PY2023 to update process and NTG information. In addition, high-impact measures (i.e., *air conditioners* and *heat pumps*) delivered through midstream programs may also be included in the PY2023 consumption analysis.

Upstream, Midstream and Pilot MTPS. Upstream and midstream programs are a growing part of utility portfolio and are designated a *high* priority in 2023. The evaluation activities to be conducted include in-depth interviews, benchmarking research, possible consumption analyses, or desk reviews for high-impact measures depending on the level of participation in each of these MTP programs. In PY2022, the Strategic Energy Management pilot was a *medium* priority, but due to the complexity of this program and the size of projects, we have designated it as a medium priority again in PY2023. Any other pilot programs in their second or third year of implementation are designated a *medium* priority, and we will provide feedback about whether these pilots are viable options for full programs. All other MTP program types are *low* priorities for evaluation because they are small contributors to portfolio savings, have little uncertainty in savings, have homogenous projects, and have already been designated as a *medium* evaluation priority once in the four-year evaluation cycle.

Cross-Sector. After being designated a *high* priority in PY2022, load management programs are designated a *medium* priority in PY2023 due to their significant contribution to capacity (kW) savings. In PY2023, AC tune-ups and Photovoltaic (PV) programs will be designated as a *low* priority after being designated as a *medium* priority in PY2022.

1.1.1 Summary Tables

The tables below summarize prioritization and EM&V level of effort by program type over the four-year EM&V contract period.

Table 1. Evaluation Prioritization Summary—Commercial Sector

	Program type			
	Commercial SOP	Commercial MTPs, excluding small business	Small business MTPs	Other MTPs, pilots
Percentage of PY2019 savings statewide (kilowatt/kilowatt-hour)	7 percent of statewide demand reductions and 27 percent of statewide energy savings	6 percent of statewide demand reductions and 23 percent of statewide energy savings	1 percent of statewide demand reductions and 3 percent of statewide energy savings	Medium/TBD
PY2020 evaluation priority and activity	High: desk reviews, telephone verification of measures, process and NTG participant survey (delayed due to winter storms), targeted consumption analyses		Low: tracking system review and verification	
PY2021 evaluation priority and activity	High: desk reviews and on-site M&V, targeted consumption analyses, process and NTG participant surveys		Medium: desk reviews and on-site M&V	
PY2022 evaluation priority and activity	Medium: desk reviews and on-site M&V		Low: tracking system review and verification	
PY2023 evaluation priority and activity	Medium: desk reviews, on-site M&V, possible targeted consumption analyses if need identified		Medium: desk reviews and on-site M&V	

Table 2. Evaluation Prioritization Summary—Residential Sector

	Program type		
	Residential SOP	HTR/low-income	New homes MTP
Percentage of PY2019 savings statewide (kilowatt/kilowatt-hour)	8 percent of statewide demand reductions and 10 percent of statewide energy savings	7 percent of statewide demand reductions and 8 percent of statewide energy savings	4 percent of statewide demand reductions and 6 percent of statewide energy savings
PY2020 evaluation priority and activity	Medium: telephone verification on measures, process and NTG participant surveys (delayed due to winter storms)	Low: tracking system review	Low: tracking system review
PY2021 evaluation priority and activity	High: desk reviews and on-site M&V, targeted consumption analyses of updated measures, residential participant surveys, LI/HTR process improvement		Low: tracking system review and verification

	Program type		
	Residential SOP	HTR/low-income	New homes MTP
PY2022 evaluation priority and activity	Medium: desk reviews and on-site M&V	High: desk reviews and on-site M&V, LI/HTR process improvement interviews	Medium: desk reviews (statewide baseline code change being considered)
PY2023 evaluation priority and activity	High: consumption analyses[1] of updated measures		High: desk reviews, builder and rater interviews

Table 3. Evaluation Prioritization and Summary—Upstream, Midstream, Pilots, Other

	Program type	
	Upstream or midstream MTPs	Other MTPs, pilots
Percentage of PY2019 savings statewide (kilowatt/kilowatt-hour)	6 percent of statewide demand reductions and 16 percent of statewide energy savings	1 percent of statewide demand reductions and 1 percent of statewide energy savings
PY2020 evaluation priority and activity	Low: tracking system review	Low or medium/TBD
PY2021 evaluation priority and activity	Low: tracking system review	Low or medium/TBD
PY2022 evaluation priority and activity	Low: tracking system review	Low or medium/TBD
PY2023 evaluation priority and activity	High: in-depth interviews, benchmarking research, possible consumption analyses or desk reviews for high-impact measures	Low or medium/TBD – Oncor Strategic Energy Management pilot, expansion of the Food Service pilot, and smart thermostats will be a medium priority.

Table 4. Evaluation Prioritization and Summary—Load Management and Cross-Sector

	Program type		
	Load management programs (residential and nonresidential)	AC tune-ups (residential and nonresidential)	Photovoltaic (PV)
Percentage of PY2019 savings statewide (kilowatt/kilowatt-hour)	60 percent of statewide demand reductions and <1 percent of statewide energy savings	2 percent of statewide demand reductions and 3 percent of statewide energy savings	<1 percent of statewide demand reductions and 2 percent of statewide energy savings
PY2020 evaluation priority and activity	Medium: census interval meter-data analysis	Low: tracking system review and verification	Medium: review of M&V calculations

[1] The residential consumption analyses will include utilities with interval meter data given the importance of measuring kilowatt impacts. However, utilities that do not have interval meter data may be included in PY2023 if both the utility and PUCT staff determine there is sufficient value in doing so.

	Program type		
	Load management programs (residential and nonresidential)	AC tune-ups (residential and nonresidential)	Photovoltaic (PV)
PY2021 evaluation priority and activity	Medium: census interval meter-data analysis	Low: tracking system review and verification	Low: tracking system review
PY2022 evaluation priority and activity	High: census interval meter-data analysis, aggregator interviews, participant surveys (70 residential and 70 commercial)	Medium: census review of M&V data and desk reviews	Medium: review of M&V data and desk reviews (PV storage change)
PY2023 evaluation priority and activity	Medium: census interval meter-data analysis for commercial and residential with AMI data	Low: tracking system review and verification	Low: tracking system review

*Table 1 through Table 4 may not sum to 100 percent due to rounding.

Below we briefly describe the major research activities listed in the tables above.

Tracking system verification provides an independent third-party review of claimed savings; it assesses the accuracy of the data for all claimed savings in utilities' annual Energy Efficiency Plans and Reports (EEPR). This verification includes a high-level review of residential 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 are in the tracking systems for commercial programs; therefore, a sample of projects must be selected, and desk reviews performed to verify commercial savings.

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.

Consumption analyses of the utilities with interval meter data will be conducted for select commercial end-uses and business types and the RSOPs, HTR programs, and LI programs. 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 commerciaload management programs and ERCOT residential load management 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.

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, 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 EM&V DATABASE

The EM&V team updates the statewide EM&V database program tracking data through the data request process and secure retrieval system discussed below. 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.

2.1.1 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.

2.1.2 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, 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.

2.1.3 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.

2.2 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.

Program year (PY) 2023 (PY2023) impact evaluation activities will include a combination of tracking system reviews, desk reviews, on-site measurement and verification (M&V), consumption analyses, and interval meter data analyses. When determining the appropriate activities to be completed by program and measure type, the EM&V team considers key factors such as contribution toward savings and level of savings uncertainty. Specific sampling strategies for PY2023 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 with applying best research practices to address potential biases, some

uncertainty will remain; the Annual EM&V Portfolio 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.

2.2.1 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.
- **Desk reviews.** The EM&V team will review a sample of applications entered into the 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) verify installation and operation of the equipment/systems and (2) 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 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 commercial 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. Residential programs with AMI data with also use this approach.
- **Benchmarking research.** Tetra Tech will conduct benchmarking research for net-to-gross ratios for similar upstream measures as offered through the Texas IOU programs.

2.3 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
Administrative and research and development (R&D) costs	Program/portfolio	EEPRs
EM&V costs	Program/portfolio	EM&V team budgets
Performance bonus[2]	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

[2] Performance bonuses as an input into cost-effectiveness testing came into effect in 2012.

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,[3] 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.

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 PY2023, process issues will include timing of savings progress toward program goals, retail electric provider (REP) participation in the programs[4], customer segment analysis, program coordination with federal and other funding sources, support for a potential future energy efficiency rulemaking if needed, and other process items identified throughout the program year.

[3] Program categories are currently defined as *nonresidential*, *residential*, *low-income*, *load management*, and *pilot*.

[4] The planned process activities will update the REP research conducted in 2015 as part of the PY2014 EM&V scope.

2.6 REPORTING AND DELIVERABLES

There are two EM&V report deliverables per program year: (1) Interim Impact Evaluation Reports; and (2) the Annual Statewide Energy Efficiency Portfolio 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 Statewide Energy Efficiency Portfolio 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 Statewide Energy Efficiency Portfolio Report.

The Annual Statewide Energy Efficiency Portfolio 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;
- DRPs detailing sampling strategies for data collection activities (discussed in detail in Section 2.2);
- 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
- the EM&V database.

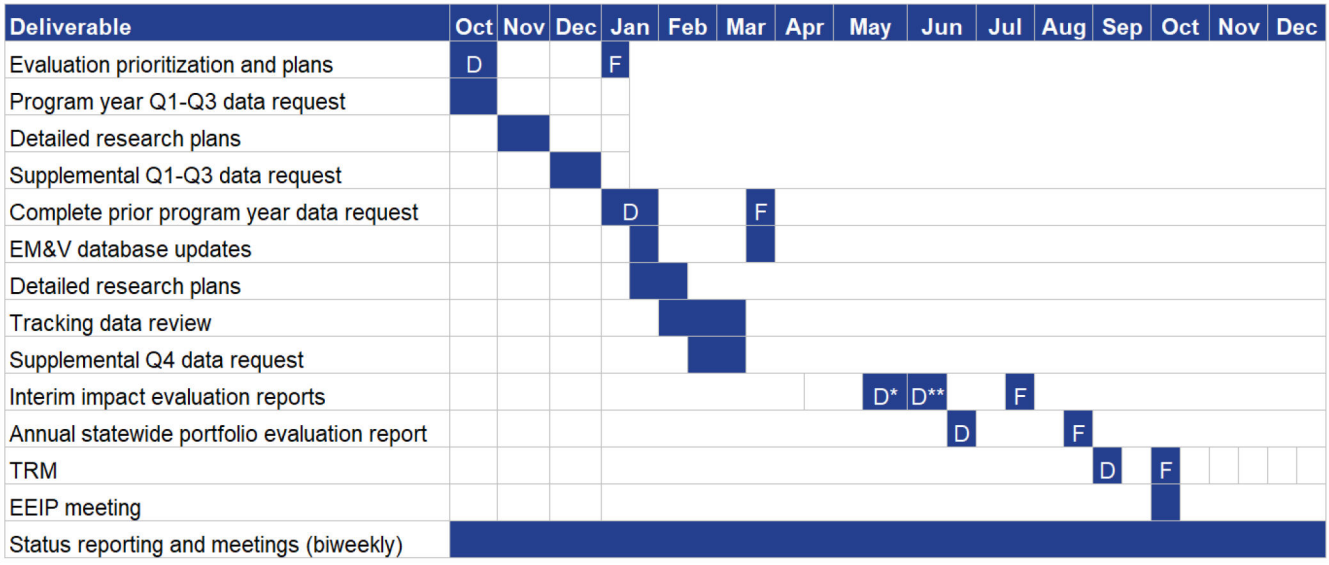
2.7 EM&V TIMELINE

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 data requests and evaluation planning deliverables (DRPs and SDRs) ensure 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 Statewide Energy Efficiency Portfolio Report. The Annual Statewide Energy Efficiency Portfolio Report will be distributed to utilities and discussed prior to an EEIP presentation of findings and recommendations. The timeline includes a minimum of four weeks between draft and final deliverables to allow (1) two weeks for the utility review of deliverables and (2) two weeks for the EM&V team to revise deliverables based on feedback they receive (except for the DRPs, which necessitate a one-week review period).

Figure 1 shows the typical annual timeline for EM&V activities and TRM updates for PY2020–PY2023. For PY2023, the EM&V team will be working to provide impact results sooner so final claimed savings numbers are fully agreed to two weeks prior to EECRF filings.

Figure 1. Annual Evaluation, Measurement, and Verification Timeline



D=Draft, F=Final, *non-ERCOT utilities, **ERCOT utilities

3.0 AEP TEXAS

This section addresses the energy efficiency and load management portfolio for AEP Texas. The overall portfolio 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. PY2023 Projected Demand and Energy Savings—AEP Texas

Program category	Program name	Program type	PY2023 demand savings (kW)	Percentage of total portfolio (demand)	PY2023 energy savings (kWh)	Percentage of total portfolio (energy)
Commercial MTP	Commercial Foodservice Pilot MTP	Commercial MTP	25	0	166,479	0
Commercial MTP	Commercial Solutions MTP	Commercial Solutions MTP	1,664	3	7,458,262	10
Commercial MTP	CoolSaver A/C Tune-Up MTP	A/C Programs (Distributor and CoolSaver AC Tune-up) MTP	3,466	6	8,047,475	10
Commercial MTP	Open MTP	Small Business Direct Install (DI)	1,215	2	5,234,159	7
Commercial MTP	SCORE/CitySmart MTP	CitySmart /SCORE/Government MTP	2,463	4	8,259,385	11
Commercial MTP	SMART Source Solar PV MTP	PV Solar MTP/SMART SOURCE PV MTP	269	0	903,022	1
Commercial SOP	Commercial SOP	Commercial SOP	3,133	4	16,316,893	21
Commercial SOP	Winter Load Management SOP	Commercial SOP	12,768	21	12,768	0
LI/HTR SOP	Hard-to-Reach (HTR) SOP	HTR SOP	1,408	2	5,065,642	7
LI/HTR SOP	Targeted Low-Income Energy Efficiency Program	Low-Income/HTR Weatherization Programs	840	1	1,532,434	2
Load Management	Load Management SOP	Load Management SOP	26,308	43	26,308	0

Program category	Program name	Program type	PY2023 demand savings (kW)	Percentage of total portfolio (demand)	PY2023 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	8
Residential MTP	High-Performance New Homes MTP	New Home Construction MTP	2,215	4	3,703,316	5
Residential MTP	SMART Source Solar PV MTP	PV Solar MTP/SMART SOURCE PV MTP	759	1	2,484,661	3
Residential SOP	Residential SOP	Residential SOP	2,804	5	11,225,539	15

Next, we present two summary tables for each program in the 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. Financial incentives are provided for eligible energy efficiency measures 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	2023
Evaluation priority	The Commercial Solutions MTP is a *medium* priority in PY2023. The majority of savings are from deemed measures.	Medium

Commercial Solutions MTP	Description	2023
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.	6
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	3

3.2.2 SCORE/CitySmart Market Transformation Program

Table 9. Texas SCORE/CitySmart Market Transformation Program Summary

Texas SCORE/CitySmart MTP	Summary
Program description	The SCORE/CitySmart MTP helps educational facilities (public and private schools K–12 and higher education) and local government institutions lower their energy use by educating and assisting in integrating energy efficiency into their short- and long-term planning, budgeting and operational practices. This program provides assistance in areas such as energy master planning workshops; energy performance benchmarking; and identifying, assessing, and implementing energy efficiency measures. Energy efficiency improvements include capital-intensive projects and implementing operational and maintenance practices and procedures. Financial incentives are provided for energy efficiency measures that reduce peak electricity demand.
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

Texas SCORE/CitySmart 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;
	  ○ 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 10 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 10. Texas SCORE/CitySmart Market Transformation Program EM&V Plan

SCORE/CitySmart MTP	Description	2023
Evaluation priority	The Texas SCORE/CitySmart MTP is a *medium* priority in PY2023. The majority of savings are from deemed measures.	Medium

SCORE/CitySmart MTP	Description	2023
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.	6
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	3

3.2.3 Open Market Transformation Program

Table 11. Open Market Transformation Program Summary

Open MTP	Summary
Program description	The Open MTP targets traditionally underserved small commercial customers who (1) may not employ knowledgeable personnel with a focus on energy reduction, (2) are limited in the ability to implement energy efficiency measures, or (3) typically do not actively seek the help of professional EESPs. Financial incentives are provided directly to the contractor, thereby reducing a portion of the project cost for the customer. Small commercial customers whose peak demand is less than or equal to 150 kW may qualify for $650/peak kW reduced and up to 80 percent of the cost of their project(s).
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

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

Table 12. Open Market Transformation Program EM&V Plan

Open MTP	Description	2023
Evaluation priority	The Open Market Transformation program is a *medium* priority in PY2023. The majority of savings are from deemed measures.	Medium
Key researchable issues	• What are the challenges and opportunities to serve this hard-to-reach business sector?	

Open MTP	Description	2023
	• 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.	8
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	4

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 provides new construction and retrofit installation incentives for a wide range of measures that reduce demand and save energy in nonresidential facilities. Installed measures must have the potential to reduce energy consumption or summer or winter peak demand that results in at least $500 in energy efficiency incentives. Incentives are paid to energy efficiency service providers (i.e., project sponsors) based on deemed savings or verified demand and energy savings at eligible commercial customers' facilities. The utility has a limited group of participating project sponsors determined through a selection process based on meeting minimum eligibility criteria such as compliance with all program rules and procedures, submission of documentation describing their projects, and entering into a Standard Agreement with the investor-owned utility (IOU).

Commercial SOP	Summary
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	2023
Evaluation priority	The Commercial SOP is a *medium* priority in PY2023. 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 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.	8
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	4

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 commercial Load Management targets non-residential 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, 2022, through September 30, 2022, from 1 pm through 7 pm, excluding weekends and federal holidays. Program participants include non-residential customers and Market Actors, including national or local energy efficiency service providers, commercial aggregation groups, and retail electric providers (REPS). Load curtailment events are dispatched by AEP Texas to the program participants providing a 30-minute advance notification and will have a one-to-four-hour duration. Incentive payments are based on the average measured and verified demand reduction during the program 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, retail electric providers (REP), or individual customers that identify interruptible load in their own facilities.

Implementation and delivery	• Implementers: 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	2023
Evaluation priority	The load management program is a *medium* priority in PY2023.	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 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 non-residential 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, 2022, through February 28, 2023, 24 hours a day, seven days a week. Program participants include non-residential customers and Market Actors, including national or local energy efficiency service providers, commercial aggregation groups, and retail electric providers (REPS). Load curtailment events are dispatched by AEP Texas to the program participants providing a 30-minute advance notification and will have a one-to-four hour duration. 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, retail electric providers (REP), or individual customers that identify interruptible load in their own facilities.

Winter Load Management SOP	Summary
Implementation and delivery	• Implementers: 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 16 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	2023
Evaluation priority	The load management program is a *medium* priority in PY2023.	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 High-Performance New Homes MTP targets several market participants, primarily home builders and consumers. The program's goal is to create conditions in which consumers demand ENERGY STAR®-certified homes and home builders supply them. Incentives are paid to home builders who construct homes in the AEP Texas service territory to strict energy-efficient building guidelines and are at least 15 percent above the state building code. The program offers a bonus incentive for homes that are ENERGY STAR-certified. Each home results in verifiable demand and energy savings.
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;
	  ○ 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

High-Performance New Homes MTP	Summary
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	• 5 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	2023
Evaluation priority	The program is receiving a *high* evaluation priority in PY2023 due to the PY2022 impact evaluation results.	High
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?	
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
	Desk reviews: For a sample of homes, review the energy model inputs, savings claims, and supporting documentation.	5
	Process Surveys: Interviews will be completed with builders and raters.	3

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 pays project sponsors for certain measures to be installed in primarily retrofit applications. The utility has a limited group of participating project sponsors, determined through a selection process based on an application process, including customer feedback.
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
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	2023
Evaluation priority	This program has a *high* priority for PY2023 as the program has recently responded to TRM updates.	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 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
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2023 consumption analysis will help all stakeholders better understand the savings from measures installed through this program and inform prospective updates to the TRM for PY2025.	Census

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 pays project sponsors for certain measures to be installed in primarily retrofit applications, specifically for customers with (1) total annual household incomes at or below 200 percent of the federal poverty level or (2) designated as HTR through another PUCT-approved verification methodology (e.g., Section 8 housing). The utility has a limited group of participating project sponsors determined through a selection process based on an application process, including customer feedback. Along with retrofit opportunities, the program encourages energy-saving education.
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

Hard-to-Reach SOP	Summary
Marketing strategies and project sponsors	• Marketing strategies: AEP Texas plans to market the availability of this program in the following manner: ○ utilize mass email notifications to enroll and keep potential project sponsors interested and informed; ○ 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; ○ conduct workshops to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process; ○ 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 program design • Rebates/incentives: Provided to 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	2023
Evaluation priority	This program has a *high* priority for PY2023 as the program has recently responded to TRM updates as well as a new low-income and hard-to-reach protocol.	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?	
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

	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2023 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 PY2025.	Census

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 provides weatherization and energy-efficient measures to residential customers who meet the Department of Energy's (DOE) Weatherization Assistance program income-eligibility guidelines and cost-effectiveness criteria (savings-to-investment ratio). The utility contracts with implementers to conduct outreach, participant targeting, and program delivery, including home audits and installations.
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
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 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 > 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	2023
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 *high* for PY2023 as the program has recently responded to TRM updates.	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?	
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
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2023 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 PY2025.	Census

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 CoolSaver℠ A/C Tune-Up Market Transformation Program

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

CoolSaver℠ A/C Tune-Up MTP	Summary
Program description	The CoolSaver℠ A/C Tune-Up MTP is designed to overcome market barriers that prevent residential and commercial customers from receiving high-performance A/C system tune-ups. The program works through local A/C distributor networks to offer key program components, including: • training and certifying A/C technicians on the tune-up and airflow correction services and protocols; and • paying incentives to A/C contactors for successfully implementing A/C tune-up and airflow correction services. Contractors that wish to participate enter into a contractor partnering agreement that specifies the program requirements. Contractors are trained on the A/C tune-up process and provided incentives and discounts on the cost of field equipment designed to diagnose and quantify energy savings opportunities. Contractors can receive up to $150 for residential and up to $350 for commercial tune-ups (with additional funds available for other services such as A/C system replacement). Energy savings are captured through the correction of A/C system inefficiencies identified during the tune-up activities.
Target markets	• Market segments: Residential and commercial customers, HVAC contractors • Eligibility criteria: Equipment eligible for tune-ups include 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℠ A/C Tune-Up MTP in the following manner: ○ contracts with CLEAResult to conduct outreach and planning activities; ○ targets commercial A/C contractors that service customers served by AEP Texas; ○ 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; ○ 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 ○ 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
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

CoolSaver℠ A/C Tune-Up MTP	Summary
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 (Residential) Market Transformation Program EM&V Plan

CoolSaver℠ A/C Tune-Up MTP	Description	2023
Evaluation priority	The CoolSaver℠ A/C Tune-Up MTP (residential) represents a small portion of the portfolio's current energy use and demand savings; however, it is increasing annually. The program is set to a *medium* priority for PY2023.	Medium
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?	
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.	4

Table 29. CoolSaver℠ A/C Tune-Up (Commercial) Market Transformation Program EM&V Plan

CoolSaver℠ A/C Tune-Up MTP	Description	2023
Evaluation priority	The CoolSaver℠ A/C Tune-Up MTP (commercial) is set to a *low* priority for PY2023.	Low

CoolSaver℠ A/C Tune-Up MTP	Description	2023
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 program goals established appropriately, and will they be met?	
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

3.8.2 SMART Source Solar Photovoltaic Market Transformation Program

Table 30. SMART Source Solar Photovoltaic Market Transformation Program Summary

SMART Source Solar PV MTP	Summary
Program description	The SMART Source Solar PV MTP offers financial incentives for installing eligible distributed solar energy-generating equipment on the premises of customers served by AEP Texas and SWEPCO. These programs are available to utility customers, including residential customers, businesses, and schools. The utility has a limited group of service providers determined through a selection process based on meeting minimum eligibility criteria, complying with all program rules and procedures, and submitting documentation describing their projects.
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, provides 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.

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

SMART Source Solar PV MTP	Summary
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 31 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 31. SMART Source Solar Photovoltaic Market Transformation Program EM&V Plan

SMART Source Solar PV MTP	Description	2023
Evaluation priority	The SMART Solar PV MTP is set to a *low* priority for PY2023.	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

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. Note that this table may need program information updates as it is not included in CenterPoint's EEPR's Appendix B Program Templates.

3.9.1 Foodservice Pilot Market Transformation Program

Table 32. Foodservice Pilot Market Transformation Program Summary

Foodservice Pilot MTP	Summary
Program description	The Foodservice 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 engages 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

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

Table 33. FoodService Pilot Market Transformation Program EM&V Plan

Foodservice Pilot MTP	Description	2023
Evaluation priority	The Foodservice Pilot MTP is set to a *medium* priority for PY2023. 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?	

Foodservice Pilot MTP	Description	2023
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
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	1

4.0 CENTERPOINT ENERGY

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

4.1 PORTFOLIO OVERVIEW

Table 34 shows the projected energy and demand savings for the CenterPoint Energy programs for PY2023.

Table 34. PY2023 Projected Demand and Energy Savings—CenterPoint Energy

Program category	Program name	Program type	PY2023 demand savings (kW)	Percentage of total portfolio (demand)	PY2023 energy savings (kWh)	Percentage of total portfolio (energy)
Commercial MTP	Commercial High Efficiency Foodservice MTP	Commercial Food Service	500	0	4,300,000	2
Commercial MTP	Commercial MTP (SCORE, Healthcare, Data Center)	SCORE/Healthcare /Data Center MTP	7,500	4	48,500,000	21
Commercial MTP	Retro-Commissioning MTP	Retro-commissioning MTP	1,350	1	7,090,000	3
Commercial SOP	Commercial SOP	Commercial SOP	13,200	7	70,000,000	31
Commercial Load Management	Winter Load Management Pilot Program	Commercial Load Management	15,000	7	90,000	0
Commercial MTP	Retail Products and Services MTP	Commercial MTP	1,225	1	4,000,000	2
LI/HTR MTP	Multi-Family MTP Hard-to-Reach	Water and Space Heating, Direct Install (DI)	275	0	1,500,000	1
LI/HTR MTP	Targeted Low Income MTP (Agencies in Action)	Low-Income Weatherization MTP	5,000	2	8,000,000	4

Program category	Program name	Program type	PY2023 demand savings (kW)	Percentage of total portfolio (demand)	PY2023 energy savings (kWh)	Percentage of total portfolio (energy)
LI/HTR SOP	Hard-to-Reach (HTR) SOP	HTR SOP	875	0	1,000,000	0
Load Management	Commercial Load Management SOP	Load Management SOP	110,000	55	660,000	0
Load Management	Residential Load Management SOP	Load Management SOP	22,000	11	66,000	0
Residential MTP	CenterPoint Energy High Efficiency Home MTP	ENERGY STAR New Homes MTP	9,422	5	25,000,000	11
Residential MTP	Midstream MTP (HVAC and Pool Pump Distributor)	Midstream (HVAC and Pool Pump Distributor) MTP	3,500	2	9,855,000	4
Residential MTP	Multi-Family MTP Market Rate	MF Water and Space Heating and MF New Construction MTP	2,500	1	5,600,000	2
Residential MTP	Retail Products and Services MTP	Residential MTP	7,550	4	40,665,000	18
Residential SOP	Residential & Small Commercial Standard Offer Program	Residential SOP	535	0	1,400,000	1

Next, we present two summary tables for each program in the 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, 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 Solutions Market Transformation Program

Table 35. Commercial Solutions Market Transformation Program Summary

Commercial MTP	Summary
Program description	The Commercial Solutions MTP includes the SCORE/CitySmart MTP, the Healthcare Energy Efficiency Program (HEEP), and the Data Center Energy Efficiency Program (DCEEP). The program's Score/CitySmart MTP segment will continue to assist K–12, higher education, city, county, and state governmental agencies to identify, assess, and implement energy efficiency measures. Energy efficiency improvements include capital-intensive projects and implementing operational and maintenance practices and procedures. The segment also includes SCORE MTP Lite, which provides higher incentives to those school districts that do not require the implementer's technical assistance or engineering analysis. Financial incentives are provided for energy efficiency measures that reduce peak electricity demand. The HEEP component will focus on engaging the healthcare market at small and medium healthcare facilities. Engagement includes technical assistance to help healthcare providers identify energy efficiency opportunities in existing and newly planned facilities. The DCEEP component will focus on engaging commercial customers that have a dedicated data center, server room, or server closets for specialized IT-related equipment (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: ○ contract with a third-party program implementer to implement outreach and planning activities; ○ participate in appropriate industry-related meetings and events to generate awareness and interest; ○ participate in service area-wide outreach activities as may be available; and ○ conduct workshops as necessary to explain elements such as responsibilities of the program requirements, incentive information, and the application and reporting process. • Project sponsors: N/A
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.

Commercial MTP	Summary
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 36 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 36. Commercial Market Transformation Program EM&V Plan

Commercial MTP	Description	2023
Evaluation priority	The Commercial MTP is a *medium* priority in PY2023. The majority of savings are from deemed measures with some custom 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.	20
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	10

4.2.2 Retro-Commissioning Market Transformation Program

Table 37. Retro-Commissioning Market Transformation Program Summary

Retro-Commissioning MTP	Summary
Program description	The Retro-Commissioning (RCx) MTP offers commercial customers the opportunity to make operational performance improvements in their facilities based on low-cost/no-cost measures identified by engineering analysis. Facilities are provided with a free expert analysis; facility owners must implement all of the identified measures with a simple payback of less than 1.5 years (up to $3,000) or pay toward the cost of the analysis. Customers will no longer receive project incentives. Instead, RCx agents will be paid based on the square footage of the project and the amount of energy savings at the completion of two phases: the investigation phase and the verification phase.
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:
	  ○ contract with a third-party program implementer;
	  ○ maintain a website with detailed project eligibility, procedures, and application forms;
	  ○ participate in appropriate industry-related meetings and events to generate awareness and interest;
	  ○ participate in service area-wide outreach activities as may be available;
	  ○ conduct workshops as necessary to explain elements such as the responsibilities of the project sponsor and RCx agents, project requirements, incentive information, and the application and reporting process
	• Project sponsors: Third-party RCx agents

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

Table 38. Retro-Commissioning Market Transformation Program EM&V Plan

Retro-Commissioning MTP	Description	2023
Evaluation priority	The Retro-Commissioning MTP is a *medium* priority in PY2023. The majority of savings are from custom project implementation.	Medium
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
	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
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	2

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 39. 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

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 non-residential electricity distribution service provided by CenterPoint Energy is eligible to participate in the Commercial SOP as a project sponsor.

Commercial SOP	Summary
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, ▪ 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 40 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 40. Commercial Standard Offer Program EM&V Plan

Commercial SOP	Description	2023
Evaluation priority	The Commercial SOP is a *medium* priority in PY2023. 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.	18
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	9

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 41. Commercial Load Management Standard Offer Program Summary

Commercial Load Management SOP	Summary
Program description	The Commercial Load Management SOP is available to non-residential distribution customers and 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 and be able to curtail a minimum of 100 kW to be eligible.

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, REPs, or individual customers that identify interruptible load in their own facilities
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 42 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 42. Commercial Load Management Standard Offer Program EM&V Plan

Commercial Load Management SOP	Description	2023
Evaluation priority	The load management program is a *medium* priority in PY2023.	Medium
Key researchable issues	• Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable?	

Commercial Load Management SOP	Description	2023
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 provides a comparison to similar-condition non-interrupt baseline days to validate impact estimates.	Census

4.4.2 Residential Load Management Standard Offer Program

Table 43. Residential Load Management Standard Offer Program Summary

Residential Load Management SOP	Summary
Program description	CenterPoint Energy's 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. Events may last from one to four hours and may be initiated Monday through Friday between the hours of 1:00 pm and 7:00 pm, excluding federal holidays. The program begins on June 1 and ends on September 30.
Target markets	• The program targets residential homes with central air conditioning.
Marketing strategies and project sponsors	• Third-party vendors will implement outreach and planning activities.
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 44 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 44. Residential Load Management Standard Offer Program EM&V Plan

Residential Load Management SOP	Description	2023
Evaluation priority	The load management program is a *medium* priority in PY2023.	Medium
Key researchable issues	• Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable?	

Residential Load Management SOP	Description	2023
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 provides 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 Multifamily Market Transformation Program

Table 45. Multifamily Market Transformation Program Summary

Multifamily MTP	Summary
Program description	The Multifamily MTP[5] includes three programs that address energy efficiency opportunities within the multifamily market segment: • The Multifamily Water and Space Heating program provides incentives to multifamily project developers who agree to facilitate the installation of energy-efficient non-electric water and space heating systems in both market-rate and affordable-rate family housing developments. The program includes boiler systems, individual gas water- and space-heating units, and combination gas water heating and space heating systems. • The Multifamily ENERGY STAR® program was implemented in conjunction with the Multifamily Water and Space Heating program. Participating developers are selected through an application process, and qualifying new multifamily homes must be built to ENERGY STAR Version 3.0 Standards. Developers will be given the option to be incentivized to build high-performance multifamily developments. These developers will be offered a performance bonus for building above the current energy code. • The Multifamily Direct Install program offers property owners and managers a free visual audit of existing units to see if the property is eligible for energy-efficient direct install measures. Measures may include CFLs/LEDs, water savings measures (faucet aerator, low-flow showerhead), water heater tank wrap, and water heater pipe insulation. If eligible, these measures will be installed at no cost to the resident. In addition, a tenant education packet will be left in the unit explaining the benefits of energy efficiency and tips on how to save energy. This program is only available to properties that have tenants whose annual total household income is less than 200 percent of the current federal poverty guidelines.

[5] This section also serves the LI/HTR sector

Multifamily MTP	Summary
Target markets	• Market segments: Multifamily housing; HTR customers are also served through this program • 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
Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy plans to market the availability of this program in the following manner: o utilizes mass email notifications to potential project sponsors and developers to inform them of the program start date and informational meetings; o participate in appropriate industry-related meetings and events to generate awareness and interest; o 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; o contract with a third-party program implementer to implement outreach and planning activities for the Multifamily ENERGY STAR and the Multifamily Direct Install programs; and o provide point-of-purchase materials, including yard signs, door mats, and brochures, free to participating builders for the Multifamily ENERGY STAR and the Multifamily Direct Install programs. • 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 are available but different for market-rate (residential) and affordable (hard-to-reach) sites. 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 and affordable-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 46 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 46. Multifamily Market Transformation Program EM&V Plan

Multifamily MTP	Description	2023
Evaluation priority	The Multifamily MTP represents a small portion of the portfolio's current energy use and demand savings and will receive a *high* priority in PY2023.	High
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.	16
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	8

4.5.2 High-Efficiency Homes Market Transformation Program

Table 47. High Efficiency Homes Market Transformation Program Summary

High-Efficiency Homes MTP	Summary
Program description	The High-Efficiency Homes MTP is supported by training, education, and advertising components that encourage builders to build energy-efficient homes that are better than code. The builders are selected through an application process, qualifying homes must be built to ENERGY STAR requirements, and raters are to follow the Residential Energy Services Network (RESNET) standards. The program structure changed in 2018 from previous years. Incentives are separated into several tiers of home: base, prescriptive, and high-performance. An additional incentive will be offered to those builders who build ENERGY STAR-certified homes or install ENERGY STAR smart thermostats. The program will require the builder to submit a home's permit date to distinguish which code standards the home should be built to and an upload of the Fuel Summary Report (REM/Rate) or utility rebate submission package (Ekotrope) documenting the program home characteristics and savings.

High-Efficiency Homes MTP	Summary

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

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

Table 48. High-Efficiency Homes MTP EM&V Plan

High-Efficiency Homes MTP	Description	2023
Evaluation priority	The High-Efficiency Homes MTP represents a moderate portion of the portfolio's current and future energy use and demand savings.	High
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? • To what degree is the program encouraging adopting energy-efficient technologies that would otherwise not have taken place?	

High-Efficiency Homes MTP	Description	2023
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 homes, review the energy model inputs, savings claims, and supporting documentation.	10
	Process Surveys: Interviews will be completed with builders and raters.	5

4.5.3 Residential Pool Pump & A/C Distributor Market Transformation Program

Table 49. Residential Pool Pump and A/C Distributor MTP Summary

Residential Pool Pump and A/C Distributor MTP	Summary
Program description	The Residential Pool Pump and A/C Distributor MTP provide incentives to pool pump and air conditioner distributors participating in the program.
Target markets	• Market segments: Single-family and multifamily properties • Application: Retrofit
Marketing strategies and project sponsors	• Marketing strategies: CenterPoint Energy plans to market the availability of this program in the following manner: ○ 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 50 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 50. Residential Pool Pump and A/C Distributor MTP EM&V Plan

Residential Pool Pump and AC Distributor MTP	Description	2023
Evaluation priority	This program has a *high* priority for PY2023	High
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.	8
	Process Surveys: interviews with distributers	3

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 51. Residential and Small Commercial Standard Offer Program Summary

Residential & Small Commercial SOP	Summary
Program description	The Residential SOP pays project sponsors for certain measures to be installed in primarily retrofit applications. The utility has a limited group of participating project sponsors determined through a selection process based on an application process, including customer feedback.
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 internet website with detailed project eligibility, end-use measures, incentive structure, procedures, application forms, and a list of third-party project sponsors;
	  ○ utilizes mass email notifications to potential project sponsors to inform them of the program start date and informational meetings;
	  ○ participates in appropriate industry-related meetings and events to generate awareness and interest; and
	  ○ 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.
	• 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 52 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 52. Residential and Small Commercial Standard Offer Program EM&V Plan

Residential & Small Commercial SOP	Description	2023
Evaluation priority	This program has a *high* priority as the program has recently responded to TRM updates.	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?	

Residential & Small Commercial SOP	Description	2023
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
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2023 consumption analysis will help all stakeholders better understand the savings from measures installed through this program and inform prospective updates to the TRM for PY2025.	Census

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

Table 53. Targeted Low-Income (Agencies in Action) Market Transformation Program Summary

Targeted Low-Income (Agencies in Action) MTP	Summary
Program description	The Agencies in Action MTP provides weatherization and energy-efficiency measures to residential customers who meet the Department of Energy's (DOE) Weatherization Assistance program income-eligibility guidelines and cost-effectiveness criteria (savings-to-investment ratio (SIR)). The utility contracts with a primary implementer who then subcontracts with local nonprofit organizations to deliver the program, conduct outreach, target participants, and program implementation, including home audits and installations.
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
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 54 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 54. Targeted Low-Income (Agencies in Action) Market Transformation Program EM&V Plan

Targeted Low-Income (Agencies in Action) MTP	Description	2023
Evaluation priority	CenterPoint Energy's Agencies in Action MTP is prioritized as a *high* priority in PY2023.	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?	
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
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2023 consumption analysis will help all stakeholders better understand the savings from measures installed through this program and inform prospective updates to the TRM for PY2025.	Census

4.7.2 Hard-to-Reach Standard Offer Program

Table 55. Hard-to-Reach Standard Offer Program Summary

Hard-to-Reach SOP	Summary
Program description	The Hard-to-Reach SOP[6] pays project sponsors for certain measures to be installed in primarily retrofit applications, specifically for customers with total annual household incomes at or below 200 percent of the federal poverty level. The utility has a limited group of participating project sponsors determined through a selection process based on an application process, including customer feedback. Along with retrofit opportunities, the program encourages energy-saving education.
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;
	  ○ utilize mass email notifications to potential project sponsors to inform them of the program start date and informational meetings;
	  ○ participate in appropriate industry-related meetings and events to generate awareness and interest;
	  ○ participate in state-wide outreach activities as may be available; 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 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 Veresion 3.0 Standards • Technical assistance: At the discretion of the project sponsor, not part of program design • Rebates/incentives: Provided to 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

[6] This program also includes an Affordable Single-Family New Construction component, available for HTR incentives.

Table 56 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 56. Hard-to-Reach Standard Offer Program EM&V Plan

Hard-to-Reach SOP	Description	2023
Evaluation priority	Given the updates in savings for key measure offerings in PY2023, this program has a *high* priority for PY2023 as it will be prioritized for in-depth impact assessment in PY2023.	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 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
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2023 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 PY2025.	Census

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 57. 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: • Retail Electric Provider (REP) MTP • Smart Thermostat Program • Advanced Retail Products Program (Previously the Advanced Lighting MTP) Historically, each of these programs has offered energy-efficient products to customers via online coupons or point-of-purchase discounts. CenterPoint Houston is continuing to provide these opportunities for customers, but because each program had similar delivery models and customer outreach strategies. To improve program efficiencies, the Company is streamlining its 2023 energy efficiency portfolio by combining these programs under the Retail Products and Services Program umbrella. Components of the Retail Products and Services Program include: **Retail Electric Provider (REP) component:** The Retail Electric Provider (REP) component offers energy-saving products and services to end-use residential and/or commercial customers through Retail Electric Providers. Participating REPs market energy-saving measures and services to their

Retail Products and Services MTP	Summary
	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. • 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®8 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
Marketing strategies and project sponsors	**Retail Electric Provider (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	**Retail Electric Provider (REP) component:** The Retail Electric Provider **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.

Retail Products and Services MTP	Summary
Measures/products, services, offerings	**Retail Electric Provider (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
QA/QC	**Retail Electric Provider (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 58 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 58. Retail Products and Services Market Transformation Program EM&V Plan

Retail Products and Services MTP	Description	2023
Evaluation priority	Retail Products and Services Market Transformation Program represents a large portion of the portfolio's current and future energy use and demand savings.	High
Key researchable issues	• How is 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 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?	
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.	4
	On-site M&V: Conduct on-site M&V with a sample of the REP population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	2
	Process surveys: REP interviews	5

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 59. Winter Load Management Pilot Program Summary

Winter Load Management Pilot Program	Summary
Program description	Historically, load management programs implemented through CenterPoint Houston's energy efficiency program portfolio (such as the Commercial Load

Winter Load Management Pilot Program	Summary
	Management Program) have targeted the summer peak period to deliver demand reduction. The Winter Load Management Pilot Program expands the Company's ability to respond to grid emergencies by providing load shed capability twenty-four hours per day, seven days per week, from December - February. The program is available to non-residential distribution customers and 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.

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

Table 60. Winter Load Management Pilot Program EM&V Plan

Winter Load Management Pilot Program	Description	2023
Evaluation priority	The load management program is a *medium* priority in PY2023.	Medium
Key researchable issues	• Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable?	

Winter Load Management Pilot Program	Description	2023
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 provides a comparison to similar-condition non-interrupt baseline days to validate impact estimates.	Census

4.9.2 Commercial High-Efficiency Foodservice (Pilot)

Table 61. Commercial High-Efficiency Foodservice (Pilot) Program Summary

Commercial High-Efficiency Foodservice (Pilot)	Summary
Program description	CenterPoint is implementing the Commercial High-Efficiency Foodservice (CHEF) pilot, a midstream MTP designed to influence and incentivize the adoption of energy-efficient commercial kitchen equipment measures. The CHEF program connects eligible businesses with participating distributors who can offer an incentive for qualified ENERGY STAR-rated appliances at the point of sale.
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 non-residential meter in CenterPoint Energy's electric service territory. • Applications: Retrofit or new construction
Marketing strategies and project sponsors	Marketing strategies: TRC Companies (implementer) plans to market the availability of this program in the following manner: ○ 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: 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 62 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 62. Commercial High-Efficiency Foodservice (Pilot) Program EM&V Plan

Commercial High-Efficiency Foodservice (Pilot)	Description	2023
Evaluation priority	The commercial High-Efficiency Foodservice (pilot) program is a *medium* priority in PY2023. 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?	
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.	6
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	3

5.0 EL PASO ELECTRIC

This section addresses the energy efficiency and load management portfolio for El Paso Electric. The overall portfolio is summarized below, followed by details for each program in the portfolio.

5.1 PORTFOLIO OVERVIEW

Table 63 shows the projected energy and demand savings for the El Paso Electric programs for PY2023.

Table 63. PY2023 Projected Demand and Energy Savings—El Paso Electric

Program category	Program name	Program type	2023 demand savings (kW)	Percentage of total portfolio (demand)	2023 energy savings (kWh)	Percentage of total portfolio (energy)
Commercial MTP	Large C&I Solutions MTP	Commercial Solutions MTP	2,011	6	10,569,816	39
Commercial MTP	Residential Marketplace Pilot MTP	Pilot Marketplace MTP	50	0	150,000	1
Commercial MTP	Small Commercial Solutions MTP	Small Commercial Solutions MTP	730	2	3,197,400	12
Commercial MTP	Texas SCORE MTP	CitySmart/SCORE/ Government MTP	620	2	3,530,280	13
LI/HTR MTP	Hard-to-Reach(HTR) Solutions MTP	HTR MTP	800	3	1,051,200	4
Load Management	Commercial Load Management SOP	Load Management SOP	7,000	22	21,000	0
Load Management	Residential Load Management MTP	Load Management MTP	10,761	58	852,153	7
Residential MTP	FutureWise MTP	Education Kit High School Programs (FutureWise)	106	0	494,000	2
Residential MTP	LivingWise MTP	Education Kit 6th grade Programs (LivingWise)	200	1	727,600	3

Program category	Program name	Program type	2023 demand savings (kW)	Percentage of total portfolio (demand)	2023 energy savings (kWh)	Percentage of total portfolio (energy)
Residential MTP	Residential Marketplace Pilot MTP	Pilot Marketplace MTP	950	3	2,850,000	11
Residential MTP	Residential Solutions MTP	Residential Solutions MTP	545	2	954,840	4
Residential MTP	Texas Appliance Recycling MTP	Appliance Recycling MTP	195	1	1,579,200	6

Next, we present two summary tables for each program in the portfolio. Each table provides a high-level overview of the applicable programs. The overview is based on a program documentation review 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 Large Commercial and Industrial Solutions Market Transformation Program

Table 64. Large Commercial and Industrial Solutions Market Transformation Program Summary

Large C&I Solutions MTP	Summary
Program description	The Large C&I Solutions MTP offers commercial and industrial customers cash and non-cash incentives for implementing energy efficiency improvements. The program targets commercial customers with a demand of 100 kW or greater. This program also includes technical assistance to help identify and evaluate energy efficiency opportunities and communication support to help publicize community leadership and accomplishments in energy efficiency. Financial incentives are offered for projects that reduce peak energy demand.
Target markets	• Market segments: Commercial and industrial facilities • Eligibility criteria: Commercial facilities ≥100 kW within El Paso Electric's service territory • Applications: Retrofit or new construction projects

Large C&I Solutions MTP	Summary
Marketing strategies and project sponsors	• Marketing strategies: El Paso Electric plans to market the availability of this program in the following manner: ○ Maintain a website with detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, program manuals, and available funding; ○ offer outreach workshops and webinars to explain elements such as the responsibilities of the project sponsors, project requirements, incentive information, and the application and reporting processes; ○ gauge customer and EESP interest in its workshops by participation levels and, if warranted, offer workshops dedicated to specific programs; ○ local companies contacted and projects identified, and the company selects contractors to do the work; ○ utilize mass electronic mail (email and webinar) notifications to keep potential project sponsors interested and informed; ○ participate in statewide outreach activities as may be available; and ○ attend appropriate industry-related meetings to generate awareness and interest. Marketing includes outreach to active contractors, architectural firms, engineering firms, and other building industry players to raise overall energy efficiency practices across the marketplace. • Project sponsors: Utility/contractors
Implementation and delivery	• Implementers: CLEAResult is the third-party implementer
Measures/products, services, offerings	• Measure offerings: HVAC, lighting, roofing, or others (motors, air compressors, cooling towers, data centers, etc.) that may require M&V planning and metering; new construction: HVAC and lighting • Technical assistance: Includes communications support in addition to assistance in the identification and evaluation of 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- and post-inspection conducted by a third-party implementer

Table 65 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 65. Large Commercial and Industrial Solutions Market Transformation Program EM&V Plan

Large C&I Solutions MTP	Description	2023
Evaluation priority	The Large C&I Solutions MTP is a *medium* priority in PY2023. The majority of savings are from deemed measures with some custom measures.	Medium

Large C&I Solutions MTP	Description	2023
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 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.	6
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	3

5.2.2 Texas SCORE Market Transformation Program

Table 66. Texas SCORE Market Transformation Program Summary

Texas SCORE MTP	Summary
Program description	The SCORE program helps public schools, city, county, and state government customers to identify opportunities and implement energy efficiency measures. The program pays financial incentives for installing energy efficiency measures that reduce peak demand and energy use and non-cash incentive tools to identify critical needs and promote best business practices. These tools and services include energy master planning workshops, energy performance benchmarking, and technical assistance to identify/assess/implement energy efficiency measures. Energy efficiency improvements include capital-intensive projects and implementing operational and maintenance practices and procedures.
Target markets	• Market segments: Education and government facilities • Eligibility criteria: Education and government facilities within El Paso Electric's service territory • Applications: Retrofit or new construction projects
Marketing strategies and project sponsors	• Marketing strategies: El Paso Electric plans to market the availability of this program in the following manner: ○ Maintain a website with detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, and program manuals;

Texas SCORE MTP	Summary
Program description	The SCORE program helps public schools, city, county, and state government customers to identify opportunities and implement energy efficiency measures. The program pays financial incentives for installing energy efficiency measures that reduce peak demand and energy use and non-cash incentive tools to identify critical needs and promote best business practices. These tools and services include energy master planning workshops, energy performance benchmarking, and technical assistance to identify/assess/implement energy efficiency measures. Energy efficiency improvements include capital-intensive projects and implementing operational and maintenance practices and procedures.
	○ offers outreach meetings to explain elements such as the responsibilities of the project sponsors, project requirements, incentive information, and the application and reporting processes ○ gauge customer and EESP interest through meetings, and if warranted, offers workshops dedicated to specific programs; ○ utilize mass electronic mail (email and webinar) notifications to keep potential project sponsors interested and informed; ○ participate in state-wide outreach activities as may be available; and ○ attend appropriate industry-related meetings to generate awareness and interest Marketing includes outreach to customers, active contractors, architectural firms, engineering firms, and other building industry players to raise overall energy efficiency practices across the marketplace. • Project sponsors: Utility
Implementation and delivery	• Implementers: CLEAResult is the third-party implementer
Measures/products, services, offerings	• Measure offerings: HVAC, lighting, and roofing, along with M&V-related measures as can be quantifiable via IPMVP measurement options; new construction: HVAC and lighting • Technical assistance: Includes communications support, performance benchmarking, and energy master planning workshops in addition to assistance in the identification of 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- and post-inspection conducted by a third-party implementer

Table 67 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 67. Texas SCORE Market Transformation Program EM&V Plan

SCORE MTP	Description	2023
Evaluation priority	The Texas SCORE MTP is a *medium* priority in PY2023. The majority of savings are from deemed measures with some custom measures.	Medium

SCORE MTP	Description	2023
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 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
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	2

5.2.3 Small Commercial Solutions Market Transformation Program

Table 68. Small Commercial Solutions Market Transformation Program Summary

Small Commercial Solutions MTP	Summary
Program description	The Small Commercial Solutions MTP offers small commercial customers cash and non-cash incentives for implementing energy efficiency improvements. The cash incentives are paid directly to customers—or through participating contractors—for eligible measures installed in new or retrofit applications. The program targets small commercial customers with a demand of less than 100 kW. Financial incentives are provided directly to the customer, thereby reducing a portion of the project cost. The program focuses on improving the energy efficiency of small commercial facilities and the installation practices of participating contractors. The implementer helps the contractors strengthen their ability to identify, evaluate, and sell energy efficiency improvements to small commercial owners and assists consumers in evaluating vendor energy efficiency proposals.
Target markets	• Market segments: Small commercial facilities • Eligibility criteria: Small commercial facilities <100 kW within El Paso Electric's service territory or <250 kW at all facilities • Applications: Retrofit or new construction projects

Small Commercial Solutions MTP	Summary
Marketing strategies and project sponsors	• Marketing strategies: El Paso Electric plans to market the availability of this program in the following manner: ○ Maintain a website with detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, program manuals, and available funding; ○ offer outreach workshops and webinars to explain elements such as the responsibilities of the project sponsors, project requirements, incentive information, and the application and reporting processes; ○ gauge EESP's interest in its workshops by participation levels and, if warranted, offer workshops dedicated to specific programs; ○ utilize mass electronic mail (email and webinar) notifications to keep potential project sponsors interested and informed; ○ participate in statewide outreach activities as may be available; and ○ attends appropriate industry-related meetings to generate awareness and interest. Marketing includes outreach to active contractors, architectural firms, engineering firms, and other building industry players to raise overall energy efficiency practices across the marketplace. • Project sponsors: Utility/contractors
Implementation and delivery	• Implementers: CLEAResult is the third-party implementer
Measures/products, services, offerings	• Measure offerings: Air conditioners, lighting, food service equipment, refrigeration, building envelope, HVAC tune-ups, and roofing; new construction: air conditioning, lighting, and food service equipment • Technical assistance: Provided by contractor/third-party implementer • Rebates/incentives: Provided to contractor/customer • kW (demand savings): up to $400 for every kW saved
QA/QC	• Pre- and post-on-site inspections for 100 percent of first five projects by contractor, then 15 percent of ongoing projects • Pre- and post-inspection conducted by a third-party implementer • Desk reviews conducted by a third-party implementer

Table 69 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 69. Small Commercial Solutions Market Transformation Program EM&V Plan

Small Commercial Solutions MTP	Description	2023
Evaluation priority	The Small Commercial Solutions MTP is a *medium* priority in PY2023. The majority of savings are from deemed measures.	Medium
Key researchable issues	• What are the challenges and opportunities to serve this hard-to-reach business sector?	

Small Commercial Solutions MTP	Description	2023
	• 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 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
	On-site M&V: Conduct on-site M&V with a sample of the population to verify measure installation and operation. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	2

5.3 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.

5.3.1 Commercial Load Management Standard Offer Program

Table 70. Commercial Load Management Standard Offer Program Summary

Commercial Load Management SOP	Summary
Program description	The Commercial Load Management SOP program identifies commercial customers who are not deemed critical loads without backup generation, take service at the distribution level equipped with an EPE interval demand meter, and can curtail a minimum of 100 kW. Customers are engaged directly by EPE employees. Applications are considered on a first-come, first-served basis and reviewed for eligibility. The program runs from June 1 through September 30. This program's peak demand periods are weekdays from 1:00 p.m. to 7:00 p.m. Mountain Daylight Time (MDT).
Target markets	• Market segments: Large commercial/industrial businesses • Eligibility criteria: ○ The customer must be a nonresidential El Paso Electric customer taking service at the distribution level.

Commercial Load Management SOP	Summary
	○ The customer must be equipped with an El Paso Electric interval demand meter. ○ The customer must be capable of curtailing a minimum of 100 kW during the summer peak periods at each contracted site. ○ Customers who have contracted rates or are taking service at 69,000 volts or greater are not eligible for this program. ○ Customers deemed critical must have back up generation
Marketing strategies and project sponsors	• Marketing strategies: Website and direct utility contact • Project sponsors: National or local EESPs or individual customers that identify interruptible load in their own facilities
Implementation and delivery	• El Paso Electric manages and controls implementation and load management event activation.
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: El Paso Electric will pay a participating customer (or the project sponsor, if different)
QA/QC	• El Paso Electric will verify actual demand savings from interruptions.

Table 71 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 71. Commercial Load Management Standard Offer Program EM&V Plan

Commercial Load Management SOP	Description	2023
Evaluation priority	The load management program is a *medium* priority in PY2023.	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 provides a comparison to similar-condition non-interrupt baseline days to validate impact estimates.	Census

5.3.2 Residential Load Management Market Transformation Program

Table 72. Residential Load Management Market Transformation Program Summary

Residential Load Management MTP	Summary
Program description	During load management events, the Residential Load Management MTP targets residential customers to reduce central air conditioning load through Wi-Fi-enabled smart thermostats. Customers receive an incentive for enrolling an existing qualifying Wi-Fi-enabled smart thermostat or for continued participation in the program. Customers may also receive an additional rebate for purchasing and enrolling a new Wi-Fi-enabled smart thermostat through El Paso Electric's online marketplace. Load management events occur during a six-hour window from 2:00 p.m. through 8:00 p.m. MDT on non-holiday weekdays during the demand response season (June 1–September 30) for a maximum of 12 events per season.
Target markets	• The program targets residential homes with central air conditioning.
Marketing strategies and project sponsors	• Third-party vendors will implement outreach and planning activities.
Implementation and delivery	• A third-party vendor manages and controls implementation; EPE manages load management event activation.
Measures/products, services, offerings	• Third-party vendors manage and may offer competing air conditioner demand-response services through the bring-your-own-thermostat approach.
QA/QC	• Actual demand reductions will be determined by EPE using a deemed savings approach as outlined in the TRM.

Table 73 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 73. Residential Load Management Market Transformation Program EM&V Plan

Residential Load Management MTP	Description	2023
Evaluation priority	The load management program is a *medium* priority in PY2023.	Medium
Key researchable issues	• Are sponsor-provided savings inputs and parameters accurate? • Are incentive levels sufficient to attract participation? • Does participant purchase of the DR thermostat requirement affect program participation rates? • Does participant purchase of the DR thermostat affect program cost effectiveness? • Are established goals reasonable? • What are the primary barriers to participation? • What other technology-customer opportunities may be available to develop a diverse, more reliable, effective demand-response portfolio?	
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
	Data reviews: Review participant interval-load data. Periods ahead of, during, and following load interruption notices will verify load reduction	

Residential Load Management MTP	Description	2023
	and persistence during demand response events and provides a comparison to similar-condition non-interrupt baseline days to validate impact estimates.	
	Telemetry data: Review telemetry data to validate reported performance. Review the number of participating devices for each event to calculate the savings (kW and kWh) and review enrollment to the program through the utility's e-commerce site (kWh).	Census

5.4 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.

5.4.1 LivingWise® Market Transformation Program

Table 74. LivingWise® Market Transformation Program Summary

LivingWise® MTP	Summary
Program description	The LivingWise® MTP uses a school-based method that builds student knowledge, provides energy-saving devices to families, and serves as an effective community outreach program to improve customer awareness of energy efficiency programs and measures. The program is designed to generate immediate and long-term energy savings for participants. This program reduces market barriers to energy-efficient technologies and practices by educating students and their families. The LivingWise® MTP identifies and enrolls sixth-grade students and teachers within the El Paso Electric Texas service territory. The enrolled participants receive educational materials designed to build knowledge and demonstrate simple ways to save energy by changing habits and devices. Materials meet state and national academic standards, allowing the program to easily fit into teachers' schedules and requirements. As part of the program, children take home a LivingWise® Kit that contains energy savings devices. With the help of their parents, students install the devices in their homes and complete a home energy audit report.
Target markets	• Market segments: Residential customers • Eligibility criteria: Schools within El Paso Electric's Texas service territory • Applications: Educational and retrofit applications
Marketing strategies and project sponsors	• Marketing strategies: AM Conservation Group takes care of all marketing, including public relation-type events (one to two per year, depending on the jurisdiction), print promotions, and outreach to teachers and schools • Project sponsors: Schools
Implementation and delivery	• Implementers: AM Conservation Group is the third-party implementer and the data source

LivingWise® MTP	Summary
Measures/products, services, offerings	• Measure offerings: This program provides a kit with two LEDs, a low-flow showerhead, kitchen and bathroom faucet aerators, and educational materials for the families of the participating students on how to best use the provided equipment, as well as suggestions for behavioral changes to save energy • Technical assistance: N/A • Rebates/incentives: The kit is provided free to schools and students
QA/QC	• AM Conservation Group

Table 75 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 75. LivingWise® Market Transformation Program EM&V Plan

LivingWise® MTP	Description	2023
Evaluation priority	Due to program design, the evaluation can really only focus on secondary review of impacts; there will be no primary data collection.	Low
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 program goals established appropriately, and will they be met?	
Program evaluation approach	Program tracking system review: Review the program tracking system for data and accuracy and consistency with claimed savings	Census

5.4.2 Residential Solutions Market Transformation Program

Table 76. Residential Solutions Market Transformation Program Summary

Residential Solutions MTP	Summary
Program description	The Residential Solutions MTP offers cash incentives that vary by eligible energy efficiency measure and are paid primarily to participating contractors who pass the incentive to the customer. This program also provides non-cash incentives to participating contractors, including technical assistance and education on energy efficiency projects. The climate in El Paso is a contributing factor to the relatively low participation in this program. Because of the extensive use of evaporative cooling and the lack of refrigerated air in existing buildings, many of the efficiency measures used by residential contractors (air conditioning systems, duct sealing, infiltration reductions, and insulation) achieve lower energy savings per measure. As a result, contractors often do not choose to participate in this program due to the reduced revenue potential. To help address barriers, the Residential Solutions MTP offers customers and contractors cash and non-cash incentives. The cash incentives are lower than typical residential SOPs; the difference is to provide non-cash incentives such as technical assistance, education on financing energy efficiency projects, and communications services. The program focuses on improving the efficiency and installation practices of products and services that contractors install.

Residential Solutions MTP	Summary
Target markets	• Market segments: Residential customers • Eligibility criteria: Homeowners must use participating contractors; eligibility varies by measure; see *Measure Offerings* below. • Applications: Retrofit applications
Marketing strategies and project sponsors	• Marketing strategies: El Paso Electric promotes through various outreach methods, including their website, monthly newsletters, radio, and a dedicated energy efficiency phone line to provide program information to customers and contractors. • Project sponsors: HVAC, window, insulation, solar screen, air and duct sealing contractors
Implementation and delivery	• Implementers: CLEAResult is the third-party implementer and the data source
Measures/products, services, offerings	• Measure offerings: ○ duct sealing—incentives available for homes with refrigerated air or evaporative cooling and central heating with either a gas or electric furnace or a heat pump; ○ insulation—incentives available for increasing attic insulation levels to R-30; ○ window replacement—incentives available for ENERGY STAR® windows and sliding doors; ○ solar screens—incentives available for solar screens; ○ refrigerated air upgrades—incentives are available for customers switching from evaporative to refrigerated A/C; ○ evaporative coolers; ○ water heater tank and pipe insulation; ○ cool roofs; ○ HVAC tune-ups; and ○ pool pumps. • Technical assistance: The program provides technical support to help contractors identify and evaluate energy efficiency opportunities and administrative program management.
QA/QC	• Conducted by CLEAResult and El Paso Electric

Table 77 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 77. Residential Solutions Market Transformation Program EM&V Plan

Residential Solutions MTP	Description	2023
Evaluation priority	This program will receive a *high* priority for PY2023 as the program has recently responded to TRM updates.	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?	

Residential Solutions MTP	Description	2023
	• Are 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
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2023 consumption analysis will help all stakeholders better understand the savings from measures installed through this program and inform prospective updates to the TRM for PY2025. We understand EPE is deploying their AMI infrastructure and may have less data available for the PY2023 consumption analysis.	Census

5.4.3 Texas Appliance Recycling Market Transformation Program

Table 78. Texas Appliance Recycling Market Transformation Program Summary

Appliance Recycling MTP	Summary
Program description	The Texas Appliance Recycling MTP encourages customers to recycle old refrigerators, freezers, and window AC units.
Target markets	• Market segment: Residential customers • Applications: Retrofit
Marketing strategies and project sponsors	Marketing strategies: El Paso Electric plans to market the availability of this program in the following manner: • Maintain a website with detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, and application procedures.
Implementation and delivery	• Implementers: ARCA Recycling, Inc. is the third-party implementer.
Measures/products, services, offerings	• Measure offerings: Appliance Recycling Refrigerators/Freezers/Window ACs • Technical assistance: N/A • Rebates/incentives: Incentives paid to the customer
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 79 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 79. Texas Appliance Recycling Market Transformation Program EM&V Plan

Appliance Recycling MTP	Description	2023
Evaluation priority	The Texas Appliance Recycling MTP represents a small portion of the portfolio's current and future energy use and demand savings. The program will be a low priority for PY2023.	Low

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 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

5.5 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.

5.5.1 Hard-to-Reach Solutions Market Transformation Program

Table 80. Hard-to-Reach Solutions Market Transformation Program Summary

Hard-to-Reach Solutions MTP	Summary
Program description	The Hard-to-Reach Solutions MTP offers incentives for providing energy efficiency measures and education to qualifying low-income customers.
Target markets	• Market segments: Residential HTR • Eligibility criteria: Residential customers at or below 200 percent of the federal poverty level • Applications: Retrofit applications
Marketing strategies and project sponsors	• El Paso Electric marketing strategies: ○ Maintain websites (www.epesavings.com and www.epelectric.com). El Paso Electric's websites are one method of communication used to provide customers and potential project sponsors with program updates and information. The websites contain detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, program manuals, and available funding. ○ Offer one-on-one outreach with EESPs, given the relatively small number of participating contractors. El Paso Electric explains elements such as the responsibilities of project sponsors, project requirements, incentive information, and the application and reporting processes. ○ Utilize electronic mail (email and webinar) notifications to keep potential project sponsors interested and informed. ○ Participate in statewide outreach activities as may be available and attends appropriate industry-related meetings to generate awareness and interest. • Participating contractors represent a range of EESPs.
Implementation and delivery	• Implementers: CLEAResult

Hard-to-Reach Solutions MTP	Summary
Measures/products, services, offerings	• Measure offerings: ENERGY STAR windows and doors, attic insulation, air infiltration, duct sealing, solar screens, high-efficiency A/C replacements and conversions (based directly on the efficiency level of the old unit), evaporative coolers, water heater tank and pipe insulation, cool roofs, and pool pumps. • Technical assistance • Rebates/incentives: Provided to the project sponsor, who then passes on the rebates/incentives to the end-use customer
QA/QC	• Pre- and post-on-site inspections for the first three projects for each new contractor, then 10–15 percent after that. • Inspections conducted by CLEAResult

Table 81 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 81. Hard-to-Reach Solutions Market Transformation Program EM&V Plan

Hard-to-Reach Solutions MTP	Description	2023
Evaluation priority	This program will receive a *high* priority for PY2023 as the program has recently responded to TRM updates.	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?	
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
	Consumption analysis: The EM&V team will conduct a targeted consumption analysis to evaluate energy and demand impacts. The PY2023 consumption analysis will help all stakeholders better understand the savings from measures installed through this program and inform prospective updates to the TRM for PY2025.	Census

5.6 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.

5.6.1 Residential Marketplace Pilot Market Transformation Program

Table 82. Residential Marketplace Pilot Market Transformation Program Summary

Residential Marketplace Pilot MTP	Summary
Program description	In the Residential Marketplace Pilot MTP, El Paso Electric customers can buy, energy efficient products, such as LEDs, advanced power strips, energy savings kits, water measures, air purifiers, smart thermostats and enroll in the Energy Wise Savings program. The Energy Wise Savings program (Residential Load Management MTP) is an energy efficiency program that reduces energy load during the summer while offering customers a $25 incentive to enroll per smart thermostat. Through this program, El Paso Electric can remotely communicate with internet-enabled smart thermostats connected to their central refrigerated A/C unit(s) to reduce electrical load during times of high energy demand. El Paso Electric offers a one-time enrollment incentive of $25 for each smart thermostat, up to two per household.
Target markets	• Eligible residential customers • Application: Rebate
Marketing strategies and project sponsors	• Website redirect
Implementation and delivery	• Implementers: Simple Energy
Measures/products, services, offerings	• Measure offerings: Thermostats, LEDs, smart power strips
QA/QC	• TBD

Table 83 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 83. Residential Marketplace Pilot Market Transformation Program EM&V Plan

Residential Marketplace Pilot MTP	Description	2023
Evaluation priority	The Residential Marketplace Pilot MTP will receive a *high* priority for PY2023.	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 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.	4

5.6.2 FutureWise® Market Transformation Program

Table 84. FutureWise® Pilot Market Transformation Program Summary

FutureWise® Pilot MTP	Summary
Program description	The FutureWise® Pilot MTP teaches high-school students about the importance of saving energy, understanding an energy bill, and careers in the field of energy. The program is available at no cost to the teacher, school district, and students and serves as an effective community outreach program to improve energy efficiency awareness. The program enrolls high school students and teachers and provides them with educational materials and a FutureWise® kit that contains energy saving devices they install in their homes.
Target markets	• Market segments: Residential customers • Eligibility criteria: Schools within El Paso Electric's Texas service territory • Application: Educational and retrofit applications
Marketing strategies and project sponsors	• Marketing strategies: AM Conservation Group takes care of all marketing, including public relation-type events (one to two per year, depending on the jurisdiction), print promotions, and outreach to teachers and schools • Project sponsors: Schools
Implementation and delivery	• Implementers: AM Conservation Group
Measures/products, services, offerings	• Measure offerings: This program provides a kit with LEDs, Smart LED, advanced power strip, and educational materials for the families of the participating students on how to best use the provided equipment, as well as suggestions for behavioral changes to save energy • Technical assistance: N/A • Rebates/incentives: The kit is provided free to schools and students
QA/QC	• TBD

Table 85 documents the key researchable issues to be addressed in the evaluation, along with the impact methodologies and primary data collection activities.

Table 85. FutureWise® Pilot Market Transformation Program EM&V Plan

FutureWise® Pilot MTP	Description	2023
Evaluation priority	The FutureWise® Pilot MTP will receive a *low* priority for PY2023.	Low
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 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

6.0 ENTERGY

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

6.1 PORTFOLIO OVERVIEW

Table 86 shows the projected energy and demand savings for the Entergy programs for PY2023.

Table 86. PY2023 Projected Demand and Energy Savings—Entergy

Program category	Program name	Program type	2023 demand savings (kW)	Percentage of total portfolio (demand)	2023 energy savings (kWh)	Percentage of total portfolio (energy)
Commercial MTP	Commercial Solutions MTP	Commercial Solutions MTP	3,988	25	18,961,413	69
LI/HTR SOP	Hard-to-Reach (HTR) SOP	HTR SOP	942	6	1,650,036	6
Load Management	Load Management SOP	Load Management SOP	7,000	45	14,000	0
Residential MTP	Residential Solutions MTP	Residential Solutions MTP	2,449	16	4,468,847	16
Residential SOP	Residential SOP	Residential SOP	1,319	8	2,406,302	9

Next, we present two summary tables for each program in the 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, 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?

6.2 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.