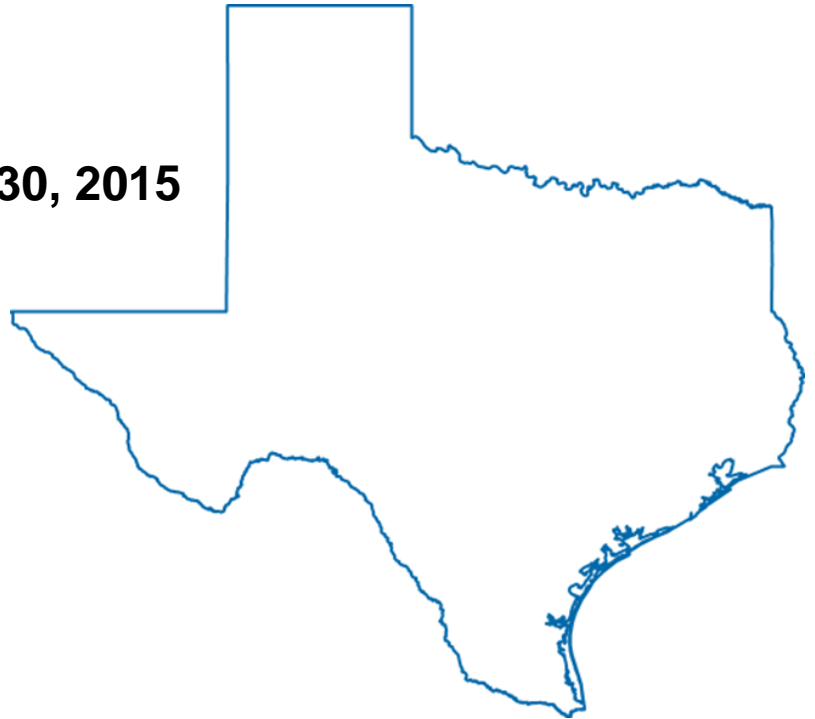


Public Utility Commission of Texas

**Evaluation, Measurement, and
Verification (EM&V) Plans for Texas
Utilities' Energy Efficiency and Load
Management Portfolios—Program Year
2015**

November 30, 2015





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Acknowledgements

This document was developed as a collaborative among Tetra Tech, The Cadmus Group, Itron, Johnson Consulting Group, and Texas Energy Engineering Services under the leadership of Tetra Tech. The program evaluation plans contained in this document were developed based upon discussions with the Public Utility Commission of Texas (PUCT) staff, Texas utilities program staff, and reviews of program tracking and program documentation and build upon the Program Year 2012, 2013, and 2014 evaluation, measurement, and verification efforts.



Acronyms

AEP TCC	American Electric Power Texas Central Company
AEP TNC	American Electric Power Texas North Company
CATI	Computer Assisted Telephone Interview
C&I	Commercial and Industrial
CMP	Commercial Market Transformation Program
CNP	CenterPoint Energy Houston Electric, LLC
CSOP	Commercial Standard Offer Program
DI	Direct Install
ECM	Energy Conservation Measure
EEPR	Energy Efficiency Plan and Report
Entergy	Entergy Texas, Inc.
EPE	El Paso Electric Company
EM&V	Evaluation, Measurement, and Verification
kW	Kilowatt
kWh	Kilowatt Hour
HPwES	Home Performance with ENERGY STAR®
LI/HTR	Low Income/Hard-To-Reach
LM	Load Management
mcf	1,000 cubic feet
MF	Multifamily
MTP	Market Transformation Program
M&V	Measurement and Verification
NTG	Net-to-Gross
PUCT	Public Utility Commission of Texas
PY	Program Year
QA/QC	Quality Assurance/Quality Control
RFP	Request for Proposals
RMP	Residential Market Transformation Program
RSOP	Residential Standard Offer Program
Sharyland	Sharyland Utilities, L.P.
SOP	Standard Offer Program
Xcel SPS	Southwestern Public Service Company (subsidiary of Xcel Energy)
SWEPCO	Southwestern Electric Power Company
TNMP	Texas New Mexico Power Company
TRM	Technical Reference Manual



1. 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 2015 (PY2015).

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 Energy Efficiency Goal (Project No. 39674).

The PUCT selected an independent, third-party EM&V contractor through the Request for Proposals 473-16-0003, Project No. 45019. The selected EM&V team is led by Tetra Tech and includes Texas Energy Engineering Services, Inc. (TEESI), The Cadmus Group, Itron, and Johnson Consulting Group.¹

This document is the deliverable for Task 1B of the Scope of Work in the Request for Proposals (RFP). Throughout this document we have included parenthetical references to the RFP Task 1B sub-section addressed in this document.

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
- Prepare and maintain a state-wide Technical Reference Manual (TRM).

This document addresses the planning to meet the first three objectives above. The last objective relating to the TRM is addressed in a separate "TRM Approach Document." This is a living document; there may be scope changes to meet new PUCT priorities, portfolio and program changes, issues encountered during data collection, and/or interim evaluation findings. Any changes in scope will be documented in the EM&V team's status reports.

Utility-specific evaluation plans are in Sections 3–12. Prior to the utility-specific sections, Section 2 discusses the Tetra Tech team's approach to evaluation activities that will be done consistently statewide across all utility portfolios. Throughout the remainder of this section, we overview the evaluation prioritization and EM&V research.

¹ Details on the EM&V team staffing, organization and budget may be found in Appendix D. (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (a) (c)).



1.1 EVALUATION PRIORITIZATION

The EM&V plans are based on the prioritization for the EM&V effort detailed in a separate document,² which was approved by the PUCT. To briefly summarize, the EM&V team identified 25 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 (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (n)):

- Magnitude of savings—percentage of contribution to the portfolio of programs' impacts
- Level of relative uncertainty in estimated savings
- Stage of program or programmatic component (e.g., pilot, early implementation, mature)
- Importance to future portfolio performance
- PUCT and Texas utilities' priorities.

The priority given to each utility program is indicated at the top of its EM&V Plan in the utility-specific sections. A distinct difference in the proposed PY2015 scope from prior years is targeted impact evaluations for the savings areas of the highest uncertainty identified in the PY2014 EM&V results. While prior program year EM&V efforts reached broadly across all 130 plus programs in Texas meeting a minimum confidence level of 90% ± 10% (90/10) at the utility portfolio level, the targeted impact evaluations will be concentrated on a particular program(s) and/or end-use(s) to meet 90/10 for the prioritized focus.

The Residential SOP and Hard-to-Reach programs are categorized as “high” evaluation priority in PY2015 as these programs comprised a substantial percentage of overall PY2014 statewide portfolio savings and are expected to contribute a similar percentage to overall PY2015 savings as well as remain an important part of the portfolio in future years. In addition, the EM&V team’s on-site M&V in both PY2013 and PY2014 observed notable variation in air and duct leakage rates relative to the reported values, with these site visit findings significantly influencing realization rates. Duct sealing, air infiltration, and ceiling insulation measures accounted for 94 percent of energy savings and 90 percent demand savings in the residential sector in PY2014. The other high priority program in PY2015 is CenterPoint’s Data Center Pilot due to the energy intensity of this sector and the possible importance to future portfolio performance.

Commercial SOPs and Schools, Government, and Commercial Solutions MTPs are designated as “medium” priority. While these programs represent the majority of statewide portfolio savings and are expected to continue to do so, PY2013 and PY2014 EM&V have generally found evaluated savings to be fairly close to the utilities’ claimed savings and therefore a “high” priority is not needed in PY2015. Three other programs are designated as “medium” priority for PY2015. These are (1) Residential New construction, due to recent and

² *EM&V Prioritization for Program Year 2015* to Katie Rich and Therese Harris, PUCT, and the Texas Electric Utilities, from Lark Lee, EM&V project manager, March 11, 2015.



planned changes in claimed savings calculations, (2) CenterPoint's Pool Pump pilot, as this pilot may be used as the basis for statewide deemed savings and therefore important to future portfolios, and (3) load management programs due to their significant contribution to capacity (kW) savings.

All other programs are designated as "low" evaluation priority in PY2015 for one of the following reasons: (1) they are very small contributors to the PY2015 portfolio savings (1 percent or below) and considered "low" in terms of their importance to future portfolios, as they are not expected to increase in their savings contribution to future portfolios, (2) they are new programs or pilots where it is too soon in their rollout to meaningfully evaluate them in depth, or (3) they received a "high" priority in past evaluation years and therefore have recent in-depth EM&V findings and therefore a low level of effort is needed in PY2015.

1.2 SUMMARY OF UTILITY EM&V PLANS

Table 1-1 summarizes the EM&V major research activities across all programs in all of the utilities' portfolios. Below we briefly describe the major research activities.

Tracking system will be conducted across all utilities and programs to provide an independent third-party review of claimed savings and assess accuracy of the tracking system data.

Desk reviews will be performed for high and medium priority programs not receiving a consumption analysis. Desk reviews include a review of 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 will check 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 for complex projects for which there is the greatest uncertainty in claimed savings in nonresidential applications and high-impact measures that represent a significant proportion of savings.

Consumption analyses will be performed to assess energy and demand impacts for the RSOP and HTR programs. Using program tracking data and historical energy consumption data, the EM&V team will develop several statistical regression models, including combined fixed-effects and Princeton Score-Keeping Method (PRISM), to perform a robust assessment of program impacts at the state, utility, and measure category levels. To test for exogenous effects (e.g., macro-economic factors), the team will utilize a comparison group. This comparison or pseudo-control group will be composed of 2015 program participants, using their 2014 pre-participation consumption data. Regression-based consumption analysis is considered industry best practice for estimating impacts associated with whole-building programs, specifically around weatherization measures, as noted in several evaluation protocols, including Uniform Methods Project (UMP) and International Performance Measurement and Verification Protocols (IPMVP).



Table 1-1. Summary of Activities Across All Utility Plans

Utility	Desk Reviews	On-site M&V	Consumption Analyses	90% Precision Level³ PY2015
AEP TCC	28	14	Census RSOP/HTR	15.5%
AEP TNC	13	6	Census RSOP/HTR	22.7%
CenterPoint	45	18	Census RSOP/HTR	12.2%
El Paso Electric	61	6	NA	10.5%
Entergy	60	7	NA	10.6%
Oncor	40	20	Census RSOP/HTR	13.0%
Sharyland	60	6	NA	9.7%
SWEPSCO	60	8	NA	10.4%
TNMP	23	8	Census RSOP/HTR	17.1%
Xcel SPS	60	7	NA	10.4%
Total	450	100	NA	3.9%

³ These are estimated precision levels based on PY2014 participant numbers.



2. EVALUATION APPROACHES AND STATEWIDE ACTIVITIES

This section details activities that cut across the evaluation for each utility's portfolio and will be conducted consistently statewide. We discuss the EM&V team's approach to:

- Understanding portfolios
- Creating and maintaining the EM&V Database
- Implementing impact evaluations
- Assessing program processes
- Conducting cost-effectiveness testing
- Reporting.

2.1 UNDERSTANDING PORTFOLIOS

One of the first steps in the statewide EM&V effort was to understand the energy efficiency and load management portfolios for each utility and the context in which they operate. This is necessary for the EM&V effort to result in actionable feedback that can be used to improve program performance and reporting accuracy. While this was accomplished during the PY2012 through PY2014 evaluation efforts, information will continue to be gathered for the PY2015 EM&V efforts through meetings, utility staff interviews, and program documentation and data tracking review. These activities directly informed the evaluation prioritization process and the EM&V plans in this document.

2.1.1 Meetings

Scheduled biweekly meetings between the EM&V team and PUCT will continue throughout the duration of the evaluation. The EM&V team and PUCT will also hold periodic status meeting with utilities and, when applicable, their implementation contractors, throughout the evaluation period. In addition to these set meetings, ad hoc meetings will be held throughout the evaluation period as needs arise. To engage a wide range of stakeholders in the EM&V process in both up-front planning and the end results, at least one Energy Efficiency Implementation Project (EEIP) meeting will be held annually where the EM&V contractor presents.

2.1.2 Utility staff interviews

All ten utilities completed in-depth interviews with the EM&V team during the May-June 2015 timeframe that were used to both provide context to the PY2014 EM&V findings and inform the PY2015 evaluation planning. These interviews helped the EM&V team gain knowledge of the utilities' territories and programs; understand energy efficiency staff roles and responsibilities and the extent to which outside contractors are used; learn about the portfolio history, mix, and performance of programs; and understand the program design and delivery processes. The EM&V team will conduct additional utility staff interviews as necessary over the course of the evaluation process.



2.1.3 Program documentation and tracking data review

Specific to the PY2015 EM&V effort, the EM&V team reviewed and compiled information from the 2015 Energy Efficiency Program Plan and Reports (EPRs). In addition, the EM&V team is collecting and cataloging program documentation for each utility's PY2015 program. 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.

The EM&V team will update the statewide EM&V database with PY2015 program tracking data through the data request process and secure retrieval system used for PY2012–PY2014 (discussed below). The EM&V database, which we will update at regular intervals, will allow the EM&V team to conduct efficient sampling across utilities and programs to complete tracking system reviews across all programs and sample projects for additional activities as summarized in Table 1-1. In addition, the EM&V team reviews all final utilities' program tracking data with the end objective of reconciling the EM&V's tracking system savings with the PY2015 claimed savings that the utilities will report in their 2016 EPRs.

2.1.4 Data requests and security

The EM&V team will submit data requests to utilities for the first nine months of PY2015 for the medium and high priority programs only. With the exception of load management programs, which will receive a data request for all PY2015 data in November, all PY2015 data will be requested for all programs after Quarter 4. The first formal data request will be sent September 24 to obtain data for all completed projects in medium and high priority programs as of September 30, 2015. Per the communication protocols agreed upon by the utilities for PY2012–PY2014, 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 in the transfer and storage of customer data to ensure data integrity and security. The confidentiality of customer data and personally identifiable information (PII) rely on the following solid security plan:

- File transfers
 - All data are encrypted when in transit; Tetra Tech uses a secure RepliWeb Managed File Transfer (TtRMFT) file transfer application. This application encrypts files during the transfer process, ensuring data integrity and security.
- Storage
 - Data containing PII are encrypted while at rest (files as well as in the database).
 - 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.



2.1.5 Front- and back-end data management

The first approach to ensure data integrity is front-end data management—this involves both 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 is currently maintaining and hosting 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, and Commission staff. The site consists of a Wiki-style interface for users to share information in near real-time. This documentation and information interface is editable and linkable by all users and maintained by Tetra Tech staff. It contains any relevant non-secure information to the projects, from how to book travel for fieldwork to standard calculation metrics for evaluation, for example.

As introduced above, Tetra Tech also maintains and hosts a secure file transfer Website (the TtRMFT) for storing and transferring datasets and other project related materials. The site is securely accessible to all relevant utilities, contractors, and Commission 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 Commission. This site also allows the Cadmus Group and other contractors 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—this 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 data required for accurate evaluations are being collected by the program implementers. We use SQL Server as our core back-end technology.

2.1.6 Preliminary data validation

It is critical to identify data issues as soon in the program’s evaluation as possible. Data quality issues can reduce the integrity of the evaluation results or be an impediment to conducting specific activities that would 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, as well as 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.

Our 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
- 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 IMPLEMENTING 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 (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (h)).

PY2015 impact evaluation activities will primarily include a combination of tracking system reviews, desk reviews, on-site M&V, and consumption analysis. When determining the appropriate activities to be completed by program and measure type, the EM&V team will consider key factors that include contribution toward savings and level of savings uncertainty. Specific sampling strategies for PY2015 will be part of the Detailed Research Plans, discussed below.

In implementing the impact evaluations, we will 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 error resulting from inaccurate meters or errors in recording data; collection error 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 into account behavioral factors; modeling error from 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 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 for a particular estimate, the more caution is required when using the point estimate.

Demand side management program evaluations routinely employ 90% confidence intervals with $\pm 10\%$ as the industry standard (“90/10”). The “90%” 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 minimum confidence interval of $90\% \pm 10\%$ at the utility portfolio level for gross evaluated savings estimates. Next we overview our impact evaluation approach, followed by a discussion of Detailed Research Plans used for quarterly 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 SOP, MTP, and Pilot programs are similar in terms of the types of customers and sites they serve and 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 in PY2015 (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (e)). This is followed by a more detailed discussion of the primary data collection activities. 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.** In order to review each utility’s tracking system, which contains extensive information at the customer-measure level, the EM&V team will use the TRM V2.1 algorithms and deemed values to calculate aggregate savings at the utility-program level. The purpose of this review is 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 total program deemed savings in order to conduct a final comparison to utilities’ claimed or projected savings.
- **Desk reviews.** For high- and medium-priority programs that are not receiving consumption analysis, 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 tasks. 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 then verify that the savings estimates in the tracking system are consistent with those calculated in the “deemed” calculation tools or tables or M&V methods used to estimate project savings (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (f)). 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 (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (j)).

- **On-site M&V.** We will also conduct on-site M&V for a sample of participants in Commercial programs. 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 is a basic inspection audit that will take approximately one to two hours to complete.
 - Site measurements, spot metering, and/or short- and even in some cases, long-term metering will be conducted to develop an independent estimate of savings to compare to the utility’s claimed savings estimates. This is a more comprehensive audit that 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 such as baseline energy use, operating hours, efficiency performance and potentially interactive effects.
- **Consumption analysis.** For the RSOP and HTR programs, the EM&V team will perform a statistical consumption analysis to evaluate energy and demand impacts. We will test multiple model specifications for robustness, including customer fixed-effects models and individual-customer PRISM regressions. The consumption analysis will require a full year of household energy consumption before and after the point of participation. Where data are available, this evaluation will assess a census of 2014 participants (as opposed to a sample).

An important aspect of the consumption analysis’ quasi-experimental design is to use a comparison group of nonparticipants or later participants that tests or controls for macroeconomic factors and other exogenous interactions that occur concurrent with program activity (e.g., rate increases/decreases, economic effects), as well as possible naturally-occurring efficiency. The comparison group, therefore, will be comprised of 2015 participants, whose consumption histories prior to any program participation (over the 2013 and 2014 periods) will be compared with those of the 2014 participants.

As part of this task, the EM&V team proposes performing a load analysis using all available AMI meter data, rolled up to the hourly level, for each relevant residential program, dependant on a review of program design and availability of interval data. The load analysis will aim to achieve the following objectives:

- Develop load profiles for pre- and post-installation participant and nonparticipant demand, estimated for an 8,760 hourly shape
- Estimate average program-level demand impacts for participants and nonparticipants
- Estimate average program-level energy savings for participants of each program and nonparticipants



- Develop realization rates for energy and demand, comparing evaluated impacts to ex-ante values

We will perform this analysis for a full year prior to program intervention and a full year after (where possible). This approach, compared to monthly consumption analysis, optimizes participant sample sizes by using consumption data with more granular intervals, allowing for more precise disaggregation of loads for profile development. We will be able to identify customers' average baseload at each hour, then estimate heating and cooling loads. The higher frequency data will also allow for increased precision around estimated impacts. We will similarly use a comparison group of nonparticipants to control for exogenous effects as discussed above, by determining baseline load profiles.

For each analysis year, we will estimate weather-normalized regression models using 8,760 average load data and hourly weather data.⁴ From these models, we can gain additional insight into the proportion of the demand occurring in each hour that is attributable to base, cooling, and heating loads. Once hourly profiles have been developed, Cadmus will estimate average energy and demand impacts, with the intent of providing these results at the program level, and the utility program and measure levels where feasible.

The *evaluated* savings will be based on realization rate calculations. In order to calculate *evaluated* savings, we will apply the realization rates determined from the EM&V sample to the population of projects.

The net-to-gross (NTG) ratios identified in the PY2013 and PY2014 research will be applied to the ex-post evaluated gross savings estimates to calculate evaluated net savings for PY2015. The NTG ratios are inclusive of free-ridership and spillover (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (g)).

2.2.2 Detailed research plans and supplemental data requests

This EM&V plan describes EM&V activities we will complete by utility program for PY2015. The Detailed Research Plans (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 high and medium priority programs where projects are sampled.

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

Supplemental data requests (SDRs) and the associated sampled projects will be distributed to each utility within one week of the DRPs. For the RSOP and HTR SOP programs receiving a consumption analysis, a SDR will be issued following finalization of the evaluation plan, and

⁴ While our goal will be to estimate hourly models, this may depend on the availability and granularity of data provided.



will request provision of consumption data, as discussed above. For the remaining programs, the supplemental data request will be for a sample of completed projects, requesting documentation to support the desk review and/or on-site verification activities. Utilities will be asked to send complete project documentation for the EM&V sample of program participants. The project files should include any documentation related to the project and energy calculations, such as invoices, application forms, program sponsor spec 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.

2.2.3 On-site M&V

On-site M&V will check the installation and equipment nameplate information to support the verification of claimed savings calculations and 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 for complex projects for which there is the greatest uncertainty in claimed savings in nonresidential applications.

Each on-site M&V visit will include physical inspection of measures and a customer interview to gather information about the project for verification purposes. This on-site customer interview will expand upon the information obtained through the participant telephone survey and desk reviews. Depending on the equipment type, location, the parameters being measured, operating characteristics, and potential interaction between measures, the EM&V team will determine if spot measurement or short/long-term data logging is appropriate. Spot metering will be used to gather data related to the efficiency of the equipment installed and overall energy usage from the efficiency measures on common circuits. Short-term metering will be used to gather data on the operating conditions in the building (e.g., indoor and outdoor ambient temperatures, equipment efficiency, hours of operation).

Standardized M&V data collection sheets following the IPMVP will be used by the EM&V team to maintain consistency of information obtained between like measures. Data including photographic records will be collected and archived to ensure integrity for future review. Individual on-site M&V reports will be developed for each location.

2.3 CONDUCTING 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 PY2015 actual results except for low-income 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 2-1 lists the required inputs to the cost-effectiveness model and the sources of information (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (i)).

Table 2-1. 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



Model Input	Measurement Level	Source
Effective useful life	Measure type	Deemed savings
Incentive payments	Program	EEPRs
Administrative and R&D costs	Program/portfolio	EEPRs
EM&V costs ⁵	Program/portfolio	EM&V team budgets
Performance bonus ⁶	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
Net-to-gross rates	Program	Evaluation results

The EM&V team will conduct PY2015 cost-effectiveness tests separately using claimed gross savings, evaluated gross savings and evaluated net savings. The model produces results at the portfolio, program category,⁷ and program levels.

All benefits and costs are expressed in program year dollars. Benefits resulting from energy savings occurring in future years are net to program year 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 (§ 25.181 (h)(6)). 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. These program costs include program administrative and incentive costs. Portfolio-level costs include the performance bonus, EM&V, administrative, and research and development (R&D) costs.

Low-income 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 the low-income programs.

Portfolio-level cost-effectiveness analyses are based on the PACT and will be shown including and excluding low-income 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 kWh and kW. This is calculated by attributing costs to energy savings and avoided demand based on their portion of total benefits and applying that proportion to the total program costs.

⁵ The evaluation team used projected 2013 evaluation costs as individual utility program-level cost tracking was not feasible.

⁶ Performance bonuses as an input into cost-effectiveness testing came into effect in 2012.

⁷ Program categories are currently defined as Nonresidential, Residential, Low-Income, Load Management, and Pilots.



2.4 ASSESSING PROGRAM PROCESSES

Savings and cost-effectiveness estimates 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 the effectiveness of a program. Identifying program process improvements is a best practice in EM&V and is also critical to maximize the value provided (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (o)).

Due to the emphasis placed on a broad reach of impact evaluation activities within a limited EM&V budget, it is important to prioritize process evaluation so that resources are spent on the areas of highest importance. Below are priority process evaluation issues based on discussions with the utilities and PUCT staff to be investigated statewide in PY2015:

- *Transition of customers served historically through Market Transformation efforts to Standard Offer Programs.* Starting in PY2015, Oncor has transitioned to serving schools through their CSOP as opposed to the Market Transformation Program historically used. This is a unique opportunity to assess how effectively this segment can transition from the MTP to SOP program design. The EM&V team will analyze PY2013–PY2015 participant data to characterize schools' participation in Oncor's commercial programs, supplemented by interviews with Oncor staff and school participants to characterize the effectiveness of this transition.
- *Comparison of PY2013–2015 participants in CenterPoint's SCORE and SCORE Lite programs.* CenterPoint also recently created the SCORE Lite portion of its SCORE program, providing higher incentives to school districts that do not require technical assistance or engineering analysis. The EM&V team will analyze PY2013–2015 data for both SCORE and SCORE Lite participants to characterize populations and identify any differences that exist between participants in each sub-program, supplemented by interviews with CenterPoint staff, the implementation contractor, and school participants to characterize the effectiveness of this "lite" option.
- *Recommend guidelines for greater consistency in pilot program status.* The PY2014 EM&V included a best practices assessment of the Texas programs. While overall best practices are well-established in Texas, some opportunities for improvement were identified in the assessment. §25.181 allows utilities to pilot new program concepts without passing cost-effectiveness the first year. This is in keeping with standard industry practice given that the start-up costs make it difficult to be cost-effective the first year. However, the EM&V team is unaware of clear criteria or consistent delineation of when a "pilot" program transitions to a full program in a utility's portfolio. While the transition is clearly articulated in utilities' EEPs, the drivers of this transition are often not. Documenting, and if possible systematizing, this guideline is an area for improvement identified in the best practices assessment.

2.5 REPORTING AND DELIVERABLES

There are two EM&V report deliverables per program year—(1) Interim Impact Evaluation Reports and (2) Annual Statewide Portfolio Report. The EM&V team will also deliver status reports and ad hoc and data collection and sampling deliverables (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (l)) as needed.



The Interim Impact Evaluation Reports will be separate for each utility and present detailed results for their portfolio. For example, they will include detailed desk review 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 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 Annual Portfolio Report.

The Annual 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 (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (m)): gross savings realization rates, NTG ratios, program cost-effectiveness, and participant and market actor satisfaction ratings.

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 gross 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.
- Detailed Research Plans detailing sampling strategies for data collection activities (discussed in detail above under the Impact Evaluation section).
- On-site reports documenting the claimed savings, observations while on-site, on-site methods employed, and any adjustments resulting from the on-site visit.
- Survey and other data collected as part of the evaluation process.
- EM&V database.

2.6 EM&V TIMELINE

As noted earlier in this plan, the EM&V team maintains an EM&V SharePoint site to facilitate communication with all relevant stakeholders throughout the evaluation process as well as 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 (Detailed Research Plans and Supplemental Data Requests) ensure the EM&V team can meet 2016 reporting deadlines for PY2015 results. 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 PY2015 sampled projects and discuss interim results individually with utilities prior to the Annual Portfolio Reports. The PY2015 Annual 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 two weeks for utility review of deliverables and two-weeks for the EM&V team to revise deliverables based on feedback they receive for all deliverables except for the DRPs, which necessitate a one-week review period.



3. AEP TEXAS CENTRAL COMPANY

This section addresses the energy efficiency and load management portfolio for AEP Texas Central Company (AEP TCC). The overall portfolio is summarized below, followed by details for each program in the portfolio.

3.1 PORTFOLIO OVERVIEW

Table 3-1 shows the projected energy and demand savings for AEP TCC's programs for PY2015.

Table 3-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Com MTP	Commercial Solutions MTP	Commercial Solutions	834	3%	3,888,000	7%
Com MTP	CoolSaver A/C Tune-Up MTP (Nonresidential)	A/C Programs (Distributor and CoolSaver AC Tune-up (Nonresidential))	1,393	4%	4,376,124	7%
Com MTP	Open MTP	Small Business DI	676	2%	2,051,894	3%
Com MTP	SCORE/CitySmart MTP	CitySmart / SCORE / Government	1,691	5%	5,749,624	10%
Com MTP	SMART Source Solar PV MTP (Nonresidential)	P/V Solar Pilot MTP / SMART SOURCE PV Pilot (Nonresidential)	149	0%	288,000	0%
Com SOP	Commercial SOP	Commercial SOP	3,625	11%	17,467,000	30%
LI/HTR SOP	Hard-to-Reach SOP	Hard-to-reach SOP	1,315	4%	3,686,000	6%
LI/HTR SOP	Targeted Low-Income Energy Efficiency Program	Low Income / HTR Weatherization Programs	634	2%	1,110,000	2%
Load Management	Load Management SOP	Commercial Load Management SOP	16,255	49%	43,000	0%
Res MTP	CoolSaver A/C Tune-Up MTP (Residential)	A/C Programs (Distributor and CoolSaver AC Tune-up (Residential))	1,017	3%	3,223,609	5%
Res MTP	High-Performance New Homes MTP	New Homes	393	1%	1,596,286	3%
Res MTP	SMART Source Solar PV MTP (Residential)	P/V Solar Pilot MTP / SMART SOURCE PV Pilot (Residential)	142	0%	274,000	0%
Res SOP	Residential SOP	Residential SOP	4,838	15%	14,835,000	25%



Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Pilot Program	Efficiency Connection Pilot MTP	Retail Electric Provider	105	0%	525,131	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 as well as PY2012, PY2013, and PY2014 EM&V efforts. This is followed by the 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 issues will be investigated for each program:

- What are drivers of differences, if any, between claimed and evaluated savings?
- Are the program provisions for quality assurance and control adequate?

3.2 COMMERCIAL MARKET TRANSFORMATION

3.2.1 Commercial Solutions Market Transformation Program

Table 3-2. Commercial Solutions Market Transformation Program Summary

Topic	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/or (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/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.
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial Facilities (other than Government and Education) • Eligibility criteria: Commercial facilities within TCC's service territory • Applications: Retrofit or new construction projects



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: TCC plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to conduct outreach and planning activities ○ Maintains an internet website to provide information to potential participants ○ Conducts workshops as necessary to explain elements of the program, such as 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 ○ Participates in local, regional, state-wide and industry-related outreach activities as may be necessary ○ Facilitates earned media opportunities, spotlighting successful projects and/or interesting stories as applicable. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, window film, roofing or others, that may require M&V planning and metering • Technical assistance: Includes communications support, administrative program management in addition to identification and evaluation of energy efficiency measures • Rebates/incentives: Provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre- and post-on-site inspections for 100% of projects, when detailed equipment invoices not provided • Pre- and post-inspection is conducted by third-party implementer • In addition, some verification is conducted by the utility

Table 3-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-3. Commercial Solutions Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Solutions Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	5
	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



3.2.2 CoolSaver A/C Tune-Up Market Transformation Program (Nonresidential)

Table 3-4. CoolSaver® A/C Tune-Up Market Transformation Program Summary

	Summary
Program Description	<p>The CoolSaver® MTP is designed to overcome market barriers that prevent 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:</p> <ul style="list-style-type: none"> • Training and certifying A/C technicians on the tune-up and air flow correction services and protocols • Paying incentives to A/C contactors for the successful implementation of A/C tune-up and air flow correction services. <p>Participating customers are eligible to receive up to \$75 in the form of instant discounts for use toward A/C and heat pump efficiency services performed as a result of the program's tune-up analysis. 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 \$150 for a modeled tune-up and \$75 for basic tune-up (with additional funds available for specific add-on tune-up services). Energy savings are captured through the correction of A/C system inefficiencies identified during the tune-up activities.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: 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; customer must accept recommendations from a tune-up analysis • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: AEP TCC markets the CoolSaver® MTP in the following manner: <ul style="list-style-type: none"> ○ Contracts with CLEARResult to conduct outreach and planning activities ○ Targets commercial A/C contractors that service customers served by AEP TCC ○ Conducts training workshops with contractor staff on the specific tune-up and airflow correction services promoted by the program, as well as the measurement and verification 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 ○ Participates in appropriate industry-related meetings to generate awareness and interest. • Program sponsors: HVAC contractors
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEARResult is the third-party implementer and the data source



	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • 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: \$75 provided to end-use customer in the form of instant discounts at time of service; up to \$150 provided to contractor; discounts on tool purchases
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • During technician training, CLEAResult ride-alongs • 10% for contractors and technicians • Post on-site inspections conducted by implementer

Table 3-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-5. CoolSaver® A/C Tune-Up Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	Represents less of the portfolio overall savings, with the majority of savings from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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? • Are goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	



3.2.3 Open Market Transformation Program

Table 3-6. Open Market Transformation Program Summary

Topic	Summary
Program Description	<p>The Open MTP targets traditionally underserved small commercial customers who may not employ knowledgeable personnel with a focus on energy reduction, who are limited in the ability to implement energy efficiency measures, and/or who typically do not actively seek the help of professional EESP. Financial incentives are provided directly to the contractor, thereby reducing a portion of the project cost for the customer. Small commercial customers with peak demands not exceeding 100 kW in the previous 12 consecutive billing months may qualify to participate in the program. Additionally, customers whose peak demand is less than or equal to 10 kW may qualify for incentives that would offset up to 100% of the cost of their project(s).</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Small Commercial Facilities • Eligibility criteria: Small Commercial facilities within TCC’s service territory and with peak demands <=100kW • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: AEP TCC plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to conduct outreach and planning activities ○ Identifies and recruits contractors who provide services to customers to develop a network of participating contractors who will deliver the program directly to customers ○ Maintains an internet website to provide information to potential participants ○ Develops a recruitment packet with outreach information and enrollment materials that participating contractors can use when marketing the program to customers ○ Conducts 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 ○ Participates in local, regional, state-wide and industry-related outreach activities as may be necessary. • Program sponsors: Contractor/EESP
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • 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 contractor • Rebates/incentives: Provided to contractor • Program direct install: DI approach

Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre- and post-on-site inspections for 100% of initial five projects of every enrolled contractor and randomly selected pre and post for 20% of each additional project submitted • Pre- and post-inspection is conducted by third-party implementer • In addition some verification is conducted by the utility

Table 3-7 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-7. Open Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Open Market Transformation Program represents a small portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Is a change in measure mix being seen by the program? • Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Review the program tracking system data for completeness and accuracy.	

3.2.4 SCORE/CitySmart Market Transformation Program

Table 3-8. Texas SCORE/CitySmart Market Transformation Program Summary

Topic	Summary
Program Description	The SCORE/CitySmart MTP helps educational facilities (public and private schools K-12 and higher education) and local government institutions in lowering their energy use by educating and assisting in integrating energy efficiency into their short- and long-term planning, budgeting, and operational practices. This is completed through assistance in areas such as energy master planning workshops, energy performance benchmarking and identifying/assessing/implementing energy efficiency measures. Energy efficiency improvements include capital-intensive projects and implementing operational and maintenance practices and procedures. Financial incentives are provided to energy efficiency measures that reduce peak electricity demand.
Target Markets	<ul style="list-style-type: none"> • Market segments: Education and Government Facilities • Eligibility criteria: Education and government facilities within TCC's service territory • Applications: Retrofit or new construction projects

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: TCC market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to conduct outreach and planning activities ○ Maintains an internet website to provide information to potential participants ○ Conducts workshops as necessary to explain elements of the program, such as 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 ○ Participates in local, regional, state-wide and industry-related outreach activities as may be necessary ○ Facilitates earned media opportunities, spotlighting successful projects and/or interesting stories as applicable. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, window film, roofing, or others that may require M&V planning and metering • Technical assistance: Includes communications support, financing assistance, performance benchmarking and energy master planning workshops in addition to identification of energy efficiency measures • Rebates/incentives: Provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre- and post-on-site inspections for 100% of projects , when detailed equipment invoices not provided • Pre- and post-inspection is conducted by third-party implementer • In addition some verification is conducted by the utility

Table 3-9 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-9. Texas SCORE/CitySmart Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Texas SCORE/CitySmart Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	<p>Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.</p>	
	<p>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.</p>	4
	<p>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.</p>	2



3.2.5 SMART Source Solar PV Market Transformation Program (Nonresidential)

Table 3-10. SMART Source Solar PV Market Transformation Program Summary

Topic	Summary
Program Description	<p>The SMART Source Solar PV Program (hereafter, "Program") offers financial incentives for the installation of eligible distributed solar energy generating equipment on the premises of customers served by AEP Texas Central Company (AEP TCC), AEP TNC, 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.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential and nonresidential • Eligibility criteria: Residential systems rebated up to 10 kW_{DC} STC, nonresidential rebated up to 25 kW_{DC} STC • Applications: New or retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Contracts with a third-party implementer to conduct outreach and planning activities; maintains website, clear documentation, conducts workshops, and facilitates media opportunities. • Program sponsors include: <ul style="list-style-type: none"> ○ National or local energy service companies (ESCOs) ○ National or local companies that provide energy-related services (e.g., contracting) or products ○ Retail Electric Providers (REPs)
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier Associates is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Solar photovoltaic (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. • Residential: \$1.20/watt • Nonresidential: \$1.05/watt
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre- inspections via desk reviews for a census of projects • Post-installation on-site inspections of approximately 40% of projects installed • Conducted by program manager • EESPs must supply a revenue-grade electrical meter to measure the energy produced by the solar electric system



Table 3-11 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-11. SMART Source Solar PV Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	In 2015, the Program evaluation was given low priority due to the in-depth EM&V of these programs in 2013. However, desk reviews will be performed to check calculations and verify user inputs for a sample of projects.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the solar programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and parameters providing accurate savings estimates compared to approved calculators or deemed factors? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data for a sample of projects for each utility. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	

3.3 COMMERCIAL STANDARD OFFER

3.3.1 Commercial Standard Offer Program

Table 3-12. Commercial Standard Offer Program Summary

Topic	Summary
Program Description	The Commercial Standard Offer Program provides incentives for new construction and retrofit installation for a wide range of measures that reduce demand and save energy in nonresidential facilities. Installed measures must have the potential to reduce peak summer demand by at least 10 kW, except for projects that are self-sponsored, for which there is no minimum kW. Incentives are paid to energy efficiency service providers (i.e., Project Sponsors) on the basis of 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, comply with all program rules and procedures, submit documentation describing their projects, and enter into a Standard Agreement with the IOU.
Target Markets	<ul style="list-style-type: none"> • Market segments: Large and small commercial/industrial businesses • Eligibility criteria: Achieve peak summer demand reductions of at least 10 kW • Applications: New or retrofit applications

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Examples may include website, retailer partners, bill inserts, radio ads, billboards, home shows, etc. • Program sponsors include: <ul style="list-style-type: none"> ○ 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 ○ Individual distribution customers within the eligible service territories who install measures in their own nonresidential facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility administered
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, controls, refrigeration, food service, motors, window film, cool roofs • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer • kW (demand savings) \$175–\$350 per kW (varies by measure type) • kWh (energy savings) \$0.06–\$0.09 per kWh (varies by measure type) • Program direct install: N/A
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre- and post-on-site inspections for a census of projects • Conducted by utility or third-party implementer or combination

Table 3-13 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-13. Commercial Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Standard Offer Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the Commercial SOPs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	



	Description	2015
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	15
	On-site M&V: For a sample of projects, in addition to desk review, primary data will be collected on site to verify installation and operation of measures, collect data on measures or baseline equipment, and conduct metering of savings parameters for which significant uncertainty in the savings calculations are identified as part of the desk reviews (e.g., equipment hours of use).	10

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

3.4.1 Hard-to-Reach Standard Offer Program

Table 3-14. Hard-to-Reach Standard Offer Program Summary

Topic	Summary
Program Description	The Hard-to-Reach Standard Offer Program 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% of the federal poverty level or have been 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	<ul style="list-style-type: none"> • Market segments: Hard-to-reach residential customers • Eligibility criteria: Residential customers at or below 200% of the federal poverty level or have been designated as HTR through another PUCT-approved verification methodology (e.g., Section 8 housing). • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> ○ Utilizes mass email notifications to enroll and keep potential project sponsors interested and informed ○ Maintains website with detailed project eligibility, end-use measures, incentives, procedures and application forms ○ Participates in appropriate industry-related meetings to generate awareness and interest ○ Participates in state-wide outreach activities as available ○ Conducts 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. <ul style="list-style-type: none"> • Project sponsors represent a range of EESPs.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: AEP TCC



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Insulation, infiltration, HVAC, water heating, lighting, ENERGY STAR® appliances, windows, renewable energy installations • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer. Higher incentives are available for customers in underserved counties, and for under-installed measures
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • 10% post-inspection per report, per project sponsor

Table 3-15 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-15. Hard-to-Reach Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The HTR SOP comprises 6% of the energy and 4% of the demand savings for AEP TCC's 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.	High
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants to evaluate energy and demand impacts at program and measure-category levels	

3.4.2 Targeted Low-Income Energy Efficiency Program

Table 3-16. Targeted Low-Income Energy Efficiency Program Summary

Topic	Summary
Program Description	The Targeted Low-Income Energy Efficiency Program provides weatherization and energy-efficiency measures to residential customers that meets DOE's Weatherization Assistance Program income eligibility guidelines and cost-effectiveness criteria (savings-to-investment ratio [SIR]). The utility contracts with implementers to conduct outreach, participant targeting, and delivery (including home audit and installations).
Target Markets	<ul style="list-style-type: none"> • Market segments: Low-income residential customers • Eligibility criteria: Receives electric power service through the utility's distribution system; meets DOE income-eligibility guidelines (i.e., 200% FPL); has electric air-conditioning • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Frontier, the third-party implementer, conducts outreach to weatherization service providers in the AEP TCC service territory. • Program sponsors: Weatherization service providers
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier Associates
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Weatherization and energy education • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Third-party nonprofit agencies inspect 100%, and AEP TCC verifies >5% of those submitted • Conducted by AEP TCC and third-party nonprofit agencies

Table 3-17 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-17. Low-Income Energy Efficiency Weatherization Program EM&V Plan

	Description	2015
Evaluation Priority	The Low-Income Programs comprise 2% of the energy and demand savings for AEP TCC's 2015 portfolio; however, SB 1434 requires T&D utilities to spend 10% of their energy-efficiency budget on targeted low-income weatherization programs.	Low

	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	

3.5 LOAD MANAGEMENT

3.5.1 Load Management Standard Offer Program and Load Management Standard Offer Program—Expanded

Table 3-18. Commercial Load Management Standard Offer Program Summary

Topic	Summary
Program Description	The Commercial Load Management Standard Offer Program was developed to pay incentives to EESPs for load interruptions of electric consumption on short notice during peak demand periods. Sponsoring participants undergo an application process and then enter into an Agreement with AEP TCC. Under the Standard Agreement, the Project Sponsor agrees to deliver demand savings to AEP TCC from an AEP TCC distribution customer, using load that is subject to load management curtailment activities (Interruptible Load) at that customer's site.
Target Markets	<ul style="list-style-type: none"> • Market segments: Large commercial/industrial businesses • Eligibility criteria: <ul style="list-style-type: none"> ○ Demand \geq500 kW ○ Must have Interval Data Recorder meter ○ Must be located on AEP Texas Central Company Distribution system. • Applications: Existing
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Website, retailer partners, etc. • Program sponsors: National or local EESPs, retail electric providers (REPs), or individual customers that identify interruptible load in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Third-party implementer or individual customers
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: N/A • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: AEP will pay a participating customer (or the project sponsor, if different) up to \$35 per kW of verified curtailed load each year of participation.



Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • AEP TCC will verify actual demand savings from interruptions.

Table 3-19 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-19. Commercial Load Management Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	Low priority was given to the Load Management program evaluation because savings are determined using actual interval load data in comparison to loads on similar days. The program targets load curtailment during peak system demand days—for one- to four-hours duration. Demand savings are high, energy savings are low. Load management programs tend to be relatively inexpensive.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	<p>Program tracking data review: Review data for accuracy and alignment with demand interval metered data.</p> <p>Metered Data review: Program rules require installation of demand interval metering to record real time participant demand profiles. Review of these data will verify program tracking data.</p> <p>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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.</p>	

3.6 PILOT

3.6.1 Efficiency Connection Pilot Market Transformation Program

Table 3-20. Efficiency Connection Pilot Market Transformation Program Summary

Topic	Summary
Program Description	The EffCon Pilot MTP is a partnership with Retail Electric Providers (REPs) to help promote energy efficiency to AEP TCC residential customers by offering discounted LED lamps via an online marketplace. A third-party implementer facilitates customer/REP participation and aids in the selection and management of an online retailer/vendor for the program website and order fulfillment.
Target Markets	<ul style="list-style-type: none"> Residential
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> Marketing: AEP TCC plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> Contracts with third-party program implementer to implement outreach and planning activities REPs or third party entities will market the program to existing customers via email, phone calls, and direct mail.
Implementation and Delivery	<ul style="list-style-type: none"> Implementer: CLEAResult is the implementer and data source
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> Measure offerings: LEDs Rebates/incentives: Product buy-downs.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> Unknown

Table 3-21 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-21. Efficiency Connection Pilot Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	Represents less of the portfolio overall savings, with the majority of savings from deemed savings measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> How are program data being handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Review data for accuracy.	
	Desk reviews: No desk reviews will be conducted for this program in 2015.	
	On-site M&V: No on-sites will be conducted for this program in 2015.	



3.7 RESIDENTIAL MARKET TRANSFORMATION

3.7.1 CoolSaver A/C Tune-Up Market Transformation Program (Residential)

Table 3-22. CoolSaver[®] A/C Tune-Up Market Transformation Program Summary

Topic	Summary
Program Description	<p>CoolSaver[®] MTP is designed to overcome market barriers that prevent residential customers from receiving high performance A/C system tune-ups. In 2015, the program has expanded to offer incentives to A/C contractors who replace existing air conditioners and/or heat pumps with new high efficiency units of 16 SEER or higher in residential homes. The program works through local A/C distributor networks to offer key program components, including:</p> <ul style="list-style-type: none"> • Training and certifying A/C technicians on the tune-up and air flow correction services and protocols • Paying incentives to A/C contractors for the successful implementation of A/C tune-up and air flow correction services. <p>Participating customers are eligible to receive up to \$75 in the form of instant discounts for use toward A/C and heat pump efficiency services performed as a result of the program's tune-up analysis. 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 \$150 for a modeled tune-up and \$75 for a basic tune-up (with additional funds available for specific add-on tune-up services). Energy savings are captured through the correction of A/C system inefficiencies identified during the tune-up activities.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers, HVAC contractors • Eligibility criteria: Equipment eligible for tune-ups include high-efficiency A/C equipment of up to 25 tons in cooling capacity; customer must accept recommendations from a tune-up analysis • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: AEP TCC markets the CoolSaver[®] MTP in the following manner: <ul style="list-style-type: none"> ○ Contracts with CLEAResult to conduct outreach and planning activities ○ Targets residential A/C contractors that service customers served by AEP TCC ○ Conducts training workshops with contractor staff on the specific tune-up and airflow correction services promoted by the program, as well as the measurement and verification 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 ○ Participates in appropriate industry-related meetings to generate awareness and interest.



Topic	Summary
	<ul style="list-style-type: none"> • Program sponsors: HVAC contractors
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer and the data source
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • 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: \$75 provided to end-use customer in the form of instant discounts at time of service; up to \$150 provided to contractor; discounts on tool purchases
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • CLEAResult provides all QA/QC • During technician training, CLEAResult ride-alongs • 10% for contractors and technicians • Post on-site inspections conducted by implementer

Table 3-23 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-23. CoolSaver® A/C Tune-Up Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	Represents less of the portfolio overall savings, with the majority of savings from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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? • Are goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	



3.7.2 High-Performance New Homes Market Transformation Program⁸

Table 3-24. High-Performance New Homes Market Transformation Program Summary

Topic	Summary
Program Description	The High-Performance New Homes MTP targets several market participants, primarily homebuilders and consumers. The program’s goal is to create conditions in which consumers demand ENERGY STAR-certified homes, and homebuilders supply them. Incentives are paid to homebuilders who construct homes in the AEP TCC service territory to strict energy-efficient building guidelines and that are at least 15% above the local 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	<ul style="list-style-type: none"> • Market segments: Residential customers, homebuilders, home energy raters, real estate agents, HVAC contractors, mortgage lenders, product manufacturers, homebuilder associations, and media outlets. • Eligibility criteria: Depending upon the physical location of the home, homes will be paid based upon kW and kWh that is calculated for each home. • Applications: New home construction applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: AEP TCC markets the New Homes MTP in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party implementer to conduct outreach and planning activities ○ Email and phone notification of informational meetings to homebuilders, home energy raters, HVAC contractors, real estate agents, homebuilder sales agents, mortgage lenders and other allies ○ Maintains 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 ○ Participates in appropriate industry-related meetings to generate awareness and interest ○ Conducts 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 ○ Supports homebuilder sales efforts by providing sales training, marketing materials, and inclusion in print advertisements and the program’s website; as well as by providing technical training, home plan analysis, and answers to questions as needed. • Program sponsors: In addition to homebuilder and consumer outreach, the New 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.

⁸ ENERGY STAR® in PY2012.



Topic	Summary
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: ICF is the third-party implementer; Frontier is the data source
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: This is a whole-home program. Features included are high efficiency windows, HVAC equipment, tight duct work, lighting upgrades and advanced framing. • Technical assistance: Builders must work with raters • Rebates/incentives: Homes will be paid based upon kW and kWh that is calculated for each home
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • 5% of both the builder and rater; various stages of new construction • Conducted by ICF

Table 3-25 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 3-25. High-Performance New Homes Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	Represents less of the portfolio overall savings, with the majority of savings from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • 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 process of data entry and storage more streamlined and effective? • Are goals established appropriately, and will they be met? • To what degree is the program encouraging adoption of energy efficient technologies that would otherwise not have taken place? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	
	Desk reviews: Will review the program files (e.g., REM/Rate) to assess reasonableness of energy savings, and QA/QC M&V reports.	4



3.7.3 SMART Source Solar PV Market Transformation Program (Residential)

Table 3-26. SMART Source Solar PV Market Transformation Program Summary

Topic	Summary
Program Description	The SMART Source Solar PV Program (hereafter, “Program”) offers financial incentives for the installation of eligible distributed solar energy generating equipment on the premises of customers served by AEP TCC, AEP TNC, 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	<ul style="list-style-type: none"> • Market segments: Residential • Eligibility criteria: Residential systems rebated up to 10 kW_{DC} STC, nonresidential rebated up to 25 kW_{DC} STC • Applications: New or retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Contracts with a third-party implementer to conduct outreach and planning activities; maintains website, clear documentation, conducts workshops, and facilitates media opportunities. • Program sponsors include: <ul style="list-style-type: none"> ○ National or local energy service companies (ESCOs) ○ National or local companies that provide energy-related services (e.g., contracting) or products ○ Retail Electric Providers (REPs).
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier Associates is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Solar photovoltaic (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 service providers who may designate the customer, themselves, or a manufacturer or supplier to receive the incentive payment. • Residential: \$1.20/watt • Nonresidential: \$1.05/watt
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre- inspections via desk reviews for a census of projects • Post-installation on-site inspections of approximately 40% of projects installed. • Conducted by program manager • Service Providers must supply a revenue-grade electrical meter to measure the energy produced by the solar electric system.

Table 3-27 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 3-27. SMART Source Solar PV Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	In 2015, the solar program evaluation was given low priority due to the in-depth EM&V of these programs in 2013. However, desk reviews will be performed to check calculations and verify user inputs for a sample of projects.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the solar programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and parameters providing accurate savings estimates compared to approved calculators or deemed factors? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	

3.8 RESIDENTIAL STANDARD OFFER

3.8.1 Residential Standard Offer Program

Table 3-28. Residential Standard Offer Program Summary

Topic	Summary
Program Description	The Residential Standard Offer Program 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	<ul style="list-style-type: none"> • Market segments: Residential single family and multifamily homes built prior to 2012 • Applications: Retrofit applications

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to inform and update potential project sponsors such as REPs, EESPs, national, and local companies that provide energy-related services ○ Provides additional outreach using direct mail as necessary to attract more participants ○ Maintains internet website with detailed project eligibility, end-use measures, incentives, procedures, and application forms ○ Participates in appropriate industry-related meetings to generate awareness and interest ○ Participates in state-wide outreach activities as may be available ○ Conducts workshops as necessary 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	<ul style="list-style-type: none"> • Implementers: AEP TCC
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • 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 Technical Reference Manual for the Residential customer class is eligible under SOP, including attic insulation, duct sealing, caulking/weather-stripping, AC, 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 discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer. Higher incentives are available for customers in underserved counties.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Around 10% post-inspection per report, per project sponsor • Conducted by AEP TCC

Table 3-29 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 3-29. Residential Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Residential SOP comprises 25% of the energy and 15% of the demand savings for AEP TCC's 2015 portfolio.	High
Key Researchable Issues	<ul style="list-style-type: none">• 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?	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with TRM	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants to evaluate energy and demand impacts at program and measure-category levels.	

4. AEP TEXAS NORTH COMPANY

This section addresses the energy efficiency and load management portfolio for AEP Texas North Company (AEP TNC). The overall portfolio is summarized below, followed by details for each program in the portfolio.

4.1 PORTFOLIO OVERVIEW

Table 4-1 shows the projected energy and demand savings for the AEP TNC programs for PY2015.

Table 4-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Com MTP	Commercial Solutions MTP	Commercial Solutions	323	6%	2,000,000	18%
Com MTP	Open MTP	Small Business DI	357	6%	1,344,000	12%
Com MTP	SCORE/CitySmart MTP	CitySmart / SCORE / Government	161	3%	1,000,000	9%
Com MTP	SMART Source Solar PV MTP (Nonresidential)	P/V Solar Pilot MTP / SMART SOURCE PV Pilot (Nonresidential)	61	1%	117,000	1%
Com SOP	Commercial SOP	Commercial SOP	740	13%	2,920,000	26%
LI/HTR SOP	Hard-to-Reach SOP	Hard-to-reach SOP	224	4%	589,828	5%
LI/HTR SOP	Targeted Low-Income Energy Efficiency Program	Low Income / HTR Weatherization Programs	122	2%	268,166	2%
Load Management	Load Management SOP	Commercial Load Management SOP	2,751	48%	19,282	0%
Pilot Program	Efficiency Connection Pilot MTP	Retail Electric Provider	105	2%	525,131	5%



Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Res MTP	SMART Source Solar PV MTP (Residential)	P/V Solar Pilot MTP / SMART SOURCE PV Pilot (Residential)	71	1%	137,143	1%
Res SOP	Residential SOP	Residential SOP	800	14%	2,451,000	22%

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 is followed by the 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 issues will be investigated portfolio-wide:

- What are drivers of differences, if any, between claimed and evaluated savings?
- Are the program provisions for quality assurance and control adequate?

4.2 COMMERCIAL MARKET TRANSFORMATION

4.2.1 Commercial Solutions Market Transformation Program

Table 4-2. Commercial Solutions Market Transformation Program Summary

Topic	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/or (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/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.
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial Facilities (other than Government and Education) • Eligibility criteria: Commercial facilities within TNC's service territory • Applications: Retrofit or new construction projects



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: TNC plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to conduct outreach and planning activities ○ Maintains an internet website to provide information to potential participants ○ Conducts workshops as necessary to explain elements of the program, such as responsibilities of the participants, project requirements, incentive information, and the application and reporting process ○ Participates in local, regional, state-wide and industry-related outreach activities as may be necessary. • Facilitates earned media opportunities, spotlighting successful projects and/or interesting stories as applicable. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, window film, roofing or others, that may require M&V planning and metering • Technical assistance: includes communications support, administrative program management in addition to identification and evaluation of energy efficiency measures • Rebates/incentives: provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects where detailed equipment invoices are not provided • Pre and post inspection is conducted by third-party implementer • In addition some verification is conducted by the utility

Table 4-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-3. Commercial Solutions Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Solutions Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	3
	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

4.2.2 Open Market Transformation Program

Table 4-4. Open Market Transformation Program Summary

Topic	Summary
Program Description	The Open MTP targets traditionally underserved small commercial customers who may not employ knowledgeable personnel with a focus on energy reduction, who are limited in the ability to implement energy efficiency measures, and/or who typically do not actively seek the help of professional Energy Efficiency Service Providers (EESP). Financial incentives are provided directly to the contractor, thereby reducing a portion of the project cost for the customer. Small commercial customers with peak demands not exceeding 100 kW in the previous 12 consecutive billing months may qualify to participate in the program. Additionally, customers whose peak demand is less than or equal to 10 kW may qualify for incentives that would offset up to 100% of the cost of their project(s).



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Small Commercial Facilities • Eligibility criteria: Small Commercial facilities within TNC’s service territory and with peak demands <=100kW. • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: TNC plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to conduct outreach and planning activities ○ Identifies and recruits contractors who provide services to customers to develop a network of participating contractors who will deliver the program directly to customers ○ Maintains an internet website to provide information to potential participants ○ Develops a recruitment packet with outreach information and enrollment materials that participating contractors can use when marketing the program to customers ○ Conducts 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 ○ Participates in local, regional, state-wide and industry-related outreach activities as may be necessary. • Program sponsors: Contractor/EESP
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEARresult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • 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 contractor • Rebates/incentives: Provided to contractor • Program direct install: DI approach
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of initial five projects of every enrolled contractor and randomly selected pre and post for 20% of each additional project submitted • Pre and post inspection is conducted by third-party implementer • In addition, some verification is conducted by the utility

Table 4-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 4-5. Open Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Open Market Transformation Program could represent a moderate portion of the portfolio's future energy use and demand savings. The majority of savings are from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Is a change in measure mix being seen by the program? • Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Review the program tracking system data for completeness and accuracy.	

4.2.3 SCORE/CitySmart Market Transformation Program

Table 4-6. Texas SCORE/CitySmart Market Transformation Program Summary

Topic	Summary
Program Description	The SCORE/CitySmart MTP helps educational facilities (public and private schools K-12 and higher education) and local government institutions in lowering their energy use by educating and assisting in integrating energy efficiency into their short- and long-term planning, budgeting, and operational practices. This is completed through assistance in areas such as energy master planning workshops, energy performance benchmarking and identifying/assessing/implementing energy efficiency measures. Energy efficiency improvements include capital-intensive projects and implementing operational and maintenance practices and procedures. Financial incentives are provided to energy efficiency measures that reduce peak electricity demand.
Target Markets	<ul style="list-style-type: none"> • Market segments: Education and Government Facilities • Eligibility criteria: Education and government facilities within TNC's service territory • Applications: Retrofit or new construction projects



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: TNC plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to conduct outreach and planning activities ○ Maintains an internet website to provide information to potential participants ○ Conducts workshops as necessary to explain elements of the program, such as 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 ○ Participates in local, regional, state-wide and industry-related outreach activities as may be necessary. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, window film, roofing or others, that may require M&V planning and metering • Technical assistance: Includes communications support, financing assistance, performance benchmarking and energy master planning workshops in addition to identification of energy efficiency measures • Rebates/incentives: Provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects (except <25 kW savings then only pre inspection) • Pre and post inspection is conducted by third-party implementer • In addition some verification is conducted by the utility

Table 4-7 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-7. Texas SCORE/CitySmart Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Texas SCORE/CitySmart Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	5
	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

4.2.4 SMART Source Solar PV Market Transformation Program (Nonresidential)

Table 4-8. SMART Source Solar PV Market Transformation Program (Nonresidential) Summary

Topic	Summary
Program Description	<p>The SMART Source Solar PV Program (hereafter, “Program”) offers financial incentives for the installation of eligible distributed solar energy generating equipment on the premises of Customers served by AEP Texas Central Company (AEP TCC), AEP Texas North Company (AEP TNC), and Southwestern Electric Power Company (SWEPCO). The Program is just one of many programs offering financial incentives, educational resources, and information on renewable energy systems, energy efficiency measures, and combined heat and power technologies. 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.</p>



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Nonresidential • Eligibility criteria: Nonresidential rebated up to 25 kW_{DC} STC • Applications: New or retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Contracts with a third-party implementer to conduct outreach and planning activities; maintains website, clear documentation, conducts workshops, and facilitates media opportunities. • Program sponsors include: <ul style="list-style-type: none"> ○ National or local energy service companies (ESCOs) ○ National or local companies that provide energy-related services (e.g., contracting) or products ○ Retail Electric Providers (REPs).
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Third-party implementer (Frontier Associates, LLC.)
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Solar photovoltaic (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 Service Providers who may designate the customer, themselves, or a manufacturer or supplier to receive the incentive payment. <ul style="list-style-type: none"> ○ Residential: \$1.20/watt ○ Nonresidential: \$1.05/watt.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre inspections via desk reviews for a census of projects • Post-installation on-site inspections of approximately 40% of projects installed. • Conducted by program manager • Service Providers must supply a revenue-grade electrical meter to measure the energy produced by the solar electric system.

Table 4-9 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-9. SMART Source Solar PV Market Transformation Program (Nonresidential) EM&V Plan

	Description	2015
Evaluation Priority	In 2015, the solar program evaluation was given low priority due to the in-depth EM&V of these programs in 2013. However, desk reviews will be performed to check calculations and verify user inputs for a sample of projects.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the solar programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and parameters providing accurate savings estimates compared to approved calculators or deemed factors? • Are utility verification regimes sufficient and reliable? 	



	Description	2015
Program Evaluation Approach	Program tracking system review. Review tracking data for a sample of projects for each utility. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	

4.3 COMMERCIAL STANDARD OFFER

4.3.1 Commercial Standard Offer Program

Table 4-10. Commercial Standard Offer Program Summary

Topic	Summary
Program Description	The Commercial Standard Offer Program provides incentives for new construction and retrofit installation for a wide range of measures that reduce demand and save energy in nonresidential facilities. Installed measures must have the potential to reduce peak summer demand by at least 10 kW, except for projects that are self-sponsored, for which there is no minimum kW. Incentives are paid to energy efficiency service providers (i.e., Project Sponsors) on the basis of 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, comply with all program rules and procedures, submit documentation describing their projects, and enter into a Standard Agreement with the IOU.
Target Markets	<ul style="list-style-type: none"> • Market segments: large and small commercial/industrial businesses • Eligibility criteria: achieve peak summer demand reductions of at least 10 kW • Applications: New or retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: examples may include website, retailer partners, bill inserts, radio ads, billboards, home shows, etc. • Program sponsors include: <ul style="list-style-type: none"> ○ 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 ○ Individual distribution customers within the eligible service territories who install measures in their own nonresidential facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility administered



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, controls, refrigeration, food service, motors, window film, cool roofs • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer • kW (demand savings) \$175–\$350 per kW (varies by measure type) • kWh (energy savings) \$0.06–\$0.09 per kWh (varies by measure type)
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for a census of projects • Conducted by utility or third-party implementer or combination

Table 4-11 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-11. Commercial Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Standard Offer Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the CSO programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	Desk reviews: For a sample of projects, review program sponsor savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	5
	On-site M&V: For a sample of projects, in addition to desk review, primary data will be collected on site to verify installation and operation of measures, collect data on measures or baseline equipment, and conduct metering of savings parameters for which significant uncertainty in the savings calculations are identified as part of the desk reviews (e.g., equipment hours of use).	2



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

4.4.1 Hard-to-Reach Standard Offer Program

Table 4-12. Hard-to-Reach Standard Offer Program Summary

Topic	Summary
Program Description	The Hard-to-Reach Standard Offer Program 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% of the federal poverty level or have been 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	<ul style="list-style-type: none"> • Market segments: Hard-to-reach residential customers • Eligibility criteria: Residential customers at or below 200% of the federal poverty level or have been designated as HTR through another PUCT-approved verification methodology (e.g., Section 8 housing) • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to enroll and keep potential project sponsors interested and informed ○ Maintains website with detailed project eligibility, end-use measures, incentives ○ procedures and application forms ○ Participates in appropriate industry-related meetings to generate awareness and interest ○ Participates in state-wide outreach activities as available ○ Conducts 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 include several EESPs.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: AEP Texas North Company
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: insulation, infiltration, HVAC, water heating, lighting, ENERGY STAR® appliances, windows, renewable energy installations • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer

Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • 10% post-inspection per report, per project sponsor
	<ul style="list-style-type: none"> • Conducted by AEP Texas North Co.

Table 4-13 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-13. Hard-to-Reach Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The HTR SOP comprises 5% of the energy and 4% of the demand savings for AEP TNC's 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.	High
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants to evaluate energy and demand impacts at program and measure-category levels.	

4.4.2 Targeted Low-Income Energy Efficiency Program

Table 4-14. Targeted Low-Income Energy Efficiency Program Summary

Topic	Summary
Program Description	The Targeted Low-Income Energy Efficiency Program provides weatherization and energy-efficiency measures to residential customers that meets DOE's Weatherization Assistance Program income eligibility guidelines and cost-effectiveness criteria (savings-to-investment ratio [SIR]). The utility contracts with implementers to conduct outreach, participant targeting, and delivery (including home audit and installations).
Target Markets	<ul style="list-style-type: none"> • Market segments: Low-income residential customers
	<ul style="list-style-type: none"> • Eligibility criteria: Receives electric power service through the utility's distribution system; meets DOE income-eligibility guidelines (i.e., 200% FPL); has electric air-conditioning
	<ul style="list-style-type: none"> • Applications: Retrofit applications



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> Marketing strategies: The third-party implementer conducts outreach to weatherization service providers in the TCC service territory.
	<ul style="list-style-type: none"> Program sponsors: Weatherization service providers
Implementation and Delivery	<ul style="list-style-type: none"> Implementers: Texas Association of Community Action Agencies (TACAA)
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> Measure offerings: weatherization and energy education
	<ul style="list-style-type: none"> Technical assistance: At discretion of the program sponsor, not part of program design
	<ul style="list-style-type: none"> Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> Community Action Agencies inspect 100%, and Texas Central Company verifies >5% of those submitted
	<ul style="list-style-type: none"> Conducted by AEP Texas Central Company and third-party nonprofit agencies

Table 4-15 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-15. Low Income Weatherization Program EM&V Plan

	Description	2015
Evaluation Priority	The Low-Income Programs comprise 2% of the energy and demand savings for AEP TNC's 2015 portfolio; however, SB 1434 requires T&D utilities to spend 10% of their energy-efficiency budget on targeted low-income weatherization programs.	Low
Key Researchable Issues	<ul style="list-style-type: none"> 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	



4.5 LOAD MANAGEMENT

4.5.1 Load Management Standard Offer Program

Table 4-16. Load Management Standard Offer Program Summary

Topic	Summary
Program Description	The Load Management Standard Offer Program and the Load Management Standard Offer—Expanded were developed to pay incentives to EESPs for load interruptions of electric consumption on short notice during peak demand periods. Sponsoring participants undergo an application process and then enter into an Agreement with AEP Texas. Under the Standard Agreement, the Project Sponsor agrees to deliver demand savings to AEP Texas from an AEP Texas distribution customer, using load that is subject to load management curtailment activities (Interruptible Load) at that customer's site.
Target Markets	<ul style="list-style-type: none"> • Market segments: Large commercial/industrial businesses • Eligibility criteria: <ul style="list-style-type: none"> ○ Demand \geq500 kW ○ Must have Interval Data Recorder meter ○ Must be located on AEP Texas North Company Distribution system. • Applications: Existing
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Website, retailer partners, etc. • Program sponsors: National or local EESPs, retail electric providers (REPs), or individual customers that identify interruptible load in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Internal
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: N/A • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: AEP will pay a participating customer (or the project sponsor, if different) up to \$35 per kW of verified curtailed load each year of participation.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • AEP Texas will verify actual demand savings from interruptions.

Table 4-17 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-17. Commercial Load Management Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	Medium priority was given to the Load Management program evaluation because savings are calculated using actual interval load data and comparing to the average of loads on similar days. Even though the demand savings are high, the energy savings are low. Load management programs tend to be relatively inexpensive.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • 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 installation of demand interval metering to record real time participant demand profiles. Review of these data will verify program tracking data.	
	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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.	

4.6 PILOT

4.6.1 New Efficiency Connection Pilot Market Transformation Program

Table 4-18. New Efficiency Connection Pilot Market Transformation Program Summary

Topic	Summary
Program Description	The EffCon Pilot MTP is a partnership with Retail Electric Providers (REPs) to help promote energy efficiency to AEP TCC residential customers by offering discounted LED lamps via an online marketplace. A third-party implementer facilitates customer/REP participation and aids in the selection and management of an online retailer/vendor for the program website and order fulfillment.
Target Markets	<ul style="list-style-type: none"> • Residential
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing: AEP TCC plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with third-party program implementer to implement outreach and planning activities. • REPs or third-party entities will market the program to existing customers via email, phone calls, and direct mail.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementer: CLEAResult is the implementer and data source
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: LEDs • Rebates/incentives: Product buy-downs



Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> Unknown

Table 4-19 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-19. Efficiency Connection Pilot Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	Represents less of the portfolio overall savings, with the majority of savings from deemed savings measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> How are program data being handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Review data for accuracy.	

4.7 RESIDENTIAL STANDARD OFFER

4.7.1 SMART Source Solar PV Market Transformation Program (Residential)

Table 4-20. SMART Source Solar PV Market Transformation Program (Residential) Summary

Topic	Summary
Program Description	The SMART Source Solar PV Program (hereafter, “Program”) offers financial incentives for the installation of eligible distributed solar energy generating equipment on the premises of Customers served by AEP Texas Central Company (AEP TCC), AEP Texas North Company (AEP TNC), and Southwestern Electric Power Company (SWEPCO). The Program is just one of many programs offering financial incentives, educational resources, and information on renewable energy systems, energy efficiency measures, and combined heat and power technologies. 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	<ul style="list-style-type: none"> Market segments: Residential and nonresidential Eligibility criteria: Residential systems rebated up to 10 kW_{DC} STC, nonresidential rebated up to 25 kW_{DC} STC Applications: New or retrofit applications



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Contracts with a third-party implementer to conduct outreach and planning activities; maintains website, clear documentation, conducts workshops, and facilitates media opportunities. • Program sponsors include: <ul style="list-style-type: none"> ○ National or local energy service companies (ESCOs) ○ National or local companies that provide energy-related services (e.g., contracting) or products ○ Retail electric providers (REPs)
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Third-party implementer (Frontier Associates, LLC.)
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Solar photovoltaic (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 Service Providers who may designate the customer, themselves, or a manufacturer or supplier to receive the incentive payment. <ul style="list-style-type: none"> ○ Residential: \$1.20/watt ○ Nonresidential: \$1.05/watt.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre inspections via desk reviews for a census of projects • Post-installation on-site inspections of approximately 40% of projects installed. • Conducted by program manager • Service Providers must supply a revenue-grade electrical meter to measure the energy produced by the solar electric system.

Table 4-21 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-21. SMART Source Solar PV Market Transformation Program (Residential) EM&V Plan

	Description	2015
Evaluation Priority	In 2015, the solar program evaluation was given low priority due to the in-depth EM&V of these programs in 2013. However, desk reviews will be performed to check calculations and verify user inputs for a sample of projects.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the solar programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and parameters providing accurate savings estimates compared to approved calculators or deemed factors? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data for a sample of projects for each utility. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	

4.7.2 Residential Standard Offer Program

Table 4-22. Residential Standard Offer Program Summary

Topic	Summary
Program Description	The Residential Standard Offer Program 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	<ul style="list-style-type: none"> • Market segments: Residential single-family and multifamily homes built prior to 2012 • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to inform and update potential project sponsors such as REPs, EESPs, national, and local companies that provide energy-related services ○ Provides additional outreach using direct mail as necessary to attract more participants ○ Maintains internet website with detailed project eligibility, end-use measures, incentives, procedures, and application forms ○ Participates in appropriate industry-related meetings to generate awareness and interest ○ Participates in state-wide outreach activities as may be available ○ Conducts workshops as necessary 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 include several EESPs.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: AEP Texas North Company
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Any Commission-approved measure included in the statewide Residential SOP template, or any Commission-approved measure included in the Technical Reference Manual for the Residential customer class is eligible under SOP, including attic insulation, duct sealing, caulking/weather-stripping, AC, 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 discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Around 10% post-inspection per report, per project sponsor • Conducted by AEP Texas North Company



Table 4-23 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 4-23. Residential Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Residential SOP comprises 22% of the energy and 14% of the demand savings for AEP TNC's 2015 portfolio.	High
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants to evaluate energy and demand impacts at program and measure-category levels.	



5. CENTERPOINT

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

5.1 PORTFOLIO OVERVIEW

Table 5-1 shows the projected energy and demand savings for the CenterPoint programs for PY2015.

Table 5-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Com MTP	Commercial MTP	CitySmart / SCORE / Government / Healthcare	4,270	3%	16,683,130	10%
Com MTP	Retro-Commissioning MTP	Retro-commissioning	1,400	1%	5,400,000	3%
Com MTP	Sustainable Schools	Nonresidential Schools-directed Programs (Educational Facilities/Schools Conserving Resources/Sustainable Schools)	570	0%	1,038,920	1%
Com MTP	REP Program	Retail Electric Provider	1,340	1%	1,616,070	1%
Com MTP	Pool Pump Pilot	Water and Space Heating (Res, HTR, and Nonres)	440	0%	726,180	0%
Com MTP	Data Centers Pilot	Commercial Solutions	1,010	1%	8,766,540	5%
Com SOP	Large Commercial SOP	Commercial Solutions	12,020	7%	71,051,780	42%
LI/HTR MTP	Multi-Family MTP (HTR)	Water and Space Heating (Res, HTR, and Nonres)	1,130	1%	2,847,080	2%



Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
LI/HTR MTP	Targeted Low Income MTP	Low Income / HTR Weatherization Programs	2,810	2%	3,385,350	2%
LI/HTR SOP	Hard-to-Reach SOP Program	Hard-to-reach SOP	1,510	1%	2,913,210	2%
Load Management	Large Commercial Load Management SOP	Load Management SOP	114,080	71%	330,840	0%
Res MTP	ENERGY STAR® Homes MTP	ENERGY STAR New Homes	10,490	7%	27,453,300	16%
Res MTP	Advanced Lighting Residential	Advanced Lighting	1,010	1%	7,132,300	4%
Res MTP	A/C Distributor MTP	A/C Programs (Distributor and CoolSaver AC Tune-up (Res and Nonres))	1,900	1%	6,179,060	4%
Res MTP	Retail Electric Provider Pilot MTP	Retail Electric Provider	3,340	2%	4,040,180	2%
Res MTP	Multi-Family MTP (RES)	Water and Space Heating (Res, HTR, and Nonres)	1,130	1%	2,847,080	2%
Res MTP	Pool Pump Pilot	Water and Space Heating (Res, HTR, and Nonres)	1,180	1%	3,600,000	2%
Res MTP	Energy Wise Resource Action MTP	Nonresidential Schools-directed Programs (Educational Facilities/Schools Conserving Resources/Sustainable Schools)	540	0%	2,267,860	1%
Res SOP	Residential & SC SOP	Residential SOP	850	1%	1,809,060	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 is followed by the 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 issues will be investigated portfolio-wide:

- What are drivers of differences, if any, between claimed and evaluated savings?
- Are the program provisions for quality assurance and control adequate?

5.2 COMMERCIAL MARKET TRANSFORMATION

5.2.1 Commercial Market Transformation Program

Table 5-2. Commercial Market Transformation Program Summary

Topic	Summary
Program Description	<p>The Commercial Solutions MTP includes the SCORE/CitySmart MTP as well as the Healthcare Energy Efficiency Program (HEEP). The Score/CitySmart MT segment of the program will continue to assist K-12, higher education, city, county and state governmental agencies identify/assess/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 that provides higher incentives to those school districts that do not require the technical assistance or engineering analysis provided by the implementer. Financial incentives are provided to energy efficiency measures that reduce peak electricity demand.</p> <p>The HEEP component will focus on engaging the healthcare market at small and medium healthcare facilities. This includes technical assistance to help healthcare providers to identify energy efficiency opportunities in existing and newly planned facilities.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial, education, government, and healthcare facilities • Eligibility criteria: Commercial, education, government, and healthcare facilities within CNP’s service territory • Applications: Retrofit or new construction projects



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint Houston plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to implement outreach and planning activities ○ Participates in appropriate industry-related meetings and events to generate awareness and interest ○ Participates in service area-wide outreach activities as may be available ○ Conducts workshops as necessary to explain elements such as responsibilities of the program requirements, incentive information, and the application and reporting process. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer for SCORE/CitySmart, and Willdan for HEEP
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • 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 and energy master planning workshops in addition to identification of energy efficiency measures • Rebates/incentives: PROVIDED to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre inspection is conducted by third-party implementer • Post inspection is conducted utility

Table 5-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-3. Commercial Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium

	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	5
	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

5.2.2 Retro-Commissioning Market Transformation Program

Table 5-4. Retro-Commissioning Market Transformation Program Summary

Topic	Summary
Program Description	<p>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 an engineering analysis. Facilities are provided with a free expert analysis in which facility owners must implement all of the identified measures with simple payback of less than 1.5 years (up to \$0.03 per square foot cap) or pay towards the cost of the analysis. Customers will no longer receive project incentives. 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: investigation phase and verification phase. In 2015, the preliminary screening phase, introduced in 2014, will be continue to be completed by the program implementer using software to evaluate the customer's interval data to identify potential measures before the RCx agents get involved.</p>



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial facilities (manufacturing, hospitals, educational campuses, retail stores, etc.) within CNP's service territory • Eligibility criteria: facilities $\geq 100,000$ square feet of air-conditioned space • Applications: Existing facilities
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint Houston plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer ○ Maintains internet website with detailed project eligibility, procedures and application forms ○ Participates in appropriate industry-related meetings and events to generate awareness and interest ○ Participates in service area-wide outreach activities as may be available ○ Conducts workshops as necessary to explain elements such as responsibilities of the project sponsor and RCx agents, project requirements, incentive information, and the application and reporting process. • Program sponsors: Third-party RCx agents
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Nexant is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: May include HVAC temperature reset, outside air reduction, optimization of HVAC start-up, lighting (de-lamping, day lighting, etc.), addition of VFD's, etc. • Technical assistance: Includes technical energy analysis for identification of energy efficiency measures • Rebates/incentives: Provided to RCx Agents based on square footage of the project and the amount of energy savings
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer • Some verification is conducted by the utility

Table 5-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 5-5. Retro-Commissioning Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Retro-Commissioning Market Transformation Program represents a moderate portion of the portfolio’s current and future energy use and demand savings. The majority of savings are from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • Is the fast track program reducing the timeframe for adoption and integration of the RCx results? • Is the mix of RCx agents appropriate for the number of projects completed and for active/long term participation and promotion of the program? • Do program sponsors have sufficient information to promote the program? What additional education, training, or tools would be helpful in selling program measures to customers? • Is the current mixture of rebated measures still appropriate, or are there some measures that could be included or removed? Is the focus of low/no-cost measures affecting the participants need for potentially more capital intensive projects with further energy savings? Are incentive values set optimally? • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • What changes to the program design and delivery may improve program performance? Are there major differences in how this program is delivered and performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	



5.2.3 Retail Electric Provider Market Transformation Program (Nonresidential)

Table 5-6. Retail Electric Provider (REP) Market Transformation Program Summary

Topic	Summary
Program Description	<p>CenterPoint transformed the REP MTP from a pilot program in 2013 to a full program in 2014. In 2012 CenterPoint introduced the concept of a “cafeteria program” to the REPs in an effort to engage them more in the company’s energy efficiency portfolio. The program concept offers an open-ended menu of measures to the REPs where they could pick and choose the measures that best suit their organization. In 2014 there were 20 REPs participating in the program. The REPs have accepted the concept of the program and have shown increasing interest in program participation. CenterPoint has increased the available measures in 2015.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Small commercial • Eligibility criteria: <ul style="list-style-type: none"> ○ CoolSaver A/C Tune-up Program: ○ CoolSaver will utilize specially trained air conditioning contractors to perform comprehensive A/C tune-ups for small commercial customers in CenterPoint’s service territory. ○ CoolSaver A/C Install Program design: ○ Beginning in 2014, a limited number of REPs will also offer incentives to A/C contractors who recommend eligible customers replace their existing air conditioners and/or heat pumps with new high efficiency units. A/C replacements will be recommended to customers that enroll for a tune-up but whose equipment is in need of replacement at the time of the tune-up. Incentives will be paid to the A/C contractor for the installation of a minimum 16 SEER A/C unit. • Residential Energy Efficiency and Demand Response: <ul style="list-style-type: none"> ○ Currently, several third party entities have proposed methodologies to implement a residential demand response program utilizing Wi-Fi enabled programmable thermostats. Demand and energy savings may also be achieved through the implementation of mathematical algorithms to adjust thermostat settings without sacrificing customer comfort. Demand and energy savings must be measured and verified utilizing an appropriate baseline. • Applications: Retrofit applications; DR applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing: CenterPoint plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to implement outreach and planning activities ○ REPs or third party entities will market the program to existing customers via email, phone calls and direct mail ○ Participate in appropriate industry-related meetings and events to generate awareness and interest. • Program sponsors: TBD.



Topic	Summary
Implementation and Delivery	<ul style="list-style-type: none"> Implementers: CLEAResult is the implementer and data source for the CoolSaver A/C tune-up measures; Efficiency Connection is the implementer and data source for the LED online marketplace.
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> Measure offerings: Heat pumps, central air conditioners, A/C tune-up, LEDs, custom/other pending approval Technical assistance: Customer must accept recommendations from a tune-up analysis and/or from a participating contractor Rebates/incentives: Tune-ups are generally offered to customers for no charge through participating contractors; LEDs are available through the online marketplace at buy-down prices.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> During technician training, CLEAResult ride-alongs 10% for contractors and technicians Post on-site inspections conducted by implementer

Table 5-7 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-7. Retail Electric Provider Pilot Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	Represents less of the portfolio overall savings, with the majority of savings from deemed savings measures.	Low (medium for load management component)
Key Researchable Issues	<ul style="list-style-type: none"> How are program data handled? Area 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? Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Review data for accuracy.	
	Interval meter data analysis for residential demand response participants.	

5.2.4 Sustainable Schools Market Transformation Program

Table 5-8. Sustainable Schools Market Transformation Program Summary

Topic	Summary
Program Description	The Sustainable Schools Program (SSP) is a Market Transformation Program. The program is a comprehensive energy education and conservation program that is offered at no cost to public and private high schools to raise awareness and change behavior to have a positive impact on the environment. After requests from multiple school districts, the 2015 program now allows middle schools to participate. For select schools, it also provides an in-depth investigation of the school, which provides recommendations for operational and maintenance improvements. Financial incentives are provided to the implementation of recommended energy conservation measures that reduce peak electricity demand.
Target Markets	<ul style="list-style-type: none"> • Market segments: Public and private high schools and middle schools within CenterPoint Energy electric service territory • Eligibility criteria: Public or private high schools (9th–12th grades) and middle schools; commitment to active participation; significant energy savings potential for expert energy assessment • Applications: Existing facilities
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint Houston plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to implement outreach and planning activities ○ Participates in appropriate industry-related meetings and events to generate awareness and interest ○ Conducts meetings with potential participants to explain program requirements, potential incentives and education opportunities. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Willdan Energy Solutions is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Select schools receive an expert energy assessment targeting low-cost operational and maintenance improvements • Technical assistance: Training and ongoing support for participating teachers; educational materials; energy audit kits; instructions on monitoring the school's energy consumption • Rebates/incentives: Provided to select end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre inspection is conducted by third-party implementer • Post inspection is conducted by utility

Table 5-9 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-9. Sustainable Schools Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Are program goals established appropriately, and will they be met? 	Low
Key Researchable Issues	<ul style="list-style-type: none"> • Program tracking system review: Review the program tracking system data for completeness and accuracy. 	
Program Evaluation Approach	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Are program goals established appropriately, and will they be met? 	

5.3 COMMERCIAL STANDARD OFFER

5.3.1 Commercial Standard Offer Program

Table 5-10. Commercial Standard Offer Program Summary

Topic	Summary
Program Description	<p>The Commercial Standard Offer Program has two components—large and small Commercial. Large commercial customers are those with a minimum demand of 100 kW or multiple sites with a combined maximum peak demand greater than 250 kW. Small commercial customers are those with a demand not to exceed 100 kW or multiple sites with a combined maximum peak demand no greater than 250 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, comply with all program rules and procedures, submit documentation describing their projects, and enter into a Standard Agreement with the IOU.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Large and small commercial/industrial businesses • Eligibility criteria: <ul style="list-style-type: none"> ○ For small commercial customers, each project of one or more sites must provide a total estimated summer peak demand reduction of at most 20 kW, and only a deemed approach will be allowed. ○ For large commercial customers, each project of one site must provide a total estimated summer peak demand reduction of at least 20 kW and/or annual energy savings of at least 120,000 kWh, and each project of multiple sites must provide a total estimated peak demand reduction of at least 50 kW or annual energy savings of at least 300,000 kWh. • Applications: New or retrofit applications

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Examples may include website, trade shows, retailer partners, bill inserts, radio ads, billboards, home shows, etc. • Program sponsors: Any entity that can demonstrate competency in designing and implementing energy efficiency projects and a commitment to fulfilling program objectives, for example utility customers (self-sponsors), participating retailers, manufacturers, HVAC contractors, etc.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility or third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, controls, refrigeration, motors, drives, roofing, window films, renewable and cogeneration energy generation • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer • kW (demand savings) \$32–\$285 per kW (varies by measure type) • kWh (energy savings) \$0.02–\$0.11 per kWh (varies by measure type)
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre inspections for a sample of projects and post on-site inspections for a census of projects. • Conducted by utility or third-party implementer or combination

Table 5-11 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-11. Commercial Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Standard Offer Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the CSOPs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	Desk reviews: For a sample of projects, review program sponsor savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	20



	Description	2015
	On-site M&V: For a sample of projects, in addition to desk review, primary data will be collected on site to verify installation and operation of measures, collect data on measures or baseline equipment, and conduct metering of savings parameters for which significant uncertainty in the savings calculations are identified as part of the desk reviews (e.g., equipment hours of use).	12

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

5.4.1 Multi-Family Market Transformation Program

Table 5-12. Multi-Family Market Transformation Program Summary

Topic	Summary
Program Description	<p>The Multi-Family MTP includes three programs that address energy efficiency opportunities within the multifamily market segment. Multi-Family Water and Space Heating provides incentives to multi-family 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 Multi-Family ENERGY STAR[®] program was implemented in conjunction with the Multi-Family 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 for building high performance multifamily developments. These developers will be offered a performance bonus for building above the current energy code. In 2015, the new Multi-Family Direct Install program will be launched to address the existing multifamily market. Property owners and managers will be offered a free visual audit of existing units to see if the property is eligible for energy efficient direct install measures, which may include CFLs, 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.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Low-income multifamily housing • Eligibility criteria: Multifamily housing facilities within CenterPoint’s electric service territory; new housing must be built to ENERGY STAR[®] 3.0. 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: Retrofit and new construction projects



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to potential project sponsors and developers to inform them of the program start date and informational meetings ○ Participates in appropriate industry-related meetings and events to generate awareness and interest ○ Conducts workshops as necessary to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process. ○ Contracts with a third-party program implementer to implement outreach and planning activities for the Multi-Family ENERGY STAR® and the Multi-Family Direct Install programs ○ Provides point of purchase materials including yard signs, door mats and brochures free to participating builders for the Multi-Family ENERGY STAR® and the Multi-Family Direct Install programs. • Program sponsors: Developer
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: ICF is the implementer for the ENERGY STAR® program. A third-party implementer is to be used for the new Multi-Family Direct Install program as well.
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • 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 are also different for individual water heaters versus central service water heating systems. Energy efficient direct install measures may include CFLs, water savings measures (faucet aerator, low-flow showerhead), water heater tank wrap, and water heater pipe insulation. • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to multifamily project developers who agree to facilitate the installation of non-electric water heating in market rate and affordable rate multifamily projects.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Monitoring progress or project through reservation period and post on-site inspections for 100% of projects • Progress monitoring and post inspection is conducted by third-party implementer

Table 5-13 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 5-13. Multi-Family Market Transformation EM&V Plan

	Description	2015
Evaluation Priority	The Multi-Family Market Transformation Programs represent a small portion of the portfolio's current and future energy use and demand savings.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage 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.	Program tracking system review: Review the tracking system data for completeness and accuracy.

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

Table 5-14. Targeted Low Income (Agencies in Action) Market Transformation Program Summary

Topic	Summary
Program Description	The Agencies in Action MTP provides weatherization and energy-efficiency measures to residential customers that meets DOE's 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, conducting outreach, participant targeting, and implementation (including home audit and installations).



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Low-income residential customers
	<ul style="list-style-type: none"> • Eligibility criteria: Participants must have total annual household income at or below 200% of the federal poverty level
	<ul style="list-style-type: none"> • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Participates in appropriate industry-related meetings and events to generate awareness and interest ○ Conducts workshops as necessary to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process ○ Contacts nonprofit organizations and local housing authorities for potential participation ○ Promotes program participation in under-served areas of the CenterPoint Houston electric service territory. • Nonprofit sponsors: <ul style="list-style-type: none"> ○ City of Houston ○ Chinese Community Center ○ Fort Bend Corps ○ Antioch Baptist Church ○ VN Teamwork.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier Associates
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings (requires SIR of ≥ 1): Attic insulation, wall insulation, solar screens, CFLs, water saving measures, ENERGY STAR[®] room AC, central AC, heat pumps, ENERGY STAR[®] refrigerators, duct efficiency improvements, and air infiltration control
	<ul style="list-style-type: none"> • Technical assistance: At discretion of the program sponsor, not part of program design
	<ul style="list-style-type: none"> • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections for ~5% of homes • Conducted by CenterPoint

Table 5-15 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 5-15. Targeted Low Income (Agencies in Action) Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Low-Income Programs comprise 2% of energy savings and 1% of demand savings for CenterPoint's 2015 portfolio. CenterPoint's Agencies In Action MTP is prioritized at Low as it is similar to other targeted low-income weatherization programs in delivery.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	

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

5.5.1 Hard-to-Reach Standard Offer Program

Table 5-16. Hard-to-Reach Standard Offer Program Summary

Topic	Summary
Program Description	The Hard-to-Reach Standard Offer Program ⁹ 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% 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	<ul style="list-style-type: none"> • Market segments: Hard-to-reach residential customers • Eligibility criteria: Participants must have total annual household income at or below 200% of the federal poverty level • Applications: Retrofit applications, and new construction through the Affordable Single Family component
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Maintains internet website with detailed project eligibility, end-use measures, incentive structure, procedures, application forms and 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

⁹ This program also includes an Affordable Single-Family New Construction component, available for HTR incentives. While EM&V results will be integrated into the program reporting, the residential new construction methodology will be used.

Topic	Summary
	<ul style="list-style-type: none"> ○ Participates in appropriate industry-related meetings and events to generate awareness and interest ○ Participates in state-wide outreach activities as may be available ○ Conducts workshops as necessary to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process. <ul style="list-style-type: none"> ● Project sponsors represent a range of EESPs.
Implementation and Delivery	<ul style="list-style-type: none"> ● Implementers: CenterPoint
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> ● Measure offerings: Envelope measures, indoor lighting (i.e., CFLs), water heating, ENERGY STAR® refrigerators, HVAC ● New construction for not-for-profit housing or social services organizations built to current ENERGY STAR® 3.0 standards ● Technical assistance: At discretion of the program sponsor, not part of program design ● Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> ● Post on-site inspections for approximately 5% of homes ● Conducted by CenterPoint

Table 5-17 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-17. Hard-to-Reach Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The HTR SOP comprises 0% of the energy and 71% of the demand savings for CenterPoint's 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.	High
Key Researchable Issues	<ul style="list-style-type: none"> ● 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants to evaluate energy and demand impacts at program and measure-category levels.	

5.6 LOAD MANAGEMENT

5.6.1 Large Commercial Load Management Standard Offer Program

Table 5-18. Commercial Load Management Standard Offer Program Summary

Topic	Summary
Program Description	The Commercial Load Management Program is a group load curtailment program in which commercial customers curtail load when notified. Curtailments may occur during the summer peak demand period of each year, defined for this program as weekdays, June 1 through Sept. 30, of each program year, between the hours of 1 p.m. and 7 p.m. The main goal of the Load Management Standard Offer Program is to reduce summer peak demand in the CenterPoint Energy service territory in a cost-effective manner and to reach the demand savings goals established by the legislature and Public Utility Commission of Texas (PUCT) regulations.
Target Markets	<ul style="list-style-type: none"> • Market segments: Large commercial/industrial businesses • Eligibility criteria: <ul style="list-style-type: none"> ○ 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 Interval Data Recorder meter ○ Must be nonresidential customers taking service at the distribution level and/or be a nonprofit customer or government entity, including educational installations. • Applications: Existing
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Website, retailer partners, etc. • Program sponsors: National or local EESPs, retail electric providers (REPs), or individual customers that identify interruptible load in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: N/A • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: CenterPoint Energy will pay a participating customer (or the project sponsor, if different) 35per kW of verified curtailed load each year of participation.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • CenterPoint Energy will verify actual demand savings from interruptions.

Table 5-19 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 5-19. Commercial Load Management Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	Medium priority was given to the Load Management program evaluation because savings are calculated using actual interval load data and comparing to the average of loads on similar days. Even though the demand savings are high, the energy savings are low.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • 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 installation of demand interval metering to record real time participant demand profiles. Review of these data will verify program tracking data.	
	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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.	

5.7 PILOT

5.7.1 Pool Pump Pilot Programs

Table 5-20. Pool Pump Pilot Program Summary

Topic	Summary
Program Description	For 2015, the Smart Pool Program has been redesigned as a mid-tier program and expanded to also include commercial facilities. The program provides incentives to registered contractors for the successful sale, installation, calibration and reporting of Energy Star qualified variable speed swimming pool pumps for residential or commercial customers located within the CenterPoint Energy electric distribution service territory. The program intends is focus on retrofitting existing single-speed pump motors with variable-speed motors. The program will also target new construction whenever possible. Incentives will be offered directly to registered contractors for each variable speed pump, based on \$300 for residential and \$400 for commercial facilities.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential and commercial customers • Eligibility criteria: Installation of eligible variable-speed pumps • Applications: Existing and new construction residential pools



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint Houston plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Participate in appropriate industry-related meetings and seminars to generate awareness and interest ○ Conduct workshops as necessary to explain program elements such as responsibilities of the participating contractors, project requirements and reporting process ○ Provide educational campaigns to the consumer about the benefits and payback for efficient pool operation. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: ECOVA is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Variable-speed pool pump motors • Rebates/incentives: Provided to pool companies/contractors
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Third-party implementer will recruit and train pool professional and ensure programs goals are met.

Table 5-21 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-21. Pool Pump Pilot Program EM&V Plan

	Description	2015
Evaluation Priority	The Pool Pump Pilot Program represents a small portion of the portfolio's current and future energy use and demand savings. This is a pilot program that began in 2014 for CenterPoint but expanded into the commercial realm in 2015.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • As a new pilot program, are program goals established appropriately, and will they be met? • Is sufficient data being captured to effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? • Are program incentives set appropriately and similar to other programs within the state and to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	3

5.7.2 Data Centers Pilot Program

Table 5-22. Data Centers Pilot Program Summary

Topic	Summary
Program Description	The Data Center Energy Efficiency Market Transformation Pilot Program is a new program offered in 2015 as a full service program to 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. Data centers operate continuously, require special environmental conditions, and have substantial peak demand loads and annual energy consumption. The Data Center Energy Efficiency Market Transformation Pilot Program will target this segment with services and energy conservation measures specifically designed for and marketed to this industry. The program services will include educating customers on current best practices and providing engineering surveys to identify and quantify energy conservation measures.
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial customers with continuously operated data centers. • Eligibility criteria: Commercial facilities within CenterPoint's service territory • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint Houston plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contract with a third-party program implementer to implement outreach and planning activities ○ Participate in appropriate industry-related meetings to generate awareness and interest. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Willdan is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: IT-related equipment, operational improvements and specification strategies • Technical assistance: Includes educating customers on current best practices and providing engineering surveys to identify and quantify energy conservation measures • Rebates/incentives: Provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre inspection is conducted by third-party implementer • Post inspection is conducted by implementer or utility

Table 5-23 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 5-23. Data Centers Pilot Program EM&V Plan

	Description	2015
Evaluation Priority	The Data Center Pilot Program represents a small portion of the portfolio's current and energy use and demand savings but has growth opportunity statewide. The majority of savings are expected to be from M&V developed measures.	High
Key Researchable Issues	<ul style="list-style-type: none"> • As a new pilot program, are program goals established appropriately, and will they be met? • Is sufficient data being captured to effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? • Are program incentives set appropriately and similar to other programs within the state and to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	2



5.8 RESIDENTIAL MARKET TRANSFORMATION

5.8.1 Multi-Family Market Transformation Program

Table 5-24. Multi-Family Market Transformation Program Summary

Topic	Summary
Program Description	<p>The Multi-Family MTP includes three programs that address energy efficiency opportunities within the multi-family market segment. Multi-Family Water and Space Heating 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 Multi-Family ENERGY STAR® program was implemented in conjunction with the Multi-Family 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 for building high performance multifamily developments. These developers will be offered a performance bonus for building above the current energy code. In 2015, the new Multi-Family Direct Install program will be launched to address the existing multifamily market. Property owners and managers will be offered a free visual audit of existing units to see if the property is eligible for energy efficient direct install measures, which may include CFLs, 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.</p>
Target Markets	<ul style="list-style-type: none">• Market segments: Multifamily housing• Eligibility criteria: Multifamily housing facilities within CenterPoint's electric service territory; new housing must be built to ENERGY STAR® 3.0. 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: Retrofit and new construction projects

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to potential project sponsors and developers to inform them of the program start date and informational meetings ○ Participates in appropriate industry-related meetings and events to generate awareness and interest ○ Conducts workshops as necessary to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process ○ Contracts with a third-party program implementer to implement outreach and planning activities for the Multifamily Energy Star® and the Multi-Family Direct Install programs ○ Provides point of purchase materials including yard signs, door mats and brochures free to participating builders for the Multifamily ENERGY STAR® and the Multi-Family Direct Install programs. • Program sponsors: Developer
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: ICF is the implementer for ENERGY STAR® program. A third-party implementer is to be used for the new Multi-Family Direct Install program as well.
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • 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 are also different for individual water heaters versus central service water heating systems. Energy efficient direct install measures may include CFLs, water savings measures (faucet aerator, low-flow showerhead), water heater tank wrap, and water heater pipe insulation. • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to multifamily project developers who agree to facilitate the installation of non-electric water heating in market rate and affordable rate multifamily projects.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Monitoring progress or project through reservation period and post on-site inspections for 100% of projects • Progress monitoring and post inspection is conducted by third-party implementer

Table 5-25 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 5-25. Multi-Family Market Transformation EM&V Plan

	Description	2015
Evaluation Priority	The Multi-Family Market Transformation Program represents a small portion of the portfolio's current and future energy use and demand savings.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage 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.	

5.8.2 ENERGY STAR® Homes Market Transformation Program

Table 5-26. ENERGY STAR® Homes Market Transformation Program Summary

Topic	Summary
Program Description	<p>The ENERGY STAR® New 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 and qualifying homes must be built to strict EPA standards or above.</p> <p>For 2015, the program is modeled similarly to 2014. To qualify for incentives, homes under the Texas state energy code must achieve 10% kWh savings better than the program's User Defined Reference Home (UDRH). Homes within municipalities with energy codes more stringent than the Texas state code must achieve 20% kWh savings better than the program's UDRH.</p> <p>An additional incentive will be offered for those builders who build ENERGY STAR® certified homes.</p> <p>The program reference home mentioned above is in the form of a UDRH file as a supplement of REM/Rate and it is based on the IRC/IECC 2009 code. The program will now require the builder to submit a home's permit date to distinguish which code standards the home should be built to as well as an upload of the Fuel Summary Report created in REM/Rate.</p> <p>In 2014, the program provided a set bonus incentive any time a home achieved 5% above the program qualification requirement. In order to continue to transform the market and push builders to improve their building practices, CenterPoint has changed to a tiered incentive structure. Bonus incentives for homes that are built at 5% and 10% above program requirements have been reduced while bonus incentives for those building 15% and above to reward builders who continue to improve their building practices. The program will continue to require a REM file and Fuel Summary report for each home submitted.</p>



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers, homebuilders • Eligibility criteria: Homes Under the Texas state energy code must achieve 10% kWh savings better than the program’s User Defined Reference Home (UDRH). Homes within municipalities with energy codes more stringent than the Texas state code must achieve 20% kWh savings better than the program’s UDRH. An additional incentive will be offered for those builders who build ENERGY STAR® certified homes. • Applications: New home construction applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint promotes the ENERGY STAR® Homes MTP in the following manner: <ul style="list-style-type: none"> ○ 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 internet website, www.HoustonEnergyStarHomes.com 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 state-wide outreach activities ○ Conducts builder workshops covering program requirements, incentive information, and the application and reporting process. • Program sponsors: In addition to homebuilder and consumer outreach, the ENERGY STAR® 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	<ul style="list-style-type: none"> • Implementers: ICF is the third-party implementer, and the data source is Frontier



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: The energy savings earned by an ENERGY STAR® certified new home are based on heating, cooling, hot water, lighting, and appliance energy use. Energy savings are typically achieved through a combination of: <ul style="list-style-type: none"> ○ 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 ENERGY STAR® light bulbs and fixtures ○ ENERGY STAR® certified new refrigerators, clothes washers, and dishwashers. • Technical assistance: Builders must work with raters • Rebates/incentives: Builders will be paid on homes based upon kW and kWh that is calculated for each home
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Various pieces conducted by both CenterPoint and ICF • ICF reviews 5% of new homes invoices monthly, and does QA/QC on builders; QA/QC includes review of REM/Rate files as well as on-site inspections • CenterPoint performs some inspections while the home is being constructed

Table 5-27 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-27. ENERGY STAR® New Homes Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	While savings as a percentage of the overall portfolio are higher for CenterPoint, they are lower for other utilities with the majority of savings from deemed measures.	Medium

	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • 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 process of data entry and storage more streamlined and effective? • Are goals established appropriately, and will they be met? • To what degree is the program encouraging adoption of energy efficient technologies that would otherwise not have taken place? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	
	Desk reviews: Will review the program files (e.g., REM/Rate) to assess reasonableness of energy savings, and QA/QC M&V reports.	10

5.8.3 Advanced Lighting Residential Program

Table 5-28. Advanced Lighting Residential Market Transformation Program Summary

Topic	Summary
Program Description	The Advanced Lighting Residential MTP offers point of purchase discounts to Residential customers at participating retail stores for the purchase of qualified (i.e., ENERGY STAR® rated) high efficiency LED lighting products.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers • Eligibility criteria: Residential customers at participating retailers • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint Houston plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ In-store promotions of the program via signage ○ Contracts with a third-party program implementer to implement outreach and planning activities ○ Participates in regional outreach activities as may be available ○ Participates in appropriate industry-related meetings and events to generate awareness and interest. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Ecova is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Certified residential LED lighting • Technical assistance: N/A • Rebates/incentives: Provided to end-use customer



Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • N/A

Table 5-29 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-29. Advanced Lighting Residential Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Advanced Lighting Residential Market Transformation Program represents a small portion of the portfolio's current and future energy use and demand savings.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • Is sufficient data being captured to effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? • Are the savings being accurately accounted for? 	
Program Evaluation Approach	Program tracking system review: Review the tracking system data for completeness and accuracy.	

5.8.4 A/C Distributor Market Transformation Program

Table 5-30. A/C Distributor Market Transformation Program Summary

Topic	Summary
Program Description	The A/C Distributor MTP provides incentives to air conditioning distributors who agree to facilitate the installation of high-efficiency (>16 SEER/12 EER) air conditioners and heat pumps (>8.2 HSPF) in existing single family, small commercial and multifamily homes within CenterPoint's electric distribution service territory. In 2015, incentives will be increased to encourage sales of 17 SEER and higher, and incentives have been reduced for the 16 SEER. In 2015, there is a new incentive structure that has been implemented for heat pumps that are installed where there was preexisting electric resistance heat.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers • Eligibility criteria: Eligible participants include HVAC distributors who install air conditioning equipment within CenterPoint's electric service territory. CenterPoint does not pay direct incentives to homeowners or small business owners for this program. • Applications: Retrofit applications

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint markets the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to implement outreach and planning activities ○ Conducts workshops as necessary to explain elements such as responsibilities of the distributors and contractors, program requirements, incentive information, and the application and reporting process ○ Participates in appropriate industry-related meetings and events to generate awareness and interest. • Program sponsors: HVAC distributors
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: ICF is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: The program will accept qualifying 1.5 to 5 ton systems installed in residential and small commercial replacement applications within the CenterPoint Energy service territory; new construction applications do not qualify. The program will require AHRI-matched residential and small commercial systems that meet or exceed guidelines of 16 SEER/12 EER (plus 8.2 HSPF for heat pumps). • Technical assistance: N/A • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections • Conducted by utility staff • A random verification of Manual Js will be performed in 2015 as part of the inspection process for each A/C contractor

Table 5-31 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-31. A/C Distributor Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	Represents less of the portfolio overall savings, with the majority of savings from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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? • Are goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	



5.8.5 Retail Electric Provider Pilot Market Transformation Program (Residential)

Table 5-32. Retail Electric Provider (REP) Pilot MTP Summary

Topic	Summary
Program Description	<p>CenterPoint transformed the REP MTP from a pilot program in 2013 to a full program in 2014. In 2012 CenterPoint introduced the concept of a “cafeteria program” to the REPs in an effort to engage them more in the company’s energy efficiency portfolio. The program concept offers an open-ended menu of measures to the REPs where they could pick and choose the measures that best suit their organization. In 2014, there were 20 REPs participating in varying capacities in the program. The REPs have accepted the concept of the program and have shown increasing interest in program participation. CenterPoint has increased the available measures in 2015.</p>
Target Markets	<ul style="list-style-type: none">• Market segments: Residential• Eligibility Criteria: Depends on program component• CoolSaver A/C Tune-up Program: CoolSaver will utilize specially trained air conditioning contractors to perform comprehensive A/C tune-ups for residential and small commercial customers in CenterPoint’s service territory.• CoolSaver A/C Install Program design:<ul style="list-style-type: none">○ Beginning in 2014, a limited number of REPs will also offer incentives to A/C contractors who recommend eligible customers replace their existing air conditioners and/or heat pumps with new high efficiency units. A/C replacements will be recommended to customers that enroll for a tune-up, but whose equipment is in need of replacement at the time of the tune-up. Incentives will be paid to the A/C contractor for the installation of a minimum 16 SEER A/C unit.• LED purchases• Efficiency Connection is an online marketplace that enables customers to shop for discounted energy efficiency products, currently focusing on Light Emitting Diodes (LED) lamps, from the convenience of their home. Through the program’s third party vendor, products are delivered directly to qualifying residential customers. Program marketing informs the customer of the importance of installing purchased products in high use areas and, in the case of lamps, replacing incandescent and halogen lamps to increase savings.• Residential Energy Efficiency and Demand Response:<ul style="list-style-type: none">○ Currently, several third party entities have proposed methodologies to implement a residential demand response program utilizing Wi-Fi enabled programmable thermostats. Demand and energy savings may also be achieved through the implementation of mathematical algorithms to adjust thermostat settings without sacrificing customer comfort. Demand and energy savings must be measured and verified utilizing an appropriate baseline.• Applications: Retrofit applications, DR applications

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • CenterPoint plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to implement outreach and planning activities ○ REPs or third party entities will market the program to existing customers via email, phone calls and direct mail ○ Participate in appropriate industry-related meetings and events to generate awareness and interest. • Program sponsors: TBD.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the implementer and the data source for the CoolSaver A/C tune-up measures; Efficiency Connection is the implementer and data source for the LED online marketplace.
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Heat pumps, central air conditioners, A/C tune-up, custom/other pending approval • Technical assistance: Customer must accept recommendations from a tune-up analysis and/or from a participating contractor • Rebates/incentives: Tune-ups are generally offered to customers for no charge through participating contractors; LEDs are available through the online marketplace at buy-down prices
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • During technician training, CLEAResult ride-alongs • 10% for contractors and technicians • Post on-site inspections conducted by implementer

Table 5-33 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-33. Retail Electric Provider Pilot Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	Represents less of the portfolio overall savings, with the majority of savings from deemed savings measures.	Low (medium for load management component)
Key Researchable Issues	How are program data handled? Area 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? Are program goals established appropriately, and will they be met?	
Program Evaluation Approach	Program tracking system review: Review data for accuracy.	Yes
	Interval meter data analysis for the residential demand response component.	

5.8.6 Energy Wise Resource Action Market Transformation Program

Table 5-34. Energy Wise Program Summary

Topic	Summary
Program Description	<p>This program is designed to show the benefits of energy efficiency through educational type programs. The EnergyWise Program utilizes a school delivery format to provide take-home Resource Action Kits to sixth grade students. The kits contain energy efficiency devices, such as compact fluorescent light bulbs, and creative classroom and in-home education techniques that encourage families to adopt new resource usage habits. In 2014, the new additions added to the energy kit included a high-efficiency showerhead, kitchen faucet aerator, and a bathroom faucet aerator making the program more interesting and helps save water due to high concentration of multifamily residences. Lesson plans are provided to teachers that help educate the students on the benefits of using these energy saving devices on a daily basis.</p> <p>The program is implemented using a third-party program implementer that recruits teachers in various targeted school districts throughout the service territory. Recruited teachers will receive program materials that include a teacher and student workbook, kit of efficiency materials, and a parent letter explaining the program. The incentive budget covers the implementer costs as well as the cost for the kits.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers • Eligibility criteria: Targeted schools in the CenterPoint service territory • Applications: Educational applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: CenterPoint markets the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Utilize CenterPoint Community Relations staff to help recruit schools and teachers. • Program sponsors: Schools
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Resource Action Programs is the third-party implementer and the data source
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: This program provides a kit with two CFLs, a low-flow showerhead, kitchen aerator, night light, and filter alarm, high-efficiency showerhead, kitchen faucet aerator, bathroom faucet aerator, along with 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: Kits are provided for free to schools and students
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Unknown

Table 5-35 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-35. Energy Wise Program EM&V Plan

	Description	2015
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	<ul style="list-style-type: none"> • 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? • Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	

5.9 RESIDENTIAL STANDARD OFFER

5.9.1 Residential Standard Offer Program

Table 5-36. Residential Standard Offer Program Summary

Topic	Summary
Program Description	The Residential Standard Offer Program 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	<ul style="list-style-type: none"> • Market segments: Residential single family and multifamily homes • Eligibility criteria: Maximum demand <100kW • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Maintains internet website with detailed project eligibility, end-use measures, incentive structure, procedures, application forms and 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 ○ Conducts workshops as necessary to explain elements such as 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

Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • 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, AC, 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 discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for approximately 10% of homes • Conducted by CenterPoint

Table 5-37 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 5-37. Residential Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Residential SOP comprises 1% of the energy and 0% of the demand savings for CenterPoint's 2015 portfolio.	High
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database.	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants to evaluate energy and demand impacts at program and measure-category levels.	



6. 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.

6.1 PORTFOLIO OVERVIEW

Table 6-1 shows the projected energy and demand savings for the El Paso Electric programs for PY2015.

Table 6-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio kW	2015 Energy Savings (kWh)	Percent of total portfolio kWh
Com MTP	Large C&I Solutions MTP	Commercial Solutions	1,800	14%	7,884,000	38%
Com MTP	Small Commercial Solutions MTP	Small Business Direct Install	730	6%	3,197,400	15%
Com MTP	Texas SCORE MTP	CitySmart / SCORE / Government	500	4%	1,971,000	9%
Com SOP	Commercial SOP	Commercial SOP	600	5%	2,628,000	13%
LI/HTR MTP	Hard-to-Reach Solutions MTP	Hard-to-reach SOP	800	6%	1,051,200	5%
Load Management	Load Management SOP	Commercial Load Management SOP	7,000	56%	14,000	0%
Pilot Program	PV/Solar Pilot MTP	P/V Solar Pilot MTP / SMART SOURCE PV Pilot (Res and Nonres)	241	2%	411,720	2%
Pilot Program	Commercial Rebate Pilot MTP	Commercial Solutions	66	1%	260,172	1%
Res MTP	Appliance Recycling MTP	Appliance Recycling	202	2%	1,415,616	7%



Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio kW	2015 Energy Savings (kWh)	Percent of total portfolio kWh
Res MTP	LivingWise® MTP	Education Kit Programs	140	1%	1,341,683	6%
Res MTP	Residential Solutions MTP	Residential Solutions	400	3%	700,800	3%

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 is followed by the 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 issues will be investigated portfolio-wide:

- What are drivers of differences, if any, between claimed and evaluated savings?
- Are the program provisions for quality assurance and control adequate?

6.2 COMMERCIAL MARKET TRANSFORMATION

6.2.1 Large C&I Solutions Market Transformation Program

Table 6-2. Large C&I Solutions Market Transformation Program Summary

Topic	Summary
Program Description	The Large C&I Solutions MTP offers commercial customers both cash and non-cash incentives for implementing energy efficiency improvements. The cash incentive of \$240 per reduced kW is paid to customers for eligible measures that are installed in new or retrofit applications. 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 as well as 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	<ul style="list-style-type: none"> • Market segments: Commercial facilities • Eligibility criteria: Commercial facilities ≥ 100 kW within El Paso Electric's service territory • Applications: Retrofit or new construction projects

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: El Paso Electric plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Maintains internet website with detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, program manuals and available funding ○ Offers outreach workshops and webinars to explain elements such as responsibilities of the project sponsors, project requirements, incentive information and the application and reporting processes ○ Gauges Customer/EESP interest in its workshops by participation levels and if warranted offers workshops dedicated to specific programs ○ Local companies contacted and projects identified and company selects contractors to do the work ○ Utilizes mass electronic mail (email and webinar) notifications to keep potential project sponsors interested and informed ○ Participates in state-wide outreach activities as may be available ○ 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. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, and 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 end-use customer • kW (demand savings) \$240
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer

Table 6-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 6-3. Large C&I Solutions Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Large C&I Solutions Market Transformation Program represents a moderate portion of the portfolio’s current and future energy demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review the tracking system data for completeness and accuracy.	
	Desk reviews: Review energy calculations, customer invoices, and QA/QC M&V reports to determine project key parameters and derive energy savings.	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.	2



6.2.2 Small Commercial Solutions Market Transformation Program

Table 6-4. Small Commercial Solutions Market Transformation Program Summary

Topic	Summary
Program Description	<p>The Small Commercial Solutions MTP offers small commercial customers both cash and non-cash incentives for implementing energy efficiency improvements. The cash incentive of \$400 per reduced kW is paid to customers, through participating contractors, for eligible measures that are 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 contractor, thereby reducing a portion of the project cost for the customer. The program focuses not only on improving energy efficiency of small commercial facilities, but also the installation practices of participating contractors. This is done through education of the local contractors as well as the public. The implementer helps the contractors improve their ability to identify, evaluate, and sell energy efficiency improvements to small business owners and assists consumers in evaluating energy efficiency proposals from vendors.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Small commercial facilities • Eligibility criteria: Small commercial facilities < 100kW within El Paso Electric's service territory • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: El Paso Electric plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Maintains internet website with detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, program manuals and available funding ○ Offers outreach workshops and webinars to explain elements such as responsibilities of the project sponsors, project requirements, incentive information and the application and reporting processes ○ Gauges EESP interest in its workshops by participation levels and if warranted offers workshops dedicated to specific programs ○ Utilizes mass electronic mail (email and webinar) notifications to keep potential project sponsors interested and informed ○ Participates in state-wide outreach activities as may be available ○ 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. • Program sponsors: Contractors
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Air conditioner, lighting, and roofing (New Construction: air conditioning and lighting) • Technical assistance: Provided by contractor • Rebates/incentives: Provided to contractor • kW (demand savings) \$400
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of first 5 projects by contractor, then 15% of ongoing projects • Pre and post inspection is conducted by third-party implementer

Table 6-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 6-5. Small Commercial Solutions Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Small Commercial Solutions Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Is a change in measure mix being seen by the program? • 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.	

6.2.3 Texas SCORE Market Transformation Program

Table 6-6. Texas SCORE Transformation Program Summary

Topic	Summary
Program Description	The SCORE program helps public schools, city, county and state governmental customers to identify opportunities and implement energy efficiency measures. The program pays financial incentives of \$240 per reduced kW for the installation of energy efficiency measures that reduce peak demand and energy use, as well as non-cash incentive tools used to identify their 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.

Topic	Summary
Target Markets	<ul style="list-style-type: none"> • 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 Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: El Paso Electric plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Maintains internet website with detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, program manuals and available funding ○ Offers outreach workshops and webinars to explain elements such as responsibilities of the project sponsors, project requirements, incentive information and the application and reporting processes ○ Gauges Customer/EESP interest in its workshops by participation levels and if warranted offers workshops dedicated to specific programs ○ Utilizes mass electronic mail (email and webinar) notifications to keep potential project sponsors interested and informed ○ Participates in state-wide outreach activities as may be available ○ Attends 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. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, and roofing (New Construction: HVAC and lighting), along with M&V-related measures as can be quantifiable via IPMVP measurement options • 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 end-use customer • kW (demand savings) \$240
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer

Table 6-7 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 6-7. Texas SCORE Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Texas SCORE Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review the tracking system data for completeness and accuracy.	
	Desk reviews: Review energy calculations, customer invoices and QA/QC M&V reports to determine project key parameters and derive energy savings.	5
	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



6.3 COMMERCIAL STANDARD OFFER

6.3.1 Commercial Standard Offer Program

Table 6-8. Commercial Standard Offer Program Summary

Topic	Summary
Program Description	The Commercial Standard Offer Program (SOP) provides incentives to EESPs for qualifying projects. Incentives are paid to project sponsors or commercial customers who act as their own project sponsor. Incentives of \$194 per kW and \$0.05 per kWh are paid for qualified 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, comply with all program rules and procedures, submit documentation describing their projects, and enter into a Standard Agreement with the IOU. Commercial and industrial customers with a demand of 50 kW or greater may act as their own project sponsor.
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial/industrial businesses • Eligibility criteria: Minimum project size for eligible projects is 5 kW of peak summer demand savings • For a customer to be eligible he/she must be a nonresidential distribution voltage customer of El Paso Electric • Applications: New or retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Examples may include website, retailer partners, bill inserts, home shows, etc. • Program Sponsors include: <ul style="list-style-type: none"> ○ Energy service companies (ESCOs) ○ Energy Efficiency Service Providers (EESPs) ○ National or local contractors ○ National or local companies that provide energy-related products (i.e., lighting or HVAC) ○ Commercial Customers whose peak demand equals or is greater than 50 kW acting as their own Project Sponsor.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, refrigeration, controls, VFDs • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer • kW (demand savings) \$194 • kWh (energy savings) \$0.05
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for projects at the discretion of the utility • Conducted by utility



Table 6-9 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 6-9. Commercial Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Standard Offer Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the CSO programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	Desk reviews: For a sample of projects, review program sponsor savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	10
	On-site M&V: For a sample of projects, in addition to desk review, primary data will be collected on site to verify installation and operation of measures, collect data on measures or baseline equipment, and conduct metering of savings parameters for which significant uncertainty in the savings calculations are identified as part of the desk reviews (e.g., equipment hours of use).	2

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

6.4.1 Hard-to-reach Solutions Market Transformation Program

Table 6-10. Hard-to-Reach Solutions Market Transformation Program Summary

Topic	Summary
Program Description	The Low Income Residential Solutions MTP provides incentives vendors to provide energy-efficiency measures and energy education to qualifying low-income customers.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential hard-to-reach • Eligibility criteria: Residential customers at or below 200% of the federal poverty level • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ El Paso Electric maintains websites www.epelectricity.com and www.epelectric.com. El Paso Electric's websites are the primary method of communication used to provide potential project sponsors with program updates and information. The websites contain detailed information

Topic	Summary
	<p>regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, program manuals, and available funding.</p> <ul style="list-style-type: none"> ○ El Paso Electric offers 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. ○ El Paso Electric gauges EESP interest by participation levels. If warranted, El Paso Electric will offer education dedicated to specific programs. ○ El Paso Electric utilizes mass electronic mail (email and webinar) notifications to keep potential project sponsors interested and informed. ○ El Paso Electric participates in state-wide outreach activities as may be available and attends appropriate industry-related meetings to generate awareness and interest. <ul style="list-style-type: none"> ● Participating contractors represent a range of EESPs.
Implementation and Delivery	<ul style="list-style-type: none"> ● Implementers: CLEARResult
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> ● Measure offerings: ENERGY STAR® windows and doors, insulation, air infiltration, duct sealing, solar screens, and high efficiency air conditioning replacements (based directly on efficiency level of old unit) ● Technical assistance: At discretion of the program sponsor, not part of program design ● Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> ● Pre and post on-site inspections for the first five projects for each new contractor, then 15% thereafter ● Inspections conducted by CLEARResult

Table 6-11 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 6-11. Hard-to-Reach Solutions EM&V Plan

	Description	2015
Evaluation Priority	<p>El Paso Electric's Hard-to-Reach Solutions MTP is prioritized at High, as it is similar to other HTR SOPs in delivery. The HTR SOP comprises 5% of the energy and 6% of the demand savings for El Paso's 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.</p>	<p>High</p>



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Desk reviews to verify inputs into claimed savings calculations	20

6.5 LOAD MANAGEMENT

6.5.1 Load Management Standard Offer Program

Table 6-12. Commercial Load Management Standard Offer Program Summary

Topic	Summary
Program Description	The Load Management Program is designed to reduce electric demand or kW during El Paso Electric's peak demand periods, as necessary. This program is performance-based and offers incentive payments to Customers for curtailing electric load upon notice. Customers enter into an agreement with El Paso Electric to reduce their load by an agreed-upon amount during curtailments. Program runs from June 1st through September 30th. Peak demand periods for this program are defined as weekdays from 1:00 p.m. to 7:00 p.m. Mountain Daylight Time (MDT).
Target Markets	<ul style="list-style-type: none"> • Market segments: Large commercial/industrial businesses • Eligibility Criteria: <ul style="list-style-type: none"> ○ Customer must be a nonresidential El Paso Electric customer taking service at the distribution level ○ must be equipped with an El Paso Electric Interval Data Recorder (IDR) meter or an El Paso Electric meter capable of recording demand intervals ○ 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 KV or greater are not eligible for this program.
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Website, utility direct contact, etc. • Program sponsors: National or local EESPs or individual customers that identify interruptible load in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: N/A • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: El Paso Electric will pay a participating customer (or the project sponsor, if different) up to \$60 per kW of verified curtailed load each year of participation up to the contracted amount
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • El Paso Electric will verify actual demand savings from interruptions

Table 6-13 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 6-13. Commercial Load Management Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	Low priority was given to the Load Management program evaluation because savings are calculated using actual interval load data and comparing to the average of loads on similar days. Even though the demand savings are high, the energy savings are low. Load management programs tend to be relatively inexpensive.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • Are sponsor provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review: Review data for accuracy. Metered data: Program rules require the installation of an interval data recorder meter to measure the whole premise interval loads. Collection of these data, will allow for validation of reported performance.	
	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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.	



6.6 PILOT

6.6.1 PV/Solar Pilot Market Transformation Program

Table 6-14. Solar PV Program Summary

Topic	Summary
Program Description	The solar PV pilot program provides incentives to both residential and commercial customers. Incentives are paid to Solar PV Service Providers. 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	<ul style="list-style-type: none"> • Market segments: Nonresidential and residential • Eligibility criteria: Maximum rebated capacity is 10 kW for residential, 50 kW for nonresidential • El Paso Electric Company funds are available to qualified residential and nonresidential customers in El Paso Electric's Texas service area and will be prioritized for residential projects. • City of El Paso funds must be used for nonresidential projects inside the El Paso city limits. • For a customer to be eligible he/she must be a distribution voltage customer of El Paso Electric • Applications: New or retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: examples may include website, retailer partners, bill inserts, radio ads, billboards, home shows, etc. • Program Sponsors include: <ul style="list-style-type: none"> ○ National or local energy service companies (ESCOs) ○ National or local companies that provide energy-related services (e.g., contracting) or products.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Third-party implementer (Frontier Associates and Clean Energy Associates)
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Solar photovoltaic (PV) • Technical assistance: The Program Manager may provide and support technical training and technical assistance opportunities to service providers, local code officials, and potential customers. • Rebates/incentives: Service providers may designate the customer, themselves, or a manufacturer or supplier to receive the incentive payment.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post-installation inspections for a census of projects • Conducted by utility • El Paso Electric will supply a revenue-grade electrical meter to measure the energy produced by the solar electric system.

Table 6-15 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 6-15. Solar PV Program EM&V Plan

	Description	2015
Evaluation Priority	In 2015, the solar program evaluation was given low priority	Low
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the solar programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and parameters providing accurate savings estimates compared to approved calculators or deemed factors? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data for a sample of projects for each utility. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	

6.6.2 Commercial Rebate Pilot Market Transformation Program

Table 6-16. Commercial Rebate Pilot Market Transformation Program Summary

Topic	Summary
Program Description	The Commercial Rebate Pilot MTP currently offers two measures to help subsidize part of the high up-front cost of installing specific energy efficiency measures in certain market segments. The two measures are (1) room HVAC measures primarily addresses energy management solutions for hotel rooms, university dormitories and school classrooms and (2) vending machine measure designed to provide energy and demand savings by controlling the operation of vending machines in commercial customer facilities.
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial facilities • Eligibility criteria: Commercial facilities within El Paso Electric’s service territory • Applications: Retrofit or new construction projects

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: El Paso Electric plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Maintains internet website with detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, program manuals and available funding ○ Offers outreach workshops and webinars as well as one on one meetings to explain elements such as responsibilities of the project sponsors, project requirements, incentive information and the application and reporting processes ○ Gauges EESP interest in its workshops by participation levels and if warranted offers workshops dedicated to specific programs or products ○ Utilizes mass electronic mail (email and webinar) notifications to keep potential project sponsors interested and informed ○ Participates in state-wide outreach activities as may be available ○ Attends appropriate industry-related meetings to generate awareness and interest. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: El Paso Electric and Frontier as the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Room HVAC (GEM Link Wireless Technology), vending machines (Energy Miser products; vending and cooler misers only—no longer incentivizing snack misers) • Technical assistance: N/A • Rebates/incentives: provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspections are conducted by utility

Table 6-17 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 6-17. Commercial Rebate Pilot Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Rebate Pilot Market Transformation Program represents a small portion of the portfolio's current and future energy use and demand savings. This is a pilot program that began in 2012 for El Paso.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Is a change in measure mix being seen by the program? • Are program goals established appropriately, and will they be met? 	



	Description	2015
Program Evaluation Approach	Program tracking system review: Review the tracking system data for completeness and accuracy.	

6.7 RESIDENTIAL MARKET TRANSFORMATION

6.7.1 Appliance Recycling Market Transformation Program (Residential and Small Commercial)

Table 6-18. Appliance Recycling Market Transformation Program Summary

Topic	Summary
Program Description	The Appliance Recycling MTP provides incentives designed to encourage El Paso Electric’s residential and small commercial customers to recycle their older, less efficient refrigerators and freezers rather than use them as secondary or backup units. Unlike other appliances where the old units are usually scrapped when they are replaced, older refrigerators and freezers can stay connected to the electric grid for years after they have been removed from the original location. The Appliance Recycling MTP offers eligible customers a \$30 incentive to permit El Paso Electric to remove and recycle their old secondary refrigerator or freezer. El Paso Electric believes that this cost-effective appliance recycling program provides additional demand reduction and energy savings, and reduces system-wide load and peak demand.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential and small commercial customers • Eligibility criteria: <ul style="list-style-type: none"> ○ El Paso Electric’s service territory ○ The refrigerator or freezer must be clean, empty, defrosted, and in working condition. ○ The unit must meet the size requirement, which is 10–30 cu. ft. ○ There is a limit of two units per customer address per calendar year. ○ A side-by-side refrigerator is considered as one appliance for recycling. ○ The unit needs to be plugged in and running on the day of the pickup. • Applications: Appliance recycling applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: JACO Environmental handles all program marketing including some PR, trade shows, “recycle day,” etc. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: JACO Environmental is the third-party implementer and the data source
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Refrigerators and freezers • Technical assistance: N/A • Rebates/incentives: \$30 for the replaced secondary unit



Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> Conducted by El Paso Electric

Table 6-19 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 6-19. Appliance Recycling Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	This program is a small contributor to the overall portfolio and measures are deemed, and primary data collection occurred in PY2014 for this program.	Low
Key Researchable Issues	<ul style="list-style-type: none"> How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Due to how this program is tracked (all electronically and no hard copies), no tracking system review is planned for 2015.	

6.7.2 LivingWise® Market Transformation Program

Table 6-20. LivingWise® Market Transformation Program Summary

Topic	Summary
Program Description	<p>The LivingWise® 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 for energy efficient technologies and practices through education of students and their families.</p> <p>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 not only changing habits but also changing devices. Materials meet state and national educational standards, which allow the program to easily fit into teachers' existing schedules and requirements.</p> <p>As part of the program, children take home a Resource Action 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.</p>
Target Markets	<ul style="list-style-type: none"> Market segments: Residential customers Eligibility criteria: Schools within El Paso Electric's Texas service territory Applications: Educational and retrofit applications



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Resource Action Programs takes care of all marketing including PR type events (1–2 per year, depending on the jurisdiction), print promotions, and outreach to teachers and schools. • Program sponsors: Schools.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Resource Action Programs is the third-party implementer and the data source
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: This program provides a kit with two CFLs, a low-flow showerhead, kitchen aerator, night light, and filter alarm, along with 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: Kit is provided for free to schools and students
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Resource Action Programs

Table 6-21 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 6-21. LivingWise® Market Transformation Program EM&V Plan

	Description	2015
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	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	



6.7.3 Residential Solutions Market Transformation Program

Table 6-22. Residential Solutions Market Transformation Program Summary

Topic	Summary
Program Description	<p>The Residential Solution MTP focuses on building a strong participating contractor base. This program is geared towards incentivizing vendors to sell and install projects, rather than providing the direct support, tools, and training necessary for customers and contractors to independently evaluate energy efficiency opportunities, secure budgets through their internal financial planning processes, or oversee these opportunities to their completion.</p> <p>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 (A/C 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.</p> <p>To help address barriers, the Residential Solutions MTP offers customers and contractors both cash and non-cash incentives. The cash incentives are at a lower level than typical Residential SOPs, with the difference used 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 residential consumers purchase and that local contractors install. In addition to capturing kW reductions, the program helps residential contractors improve their ability to identify, evaluate, and sell efficiency improvements to home owners and assists consumers in evaluating energy efficiency proposals from vendors.</p>
Target Markets	<ul style="list-style-type: none"> • 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 Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: El Paso Electric promotes through their website and through the program’s “Communication Support,” which is included as part of the program to help publicize community leadership and accomplishments in energy efficiency. • Program sponsors: HVAC contractors, window contractors, and insulation contractors
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer and the data source



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: <ul style="list-style-type: none"> ○ Duct/air sealing—incentives available for electric A/C cooled homes only ○ Air infiltration—incentives available for refrigerated A/C cooled homes only ○ Insulation—the Residential Solutions MTP pays rebates for increasing attic insulation levels to R-30 ○ Window replacement ○ Solar Screens ○ Refrigerated Air Upgrades—incentives are not available for customers switching from evaporative to refrigerated A/C systems (per PUC directive, as this has been deemed to be a version of “load building”) • Technical assistance: Provided by participating contractors to help identify and evaluate energy efficiency opportunities as well as administrative program management.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Conducted by CLEAResult and El Paso Electric

Table 6-23 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 6-23. Residential Solutions Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	This program represents a small portion of the portfolio's current and future energy use and demand savings.	High
Key Researchable Issues	<ul style="list-style-type: none"> • 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? • Are goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	
	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



7. ENERGY

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.

7.1 PORTFOLIO OVERVIEW

Table 7-1 shows the projected energy and demand savings for the Entergy programs for PY2015.

Table 7-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio kW	2015 Energy Savings (kWh)	Percent of total portfolio kWh
Com MTP	Commercial Solutions MTP	Commercial Solutions	1,800	12%	7,533,000	28%
Load Management	Load Management SOP	Commercial Load Management SOP	6,710	43%	40,000	0%
Com MTP	SCORE/City Smart MTP	CitySmart / SCORE / Government	1,950	13%	7,579,000	28%
Res SOP	Residential SOP	Residential SOP	2,240	14%	6,371,000	23%
Res MTP	Entergy Solutions High Performance Homes MTP	Home Performance with ENERGY STAR® MTP	1,700	11%	1,946,000	7%
LI/HTR SOP	Hard-to-Reach SOP	Hard-to-reach SOP	1,100	7%	3,687,000	14%

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 is followed by the 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 issues will be investigated portfolio-wide:

- What are drivers of differences, if any, between claimed and evaluated savings?
- Are the program provisions for quality assurance and control adequate?



7.2 COMMERCIAL MARKET TRANSFORMATION

7.2.1 Commercial Solutions Market Transformation Program

Table 7-2. Commercial Solutions Market Transformation Program Summary

Topic	Summary
Program Description	The Commercial Solutions MTP targets commercial customers. Incentives are paid to Project Sponsors for certain measures installed in new or retrofit applications, which provide verifiable demand and energy savings. Assistance from the program includes technical assistance, communications support for public recognition, and financial incentives for projects that improve the energy efficiency of commercial facilities and result in peak kW reduction for Entergy.
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial Facilities • Eligibility criteria: Commercial facilities within Entergy’s service territory • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Entergy plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Utilizes mass electronic mail (email) notifications to keep potential project sponsors interested and informed ○ Maintains internet website with detailed project eligibility, end-use measures, incentives, procedures and application forms ○ Attends appropriate industry-related meetings to generate awareness and interest ○ Participates in state-wide outreach activities as may be available ○ Conducts workshops and webinars to explain elements such as responsibilities of the Project Sponsor, project requirements, incentive information and the application and reporting process ○ Began promoting the awareness of the program by rolling out new program promotions through its website, social media, email blasts, radio promotions and print media. • Program sponsors: Project sponsors required
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, window film, roofing or others, that may require M&V planning and metering • Technical assistance: Includes communications support in addition to identification and evaluation of energy efficiency measures • Rebates/incentives: Provided to project sponsor
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer

Table 7-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 7-3. Commercial Solutions Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Solutions Market Transformation Program represents a significant portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none">• To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place?• Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards?• Do program sponsors have sufficient information to promote the program? What additional education, training, or tools would be helpful in selling program measures to customers?	



	Description	2015
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	Desk reviews: For a sample of projects, review savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	15
	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.	5

7.2.2 SCORE/CitySmart Market Transformation Program

Table 7-4. Texas SCORE/CitySmart Market Transformation Program Summary

Topic	Summary
Program Description	<p>The Texas SCORE/CitySmart MTP targets public school districts and local, state, and federal governments for participation in the program. The program facilitates the identification of potential demand and energy savings opportunities, general operating characteristics, long-range energy efficiency planning, and overall measure and program acceptance by the targeted customer participants. This is completed through assistance in areas such as energy master planning workshops, energy performance benchmarking and identifying/assessing/implementing energy efficiency measures. Energy efficiency improvements include capital-intensive projects and implementing operational and maintenance practices and procedures. Financial incentives are provided to energy efficiency measures that reduce peak electricity demand.</p> <p>The Sustainable Schools Program (SSP) was added as part of this program in 2012. The program is offered to select (public and private) elementary and high schools at no cost to the schools to raise awareness and change behavior to have a positive impact on the environment. The program provides training and support for teachers to promote a “green” attitude within the student body and school staff.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Education and government facilities • Eligibility criteria: Education and government facilities (SSP: public or private elementary and high schools) within Entergy’s service territory • Applications: Retrofit or new construction projects

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Entergy plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party to implement outreach and planning activities ○ Targets a number of customer participants; ○ Conducts workshops and webinars to explain virtues of the program and necessary information to begin or continue participation ○ Participation in regional or area outreach ○ Attends appropriate industry-related meetings to generate awareness and interest ○ Began promoting the awareness of the program by rolling out new program promotions through its website, social media, email blasts, radio promotions and print media. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: <ul style="list-style-type: none"> ○ CLEAResult is the third-party implementer for the Texas SCORE/CitySmart MTP ○ Willdan is the third-party implementer for the Sustainable Schools portion of the program
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, window film, roofing or others, that may require M&V planning and metering (SSP: N/A) • Technical assistance: includes communications support, performance benchmarking, and energy master planning workshops in addition to identification of energy efficiency measures (SSP: energy audit kits, educational materials, and training and ongoing support for participating teachers) • Rebates/incentives: provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer

Table 7-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 7-5. Texas SCORE/CitySmart Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Texas SCORE/CitySmart Market Transformation Program represents a significant portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	10
	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

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

7.3.1 Hard-to-Reach Standard Offer Program

Table 7-6. Hard-to-Reach Standard Offer Program Summary

Topic	Summary
Program Description	The Hard-to-Reach Standard Offer Program 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% 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	<ul style="list-style-type: none"> • Market segments: Residential hard-to-reach customers • Eligibility criteria: Participants must have total annual household income at or below 200% of the federal poverty level • Applications: Retrofit applications



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to potential project sponsors to keep potential project sponsors interested and informed ○ Maintains website with detailed project eligibility, end-use measures, incentives, procedures and application forms ○ Attends appropriate industry-related meetings to generate awareness and interest ○ Conducts workshops as necessary to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process ○ Entergy began promoting the awareness of its energy efficiency programs by rolling out some new program promotions through its website, social media, email blasts, radio promotions, and print media • Program sponsors: Owners or operators of multifamily residential buildings, not-for-profit housing and community service organizations, energy service companies, local contractors, national or local companies that provide energy-related products and services, and retailers
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Entergy
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Water heating, HVAC replacement (including window AC), duct sealing, lighting, refrigeration, insulation, CFLs, and infiltration • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections for 3% of invoices submitted by each contractor • Conducted by Entergy

Table 7-7 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 7-7. Hard-to-Reach Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The HTR SOP comprises 14% of the energy and 7% of the demand savings for Entergy’s 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.	High



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Desk reviews to verify inputs into claimed savings calculations	5

7.4 LOAD MANAGEMENT

7.4.1 Load Management Standard Offer Program

Table 7-8. Commercial Load Management Standard Offer Program Summary

Topic	Summary
Program Description	ETI implements the Load Management Standard Offer Program (LM SOP) under the approved PUCT template. The LM SOP will provide demand reduction solutions to a select group of commercial customers. Calendar year 2015 incentives will be paid to customers served by ETI for verifiable demand reduction.
Target Markets	<ul style="list-style-type: none"> • Market segments: Large • Eligibility criteria: Select group of commercial customers • Applications: Existing
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: ETI will initially target several select customers for participation in the LM SOP • Program sponsors: ETI/customer
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: ETI is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: N/A • Technical assistance: At discretion of the program sponsor, not part of program design
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Conducted by Entergy

Table 7-9 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 7-9. Commercial Load Management Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	Low priority was given to the Load Management program evaluation because savings are calculated using actual interval load data and comparing to the average of loads on similar days. Even though the demand savings are high, the energy savings are low. Load management programs tend to be relatively inexpensive.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • Are sponsor provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	<p>Program tracking system review: Review data for accuracy.</p> <p>Metered Data: Program rules require the installation of a meter to measure the whole premise interval loads. Collection of these data, will allow for validation of reported performance.</p>	
	Desk reviews: Will review individual participant load impact calculations within work papers against customer interval load data for all participating customers.	

7.5 RESIDENTIAL MARKET TRANSFORMATION

7.5.1 Entergy Solutions High Performance Homes Market Transformation Program¹⁰

Table 7-10. Entergy Solutions High Performance Homes Market Transformation Program Summary

Topic	Summary
Program Description	The Entergy SOL MTP combines the attributes of the ENERGY STAR® Homes new construction program with the attributes of the ENERGY STAR® Home Performance retrofit program because both programs have been driven predominantly by Home Energy Rating Services (HERS). The HERS raters provide professional assessments on new and existing homes to bring them up to ENERGY STAR® standards. Incentives are paid to builders for installing certain measures in new construction applications, which provide verifiable demand and energy savings. For the retrofit application, incentives can be paid to either the contractor that installed the energy efficient measures or the end use customer.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers • Eligibility criteria: Residential customers in Entergy's Texas service territory. • Applications: New home construction and retrofit applications

¹⁰ The Solutions High Performance Homes MTP is designed as both new construction and retrofit, combining the two separate PY2012 programs.



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Entergy markets the availability of its programs in the following manner: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to keep potential builders interested and informed ○ Maintains internet website with detailed builder eligibility, end-use measures, incentives, procedures, and application forms; ○ Attends appropriate industry-related meetings to generate awareness and interest ○ Participates in state-wide outreach activities as may be available ○ Conducts workshops as necessary to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process ○ ETI began promoting the awareness of its energy efficiency programs by rolling out some program promotions through its website, social media, email blasts, radio promotions, and print media. • Program sponsors: Homebuilder and consumer outreach, HERS raters, homebuilder sales agents, HVAC contractors, homebuilder associations, and media outlets.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: ICF is the third-party implementer; Frontier is the data source for both programs
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: For new construction, the program takes a whole-home perspective; on the retrofit side, measures could include offerings: duct/air sealing, air infiltration, insulation, window replacement, and HVAC measures • Technical assistance: On the new construction side, builders must work with raters; on the retrofit side, homeowners must use a participating contractor • Rebates/incentives: Varies by retrofit versus new construction
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • New homes side, ICF does nearly 100% QA/QC through either field inspections and/or REM/Rate file review • On the retrofit side a sample receives QA/QC

Table 7-11 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 7-11. Entergy Solutions High Performance Homes Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	While this program does contribute to the overall portfolio of energy savings at a slightly higher level than other programs in the portfolio, separately, the new homes and existing homes program components are smaller contributors.	Medium



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • 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 process of data entry and storage more streamlined and effective? • Are goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	
	Desk reviews: Will review the program files (e.g., REM/Rate) to assess reasonableness of energy savings, and QA/QC M&V reports.	0

7.6 RESIDENTIAL STANDARD OFFER

7.6.1 Residential Standard Offer Program

Table 7-12. Residential Standard Offer Program Summary

Topic	Summary
Program Description	The Residential Standard Offer Program provides incentives for the retrofit installation of a wide range of measures that reduce energy costs, reduce peak demand and save energy in residential facilities.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers • Eligibility criteria: Residential customers whose houses or apartments were built before January 2004 • Applications: Retrofit applications

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to potential project sponsors to keep potential project sponsors interested and informed ○ Maintains website with detailed project eligibility, end-use measures, incentives, procedures and application forms ○ Attends appropriate industry-related meetings to generate awareness and interest ○ Conducts workshops as necessary to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process ○ Entergy began promoting the awareness of its energy efficiency programs by rolling out some new program promotions through its website, social media, email blasts, radio promotions, and print media • Program sponsors: Owners or operators of multifamily residential buildings, not-for-profit housing and community service organizations, energy service companies, local contractors, national or local companies that provide energy-related products and services, and retailers
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Entergy
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Any Commission-approved measure included in the statewide TRM for the Residential customer class is eligible under SOP, including attic insulation, duct sealing, caulking/weather-stripping, AC, heat pumps, water heaters, ENERGY STAR® windows, refrigerators, dishwashers, clothes washers, solar window screens, wall insulation, floor insulation, water heater jackets, and renewable energy sources • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections for at least 3% of invoices submitted by each contractor • Conducted by Entergy

Table 7-13 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 7-13. Residential Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Residential SOP comprises 23% of the energy and 14% of the demand savings for Entergy's 2015 portfolio.	High



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none">• 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?	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Desk reviews to verify inputs into claimed savings calculations	30



8. ONCOR

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

8.1 PORTFOLIO OVERVIEW

Table 8-1 shows the projected energy and demand savings for the Oncor programs for PY2015.

Table 8-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Com MTP	Small Business Direct Install MTP	Small Business DI	1,003	1%	3,171,178	2%
Com SOP	Solar PV SOP	P/V Solar Pilot MTP / SMART SOURCE PV Pilot (Res and Nonres)	3,250	3%	6,265,600	3%
Com SOP	Commercial SOP (Custom)/(Basic)	Commercial SOP	17,482	16%	80,267,291	41%
LI/HTR SOP	Hard-to-Reach SOP	Hard-to-reach SOP	5,719	5%	23,045,282	12%
LI/HTR SOP	Targeted Weatherization LI SOP	Low Income / HTR Weatherization Programs	1,050	1%	3,219,300	2%
Load Management	Commercial Load Management SOP	Commercial Load Management SOP	55,000	50%	165,000	0%
Res SOP	Home Energy Efficiency SOP	Residential SOP	18,100	16%	76,106,880	39%
Res SOP	Solar PV SOP	P/V Solar Pilot MTP / SMART SOURCE PV Pilot (Res and Nonres)	2,695	2%	5,195,200	3%
Pilot Program	Residential Demand Response Pilot MTP	Load Management MTP	6,000	5%	0	0%

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 is followed by the 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 issues will be investigated portfolio-wide:



- What are drivers of differences, if any, between claimed and evaluated savings?
- Are the program provisions for quality assurance and control adequate?

8.2 COMMERCIAL MARKET TRANSFORMATION

8.2.1 Small Business Direct Install Market Transformation Program

Table 8-2. Small Business Direct Install Market Transformation Program Summary

Topic	Summary
Program Description	<p>The Small Business Direct Install MTP offers small commercial customers both cash and non-cash incentives for implementing energy efficiency improvements. The program targets small commercial customers with a demand of equal to or less than 100 kW. Financial incentives are provided directly to the contractor, thereby reducing a portion of the project cost for the customer. The program focuses not only on improving energy efficiency of small commercial facilities, but also the installation practices of participating contractors. This is done through education of the local contractors, as well as the public. The implementer helps the contractors improve their ability to identify, evaluate, and sell energy efficiency improvements to small business owners and assists consumers in evaluating energy efficiency proposals from vendors. Small commercial customers with peak demands not exceeding 100 kW in the previous 12 consecutive billing months may qualify to participate in the program. Additionally, customers whose peak demand is less than or equal to 10 kW may qualify for incentives that would offset up to 100% of the cost of their project(s).</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Small commercial facilities • Eligibility criteria: Small commercial facilities within Oncor's service territory and with peak demands <=100kW, with focus on the non-Metro counties served by Oncor. The counties of Dallas, Collin, Tarrant, Denton, and Rockwall are not eligible to participate in this program. • Applications: Retrofit or new construction projects



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Oncor plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party program implementer to conduct outreach and planning activities ○ Identifies and recruits contractors who provide services to customers to develop a network of participating contractors who will deliver the program directly to customers ○ Maintains an internet website to provide information to potential participants ○ Develops a recruitment packet with outreach information and enrollment materials that participating contractors can use when marketing the program to customers ○ Conducts 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 ○ Participates in regional outreach activities as may be necessary ○ Participates in appropriate industry-related meetings to generate awareness and interest. • Program sponsors: Contractors
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Lighting currently with additional measures such as refrigeration measures as they are added to the field application tool • Technical assistance: Provided by contractor • Rebates/incentives: Provided by contractor • Program direct install: DI approach
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100 percent of the first five projects submitted by each contractor, and randomly selected pre and post for 20 percent of each additional project submitted • Pre and post inspection is conducted by third-party implementer • In addition, some verification is conducted by the utility

Table 8-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 8-3. Small Business Direct Install Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Open Market Transformation Program represents a small portion of the portfolio's current energy use and demand savings. The majority of savings are from deemed measures.	Low

	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Is a change in measure mix being seen by the program? • Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Review the program tracking system data for completeness and accuracy.	

8.3 COMMERCIAL STANDARD OFFER

8.3.1 Solar PV Standard Offer Program

Table 8-4. Solar PV Standard Offer Program Summary

Topic	Summary
Program Description	The Solar Photovoltaic Standard Offer Program (SPVSOP) has two components—Residential and Commercial. Incentives are paid to Energy Efficiency Service Providers. 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, submitting documentation describing their projects, and entering into an Umbrella Contract within the Energy Efficiency Program Management.
Target Markets	<ul style="list-style-type: none"> • Market segments: commercial • Eligibility criteria: Minimum 1 kW_{DC STC}, upper limit of PV output of 75% of the Host Customer's Demand (kW) during the summer Peak Demand. • Applications: retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Rely upon the marketing capabilities of the service providers to sell or lease the solar photovoltaic systems to eligible Oncon customers • Program sponsors include: <ul style="list-style-type: none"> ○ National or local energy service companies (ESCOs) ○ National or local companies that provide energy-related services (e.g., contracting) or products ○ Retail electric providers (REPs) ○ Self-sponsors whose commercial Peak Demand exceeds 50 kW.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Solar photovoltaic (PV) • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to service provider who passes on at their discretion to end-use customer • For projects where the solar array azimuth is within ± 20 degrees of south, and the tilt angle is between 0 (horizontal) and latitude +15 degrees; kW (demand savings) $0.83 * kW_{DC_{STC}}$ installed and kWh(Energy Savings $1.6 * \text{watts}_{DC_{STC}}$ installed) • For other projects that fall outside of those orientations, use of PVWatts to determine kW (demand savings) and kWh (energy savings) • kW (demand savings at \$538.79/kW AC) • kWh (energy savings at \$0.41/kWh AC)
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre desk reviews for a census of projects • Post on-site inspections for a census of projects • Conducted by utility

Table 8-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 8-5. Solar PV Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	In 2015, the solar program evaluation was given low priority due to the in-depth EM&V of these programs in 2013.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the solar programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data for a sample of projects for each utility. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	



8.3.2 Commercial Standard Offer Program (Basic & Custom Components)

Table 8-6. Commercial Standard Offer Program Summary

Topic	Summary
Program Description	<p>The Commercial Standard Offer Program (SOP) has two components—Custom and Basic Commercial. The Custom Component of the Commercial SOP targets large commercial customers with new or retrofit projects that require measurement and verification with an incentive of \$10,000 or larger. The Basic Component of the Commercial SOP targets commercial customers with new or retrofit projects that do not require measurement and verification who install approved energy efficiency measures.</p> <p>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 in the Custom Component determined through a selection process based on meeting minimum eligibility criteria, comply with all program rules and procedures, submit documentation describing their projects, and enter into a Standard Agreement with the IOU. The Basic Component has an unlimited number of participating project sponsors.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Large and small commercial businesses • Eligibility criteria (Custom): Measurement and verification projects must have a \$10,000 minimum incentive, and maximum incentives are no more than 20% of the BCSOP incentive budget for all projects combined in a given budget year • Eligibility criteria (Basic): New or retrofit projects with incentives no more than 20% of the BCSOP incentive budget for all projects combined in a given budget year. • Applications: New or retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Examples may include website, retailer partners, bill inserts, radio ads, billboards, home shows, etc. • Program sponsors include: <ul style="list-style-type: none"> ○ National or local energy service companies (ESCOs) ○ National or local companies that provide energy-related services (e.g., contracting) or products (e.g., lighting and HVAC equipment) ○ Retail Electric Providers (REPs) ○ Individual customers with metered electrical demand exceeding 50 kW that implement energy efficiency measures in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, controls, refrigeration, motors, food service, window film, and other • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer • kW (demand savings) \$12.38–\$387.81 per kW for various measure types • kWh (energy savings) \$0.004–\$0.125 per kWh for various measure types
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections at the discretion of the utility • Conducted by utility or third-party implementer or combination

Table 8-7 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 8-7. Commercial Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The CSO Program represents a large portion of the portfolio's current and future energy use and demand savings. The majority of savings, however are from deemed measures and is given medium priority at this time.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the CSO programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	Desk reviews: For a sample of projects, review program sponsor savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	40
	On-site M&V: For a sample of projects, in addition to desk review, primary data will be collected on site to verify installation and operation of measures, collect data on measures or baseline equipment, and conduct metering of savings parameters for which significant uncertainty in the savings calculations are identified as part of the desk reviews (e.g., equipment hours of use).	20



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

8.4.1 Hard-to-Reach Standard Offer Program

Table 8-8. Hard-to-Reach Standard Offer Program Summary

Topic	Summary
Program Description	The Hard-to-Reach Standard Offer Program 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% 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	<ul style="list-style-type: none"> • Market segments: Low-income residential customers • Eligibility criteria: Participants must have total annual household income at or below 200% of the federal poverty level • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Oncor markets to trade organizations, and program sponsors develop their own marketing materials
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Oncor
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Attic insulation, duct sealing, caulking/weatherstripping, HVAC (central AC, heat pumps, window AC), water heaters, refrigerators, solar screens, wall insulation, CFLs, water heater jackets, ceiling fans • Technical assistance: At discretion of the program sponsor, not part of program design • Incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections, with confidence level at program manager's discretion • Conducted by Oncor and contracted inspectors

Table 8-9 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 8-9. Hard-to-Reach Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The HTR SOP comprises 12% of the energy and 5% of the demand savings for Oncor's 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.	High



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none">• 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?	
Program Evaluation Approach	Program tracking system review: Review EEPM data for accuracy and confirm estimated savings concur with deemed savings database	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants to evaluate energy and demand impacts at program and measure-category levels.	



8.4.2 Targeted Weatherization LI Standard Offer Program

Table 8-10. Low-Income Weatherization Standard Offer Program Summary

Topic	Summary
Program Description	The Targeted Low-Income Energy Efficiency Program provides weatherization and energy-efficiency measures to residential customers that meets DOE's Weatherization Assistance Program income eligibility guidelines and cost-effectiveness criteria (savings-to-investment ratio [SIR]). The utility contracts with implementers to conduct outreach, participant targeting, and delivery (including home audit and installations).
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential hard-to-reach customers • Eligibility criteria: Participants must have total annual household income at or below 200% of the federal poverty level • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Program sponsors develop their own marketing materials • Program sponsors: TDHCA sub-recipients and other not-for-profit community action and government agencies • Program sponsors: Designated federal Weather Assistance Program (WAP) sub-recipient agencies
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Texas Association of Community Action Agencies (TACAA)
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Attic insulation, duct sealing and caulking/weather-stripping around doors and windows, central air conditioning units, central heat pumps, window air conditioning units, replacement of electric water heaters, installation of ENERGY STAR® refrigerators, solar window screens, wall insulation, CFLs, water saving devices, and water heater jackets • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections, with confidence level at program manager's discretion • Conducted by Oncor and contracted inspectors

Table 8-11 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 8-11. Low Income Weatherization Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Low-Income Programs comprise 2% of energy savings and 1% of demand savings for Oncor's 2015 portfolio; however, SB 1434 requires T&D utilities to spend 10% of their energy-efficiency budget on targeted low-income weatherization programs.	Low

	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EEPM data for accuracy and confirm estimated savings concur with deemed savings database	

8.5 LOAD MANAGEMENT

8.5.1 Commercial Load Management Standard Offer Program

Table 8-12. Commercial Load Management Standard Offer Program Summary

Topic	Summary
Program Description	Under the Commercial Load Management Standard Offer Program, Oncor pays incentives to Service Providers who work with commercial customers to achieve documented, on-peak demand reductions. The demand reductions must be verified by Oncor in order for the incentives to be paid. Oncor does this by reviewing data recorded by Interval Data Recorders (IDRs) and advanced meters and calculating the amount of demand savings achieved through the curtailment during the summer on-peak season. The incentive is paid directly to the Service Provider.
Target Markets	<ul style="list-style-type: none"> • Market segments: Large commercial/industrial businesses • Eligibility criteria: <ul style="list-style-type: none"> ○ Each project must achieve a total estimated demand savings of at least 100 kW during the on-peak demand period. ○ A single project may involve the service provider identifying the total curtailable load at more than one customer facility ○ Serviced by an Oncor IDR or advanced meter ○ Must be located in Oncor's service area • Applications: Existing
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Website, retailer partners, etc. • Program sponsors: National or local energy service companies (ESCOs), retail electric providers (REPs), or individual customers that identify interruptible load in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Third-party implementer or individual customer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: N/A • Technical assistance: At discretion of the program sponsor, not part of program design • Incentives: Provided to EESP



Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Oncor does this by reviewing data recorded by electric meters, Interval Data Recorders (IDRs) and calculating the amount of demand savings achieved through the curtailment during the summer on-peak season.

Table 8-13 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 8-13. Commercial Load Management Standard Offer Program EM&V Plan¹¹

	Description	2015
Evaluation Priority	Low priority was given to the Load Management program evaluation because savings are calculated using actual interval load data and comparing to the average of loads on similar days. Even though the demand savings are high, the energy savings are low.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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 installation of demand interval metering to record real time participant demand profiles. Review of these data will verify program tracking data.	Yes
	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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.	Yes

¹¹ Includes Emergency Load Management Standard Offer Program.



8.6 PILOT

8.6.1 Residential Demand Response Pilot Market Transformation Plan

Table 8-14. Residential Demand Response Pilot Program Summary

Topic	Summary
Program Description	<p>Oncor's Residential Demand Response Pilot MTP is designed to explore DR capabilities as a means to reduce peak electric demand. PY2015 has selected a single vendor to test air conditioning DR capabilities using remotely controlled thermostats in single family homes. The vendor uses other subcontractors, such as residential alarm services, to expand the reach of the program, and will employ various DR strategies, such as pre-cooling and cycling to reduce overall peak period demand.</p> <p>How it works: Customer participants purchase and install an eligible thermostat (from the program implementer, or subcontractor ally) and applies for the program. During the registration process, the customer provides an electric use data release form to the vendor.</p> <p>Oncor notifies the vendor of DR event dates and times, and the vendor is responsible for curtailing participant load. Oncor will measure and determine actual demand savings using advanced meter data.</p> <p>The Program is intended to:</p> <ul style="list-style-type: none"> • Demonstrate residential DR ability to reliably curtail peak demand • Evaluate customer experience and reaction to various control strategies • Measure and verify demand and energy savings <p>evaluate customer participation and persistence</p>
Target Markets	<ul style="list-style-type: none"> • The program targets single family residential homes with central air conditioning using at least 1,000 kWh per month during summer season.
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Program vendor: Local and regional trade allies leveraged to recruit participants through AC system maintenance and sales ally networks.
Implementation and Delivery	<ul style="list-style-type: none"> • Third-party vendor manages and controls implementation and DR event activation, utilize trade ally subcontractors to sell and install DR thermostats.
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Third-party vendor manages and may offer competing air conditioner cycling options (30 percent, 50 percent, or 100 percent cycling) and perhaps employ pre-cool options to aid thermal carry through to aid participant persistence.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Actual demand reductions will be determined by Oncor using advanced meter data.

Table 8-15 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 8-15. Residential Demand Response Program EM&V Plan

	Description	2015
Evaluation Priority	Low priority was given to ONCOR's new Demand Response program for two reasons—(1) evaluation savings are determined using actual metered load data and (2) PY2015 is the launch and test program year. For PY2015 demand reduction goals were established at 6,000 kW, with no energy savings goals in the first year of program operation. Load management programs tend to be relatively inexpensive; this program requires that participants purchase the enabling DR thermostat shifting that cost burden onto participant-beneficiaries.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • Are sponsor-provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable? • Are incentive levels sufficient to attract participation? • Does participant purchase of the DR thermostat requirement affect program participation rates? • Are established goals reasonable? • What are the primary barriers to participation? • What other technology-customer opportunities may be available to develop a diverse, and ostensibly more reliable and effective, DR portfolio? 	
Program Evaluation Approach	Program tracking data review: Review data for accuracy and alignment with demand interval metered data.	
	Metered data review: Program rules require installation of demand interval metering to record real time participant demand profiles. Review of these data will verify program tracking data.	
	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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.	
	Desk reviews: None planned for PY2015	

8.7 RESIDENTIAL STANDARD OFFER

8.7.1 Home Energy Efficiency Standard Offer Program

Table 8-16. Home Energy Efficiency Standard Offer Program Summary

Topic	Summary
Program Description	The HEE SOP targets existing residential customers. This program is designed to achieve energy and demand savings in the residential market with the installation of a wide range of energy efficiency measures in homes. Incentives are paid to Energy Efficiency Service Providers to help offset the cost of these energy efficiency measures.



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Oncor markets to trade organizations, and program sponsors develop their own marketing materials; Oncor website • Program sponsors: General EESPs, retail electric providers, contractors, energy service companies
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Oncor
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Any Commission-approved measure included in the statewide Residential SOP template, or any Commission-approved measure assigned a deemed savings value for the Residential customer class is eligible under SOP, including attic insulation, duct sealing, caulking/weather-stripping, AC, heat pumps, water heaters, ENERGY STAR® windows, refrigerators, dishwashers, clothes washers, solar window screens, window film, wall insulation, floor insulation, water heater jackets, and renewable energy sources • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections, with confidence level at program manager's discretion, usually around 15% of sites per contractor per invoice • Conducted by Oncor and contracted inspectors

Table 8-17 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 8-17. Home Energy Efficiency Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Residential SOP comprises 39% of the energy and 16% of the demand savings for Oncor's 2015 portfolio.	High
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	

	Description	2015
Program Evaluation Approach	Program tracking system review: Review EEPM data for accuracy and confirm estimated savings concur with deemed savings database	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants to evaluate energy and demand impacts at program and measure-category levels.	

8.7.2 Solar PV Standard Offer Program

Table 8-18. Solar PV Standard Offer Program Summary

Topic	Summary
Program Description	The Solar Photovoltaic Standard Offer Program (SPVSOP) has two components—Residential and Commercial. Incentives are paid to Energy Efficiency Service Providers. 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, submitting documentation describing their projects, and entering into an Umbrella Contract within the Energy Efficiency Program Management.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential • Eligibility criteria: 1 kW_{DC} STC to 10 kW_{DC} STC • Applications: retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Rely upon the marketing capabilities of the service providers to sell or lease the solar photovoltaic systems to eligible Oncor customers • Program sponsors include: <ul style="list-style-type: none"> ○ National or local energy service companies (ESCOs) ○ National or local companies that provide energy-related services (e.g., contracting) or products ○ Retail electric providers (REPs) ○ Self-sponsors whose commercial Peak Demand exceeds 50 kW.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility

Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Solar photovoltaic (PV) • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to service provider who passes on at their discretion to end-use customer • For projects that the solar array azimuth is within ± 20 degrees of south, and the tilt angle is between 0 (horizontal) and latitude +15 degrees; kW (demand savings) $0.83 * \text{kW DC}_{\text{STC}}$ installed and kWh(Energy Savings $1.6 * \text{watts DC}_{\text{STC}}$ installed) • For other projects that fall outside of those orientations, use of PVWatts to determine kW (demand savings) and kWh (energy savings) • kW (demand savings at \$538.79/kW AC) • kWh (energy savings at \$0.53/kWh AC)
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre desk reviews for a census of projects • Post on-site inspections for a census of projects • Conducted by utility • The earlier pilot program required that “All projects must include an electrical meter to measure the energy produced by the solar electric system.” These data may be useful in evaluating the full program since performance should be comparable between the pilot and SPVSOP.

Table 8-19 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 8-19. Solar PV Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	In 2015, the solar program evaluation was given low priority due to the in-depth EM&V of these programs in 2013. However, desk reviews will be performed to check calculations and verify user inputs for a sample of projects.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the solar programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data for a sample of projects for each utility. Ensure all project activity is included and check for consistency with reported savings in utility annual reports. Metered data: Pilot program rules required the installation of a meter to measure the output of the PV system. Collection of these data, even if only in monthly intervals, will allow for a critical true-up of simulated and expected system performance to adjust for exogenous factors not captured in the simulations and expected performance.	

9. SHARYLAND UTILITIES

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

9.1 PORTFOLIO OVERVIEW

Table 9-1 shows the projected energy and demand savings for Sharyland Utilities programs for PY2015.

Table 9-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Com MTP	Customized Commercial MTP	Commercial Solutions	40	2%	120,000	6%
Com SOP	Commercial SOP	Commercial SOP	20	1%	55,000	3%
LI/HTR SOP	Hard-to-Reach SOP	Hard-to-reach SOP	50	2%	216,000	11%
LI/HTR SOP	Targeted Low Income Weatherization Program	Low Income / HTR Weatherization Programs	30	2%	90,000	5%
Load Management	Load Management SOP	Commercial Load Management SOP	1,500	75%	0	0%
Pilot Program	SCORE Pilot MTP	CitySmart / SCORE / Government	50	2%	196,000	10%
Res SOP	Residential SOP	Residential SOP	310	16%	1,214,000	64%

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 is followed by the 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 issues will be investigated portfolio-wide:

- What are drivers of differences, if any, between claimed and evaluated savings?
- Are the program provisions for quality assurance and control adequate?



9.2 COMMERCIAL MARKET TRANSFORMATION

9.2.1 Customized Commercial Market Transformation Program

Table 9-2. Customized Commercial Market Transformation Program Summary

Topic	Summary
Program Description	The Customized Commercial MTP provides incentives to Energy Efficiency Service Providers (EESP) and commercial end users for a wide variety of projects that improve the energy efficiency of commercial and industrial facilities. The program does not mandate the installation of specific measures in order to allow flexibility to participants in packaging their energy efficiency measures. Participants may propose innovative or non-traditional energy efficiency measures and will be considered on a case-by-case basis.
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial facilities • Eligibility criteria: Commercial facilities within Sharyland’s service territory • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Sharyland plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Third-party program implementer is to work under Sharyland’s direction to create and execute an outreach strategy to recruit project sponsors and/or program participants ○ Outreach is anticipated to take several forms including coordinating with local contractors, commercial customers and key EESPs ○ Use program website to educate the commercial community about the program ○ Develop program brochures for distribution to interested customers. • Program sponsors: Contractor/EESP
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Deemed measures may include VFD’s, compressed air, air-flow balancing, HVAC, lighting, motors, and any that may require M&V planning and metering • Technical assistance: Assistance from third-party implementer from identification of opportunities through implementation • Rebates/incentives: Provided to end-use customer/EESP
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer

Table 9-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 9-3. Customized Commercial Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Customized Commercial Market Transformation Program represents a growing portion of the portfolio’s current and future energy use and demand savings. This program began in 2013 for Sharyland.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • Are program goals established appropriately, and will they be met? • How does this program compare to other well established ones within the state? Are there major differences or similarities? • Is sufficient data being captured to effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? • Are program incentives set appropriately and similar to other programs within the state and to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	5
	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

9.3 COMMERCIAL STANDARD OFFER

9.3.1 Commercial Standard Offer Program

Table 9-4. Commercial Standard Offer Program Summary

Topic	Summary
Program Description	The Commercial Standard Offer Program (SOP) provides incentives to project sponsors for certain measures installed in new or retrofit applications. The program is open to project sponsors to submit projects through an application process. Projects are selected based on meeting minimum eligibility criteria, compliance with all program rules and procedures, documentation describing the projects, and completion of a Standard Agreement with the IOU.
Target Markets	<ul style="list-style-type: none"> • Market segments: Large and small commercial/industrial businesses • Eligibility criteria: Minimum projects size is 1 kW of deemed or measure summer or winter peak demand savings • Applications: New or retrofit applications



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none">• Marketing strategies: Examples may include mass email notifications, website, retailer partners, workshops, etc.• Program sponsors include:<ul style="list-style-type: none">○ National or local energy service companies (ESCOs)○ National or local companies that provide energy-related services (e.g., contracting) or products (e.g., lighting and HVAC equipment)○ Commercial Property developers, design/build firms○ Individual customers who implement energy efficiency measures in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none">• Implementers: Frontier Associates
Measures/Products, Services, Offerings	<ul style="list-style-type: none">• Measure offerings: HVAC, lighting, motors, VFDs• Technical assistance: At discretion of the program sponsor, not part of program design• Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer• kW (demand savings) \$175.00• kWh (energy savings) \$0.06
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none">• Pre and post on-site inspections at the discretion of the utility• Conducted by third-party implementer

Table 9-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 9-5. Commercial Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Standard Offer Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the CSO programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	Desk reviews: For a sample of projects, review program sponsor savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	5
	On-site M&V: For a sample of projects, in addition to desk review, primary data will be collected on site to verify installation and operation of measures, collect data on measures or baseline equipment, and conduct metering of savings parameters for which significant uncertainty in the savings calculations are identified as part of the desk reviews (e.g., equipment hours of use).	2

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

9.4.1 Hard-to-Reach Standard Offer Program

Table 9-6. Hard-to-Reach Standard Offer Program Summary

Topic	Summary
Program Description	The Hard-to-Reach Standard Offer Program pays project sponsors for certain measures to be installed in primarily retrofit applications, targeting customers with total annual household incomes at or below 200% of the federal poverty level. Comprehensive projects are encouraged. 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	<ul style="list-style-type: none"> • Market segments: Hard-to-reach residential customers • Eligibility criteria: Participants must have total annual household income at or below 200% of the federal poverty level • Applications: Retrofit applications, and new construction through the Affordable Single Family component

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Maintains websites, one targeted to end-use customers (www.sharyland.com) and one targeted to project sponsors (www.sharylandefficiency.com), which includes detailed project eligibility, end-use measures, incentives, procedures and application forms ○ Utilizes mass email notifications to inform and update potential project sponsors that provide energy-related services ○ Conducts workshops as necessary to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process ○ Higher incentives are provided for HTR participants relative to Standard Offer participants.
Implementation and Delivery	<ul style="list-style-type: none"> • Project sponsors include different EESPs. • Implementers: Frontier
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Project Sponsors may install any Commission-approved measure (except CFLs) for which a deemed savings value has been provided for the Residential customer class in the statewide Technical Reference Manual (TRM), including appliances, water heating, space conditioning, and building shell measures. The TRM outlines additional requirements and eligibility criteria for measures implemented in the Residential and Hard-to-Reach Standard Offer Programs. • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections conducted for >10% of total customers • Conducted by third-party implementer

Table 9-7 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 9-7. Hard-to-Reach Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The HTR SOP comprises 11% of the energy and 2% of the demand savings for Sharyland's 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.	High

	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Desk reviews to verify inputs into claimed savings calculations	10

9.4.2 Targeted Low Income Weatherization Program

Table 9-8. Targeted Low-Income Weatherization Program Summary

Topic	Summary
Program Description	The Targeted Low-Income Energy Efficiency Program provides weatherization and energy-efficiency measures to residential customers that meets DOE's Weatherization Assistance Program income eligibility guidelines and cost-effectiveness criteria (savings-to-investment ratio [SIR]). Senate Bill 712 program also provides targeted, eligible residential customers with basic on-site energy education. The utility contracts with implementers to conduct outreach, participant targeting, and delivery (including home audit and installations).
Target Markets	<ul style="list-style-type: none"> • Market segments: Low-income residential customers • Eligibility criteria: Receives electric power service through the utility's distribution system; meets DOE income-eligibility guidelines (i.e., 200% FPL); has electric air-conditioning
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Frontier will conduct outreach to government and/or not-for-profit agencies • Project sponsors: Government and/or not-for-profit agencies that will contract with weatherization service providers
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier Associates
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Weatherization, energy education • The agencies will select measures to be installed based on the savings-to-investment ratio (SIR), which evaluates cost effectiveness using the present value of the measure's lifetime energy savings divided by installation costs. • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Will continue to discuss QA/QC process with utility staff as implementation ramps up



Table 9-9 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 9-9. Low Income Weatherization EM&V Plan

	Description	2015
Evaluation Priority	The Low-Income Programs comprise 5% of the energy savings and 2% of the demand savings for Sharyland’s 2015 portfolio; however, SB 1434 requires T&D utilities to spend 10% of their energy-efficiency budget on targeted low-income weatherization programs.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	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.	5

9.5 LOAD MANAGEMENT

9.5.1 Load Management Standard Offer Program

Table 9-10. Commercial Load Management Standard Offer Program Summary

Topic	Summary
Program Description	The Load Management Standard Offer Program (LM SOP) targets commercial customers capable of providing at least 100 kW of peak demand reduction at each site that will be participating in the program. Incentives are paid to reduce electric load for a specified period during peak periods, defined as weekdays from 1:00 p.m. to 7:00 p.m., June through September, excluding federal holidays. Incentive payments are based upon metered peak demand reduction as called for by Sharyland with 60 minutes’ notice. Curtailment periods each year will include up to four unscheduled curtailments that can last up to four hours, plus a test curtailment of one to two hours. Curtailments will be requested by Sharyland in response to a notification by the Electric Reliability Council of Texas (ERCOT) that ERCOT has reached Energy Emergency Alert (EEA) Level 2 or in response to local grid conditions.
Target Markets	<ul style="list-style-type: none"> • Market segments: Large commercial/industrial businesses • Eligibility criteria: Commercial customers capable of providing at least 100 kW of peak demand reduction at each site that will be participating in the program • Applications: Existing



Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> Marketing strategies: Website, retailer partners, etc. Program sponsors: National or local EESPs, retail electric providers (REPs), or individual customers that identify interruptible load in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> Implementers: Frontier Associates
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> Measure offerings: N/A Technical assistance: At discretion of the program sponsor, not part of program design
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> Third-party implementer

Table 9-11 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 9-11. Commercial Load Management Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	Low priority was given to the Load Management SOP evaluation because savings are calculated using actual interval load data and comparing to the average of loads on similar days. Demand savings are high, energy savings are low.	Low
Key Researchable Issues	<ul style="list-style-type: none"> 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 installation of demand interval metering to record real time participant demand profiles. Review of these data will verify program tracking data.	Yes
	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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.	Yes



9.6 PILOT

9.6.1 SCORE Pilot Market Transformation Program

Table 9-12. SCORE Pilot Market Transformation Program Summary

Topic	Summary
Program Description	The SCORE Pilot MT program helps public schools, city, county and state governmental customers to identify opportunities and implement energy efficiency measures. The program pays financial incentives for the installation of energy efficiency measures that reduce peak demand and energy use, as well as non-cash incentive tools used to identify their 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	<ul style="list-style-type: none"> • Market segments: Education and government facilities • Eligibility criteria: Education and government facilities within Sharyland’s service territory • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Sharyland plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Maintains internet website with information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, program manuals and available funding ○ Offers direct outreach to prospective customers to explain participant elements such as overview of the program, guidelines for participation, identification of barriers that are prohibiting energy efficiency activity, explanation of potential projects that can be implemented under the program and their benefits, and discussion of how alternative financing sources can help accomplish energy efficiency projects ○ Offers educational elements such as case studies from other successful energy efficiency projects as illustrations of the processes and concepts involved. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, and roofing (New Construction: HVAC and lighting), along with M&V-related measures, as can be quantifiable via IPMVP measurement options • 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 end-use customer



Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer

Table 9-13 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 9-13. SCORE Pilot Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The SCORE Pilot Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. This is a new program that began in PY2014 for Sharyland.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • Are program goals established appropriately, and will they be met? • How does this program compare to other well established ones within the state? Are there major differences or similarities? • Is sufficient data being captured to effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? • Are program incentives set appropriately and similar to other programs within the state and to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	5
	On-site M&V: Conduct on-site M&V with a sample of the population to verify installation and efficiency conditions. A portion of these on-site visits may include metering to verify key parameters as determined in the desk reviews.	2



9.7 RESIDENTIAL STANDARD OFFER

9.7.1 Residential Standard Offer Program

Table 9-14. Residential Standard Offer Program Summary

Topic	Summary
Program Description	The Residential Standard Offer Program pays project sponsors for certain measures to be installed in primarily retrofit applications. Comprehensive projects are encouraged. 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	<ul style="list-style-type: none"> • Market segments: Residential single family and multifamily homes • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to inform and update potential project sponsors such as REPs, EESPs, national, and local companies that provide energy-related services ○ Maintains internet website with detailed project eligibility, end-use measures, incentives, procedures, and application forms ○ Participates in appropriate industry-related meetings to generate awareness and interest ○ Participates in state-wide outreach activities as may be available ○ Conducts an initial workshop 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	<ul style="list-style-type: none"> • Implementers: Frontier Associates
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Project sponsors may install any Commission-approved measure (except CFLs) for which a deemed savings value has been provided for the Residential customer class in the statewide Technical Reference Manual (TRM), including appliances, water heating, space conditioning, and building shell measures. The TRM outlines additional requirements and eligibility criteria for measures implemented in the Residential and Hard-to-Reach Standard Offer Programs. • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • 10% post-inspection per report, per project sponsor • Conducted by third-party implementer

Table 9-15 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 9-15. Residential Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Residential SOP comprises 64% of the energy and 16% of the demand savings for Sharyland's 2015 portfolio.	High
Key Researchable Issues	<ul style="list-style-type: none">• 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?	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Desk reviews to verify inputs into claimed savings calculations	30



10. SWEPCO

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

10.1 PORTFOLIO OVERVIEW

Table 10-1 shows the projected energy and demand savings for the SWEPCO programs for PY2015.

Table 10-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Com MTP	Commercial Solutions MTP	Commercial Solutions	353	4%	1,731,522	15%
Com MTP	Open MTP	Small Business DI	231	2%	1,355,775	11%
Com MTP	SCORE MTP	CitySmart / SCORE / Government	443	5%	1,424,005	12%
Com SOP	Commercial SOP	Commercial SOP	842	9%	2,950,737	25%
LI/HTR SOP	Hard-to-Reach SOP	Hard-to-reach SOP	773	8%	1,354,754	11%
Load Management	Load Management SOP	Commercial Load Management SOP	5,000	54%	55,118	0%
Res MTP	CoolSaver® A/C Tune-Up MTP	A/C Programs (Distributor and CoolSaver AC Tune-up (Res and Nonres))	241	3%	493,754	4%
Res SOP	Residential SOP	Residential SOP	1,399	15%	2,450,213	21%

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 is followed by the 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 issues will be investigated portfolio-wide:

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



- Are the program provisions for quality assurance and control adequate?

10.2 COMMERCIAL MARKET TRANSFORMATION

10.2.1 Commercial Solutions Market Transformation Program

Table 10-2. Commercial Solutions Market Transformation Program Summary

Topic	Summary
Program Description	The Commercial Solutions MTP targets commercial customers (other than 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/or (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/implement energy efficiency measures. Financial incentives are provided for eligible energy efficiency measures that result in verifiable demand and energy savings.
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial facilities (other than education) • Eligibility criteria: Commercial facilities within SWEPCO's service territory • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: SWEPCO plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third party to implement outreach and planning activities ○ Maintains an internet website to provide information to potential participants ○ Conducts workshops as necessary to explain elements of the program, such as responsibilities of participants, project requirements, incentive information and the application and reporting process ○ Utilizes working relationships between Customer Account Managers and customers to promote the program ○ Participates in local, regional, and industry-related outreach activities as may be necessary ○ Conduct specific project sponsor training sessions, as necessary, based on the energy efficiency programs being implemented ○ Facilitate media opportunities to spotlight successful projects and/or interesting stories as applicable. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEARResult
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, window film, roofing, or others that may require M&V planning and metering • Technical assistance: Includes communications support in addition to identification and evaluation of energy efficiency measures • Rebates/incentives: Provided to end-use customer



Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer

Table 10-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 10-3. Commercial Solutions Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Solutions Market Transformation Program represents a significant portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports	
	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.	5
	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



10.2.2 Open Market Transformation Program

Table 10-4. Open Market Transformation Program Summary

Topic	Summary
Program Description	This program, previously known as the “Small Business Direct Install” (SBDI) MTP, is now referred to as the Open MTP (as of PY2014). From the customer’s perspective, the program is virtually unchanged, but due to a change in the program implementer, SWEPCO felt it appropriate to also change the program name. This program offers a “turnkey” approach to small commercial customers in which marketing, energy education, site-specific energy analysis, financial incentives, equipment procurement, and installation can be provided. Installation work is performed by local/area contractors. Financial incentives are provided directly to the contractor Small commercial customers with peak demands of less than 100 kW.
Target Markets	<ul style="list-style-type: none"> • Market segments: Small commercial facilities • Eligibility criteria: Small commercial facilities within SWEPCO’s service territory and with peak demands <=100 kW • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: SWEPCO plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Maintains internet website with project eligibility, end-use measures, incentives, and procedures ○ Educates internal employees about the program to help increase the customers’ awareness of the programs ○ Conducts workshops as necessary to explain elements such as responsibilities of project sponsor, project requirements, incentive information, and the application and reporting process. • Program sponsors: Contractors
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Lighting, lighting controls, air conditioning, and refrigeration controls • Technical assistance: Energy assessment provided by contractor • Rebates/incentives: Provided to contractor • Program direct install: DI approach
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer

Table 10-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 10-5. Open Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Open Market Transformation Program represents a small portion of the portfolio’s current and future energy use and demand savings. The majority of savings are from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Is a change in measure mix being seen by the program? • Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Review the program tracking system data for completeness and accuracy.	

10.2.3 SCORE Market Transformation Program

Table 10-6. Texas SCORE Market Transformation Program Summary

Topic	Summary
Program Description	The SCORE MTP helps educational facilities (public schools K-12, colleges and universities) in lowering their energy use by educating and assisting in integrating energy efficiency into their short- and long-term planning, budgeting, and operational practices. This is completed through assistance in areas such as energy master planning workshops, energy performance benchmarking and identifying/assessing/implementing energy efficiency measures. Energy efficiency improvements include capital-intensive projects and implementing operational and maintenance practices and procedures. Financial incentives are provided to energy efficiency measures that reduce peak electricity demand.
Target Markets	<ul style="list-style-type: none"> • Market segments: Education facilities • Eligibility criteria: Education facilities within SWEPCO’s service territory • Applications: Retrofit or new construction projects

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: SWEPCO plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party to implement outreach and planning activities ○ Maintains an internet website to provide information to potential participants ○ Identifies customer participants ○ Utilizes working relationships between Customer Account Managers and customers to promote the program ○ Conducts workshops as necessary to explain elements of the program, such as responsibilities of participants, project requirements, incentive information and the application and reporting process ○ Participates in regional outreach activities as may be necessary ○ Participates in appropriate industry-related meetings to generate awareness and interest. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEARResult
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, window film, roofing, or others that may require M&V planning and metering • Technical assistance: Includes communications support, performance benchmarking, and energy master planning workshops in addition to identification of energy efficiency measures • Rebates/incentives: Provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer

Table 10-7 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 10-7. Texas SCORE Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Texas SCORE Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium

	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	5
	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 will include metering to verify key parameters as determined in the desk reviews.	2

10.3 COMMERCIAL STANDARD OFFER

10.3.1 Commercial Standard Offer Program

Table 10-8. Commercial Standard Offer Program Summary

Topic	Summary
Program Description	<p>The Commercial Standard Offer Program provides incentives for new construction and retrofit installation for a wide range of measures that reduce demand and save energy in nonresidential facilities. Installed measures must have the potential to reduce peak summer demand by at least 10 kW, except for projects that are self-sponsored, for which there is no minimum kW. Incentives are paid to energy efficiency service providers (i.e., Project Sponsors) on the basis of 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, comply with all program rules and procedures, submit documentation describing their projects, and enter into a Standard Agreement with the IOU.</p>



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Large and small commercial/industrial businesses • Eligibility criteria: Customer must have potential to reduce summer peak demand by at least 10 kW • Applications: New or retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Examples may include website, bill inserts, etc. • Program sponsors include: <ul style="list-style-type: none"> ○ 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) ○ Individual commercial customers within the eligible service territories who install measures in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: SWEPCO
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, controls, refrigeration, motors, VFDs, food service • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer • kW (demand savings) \$175–\$350 per kW (varies by measure type) • kWh (energy savings) \$0.06–\$0.09 per kWh (varies by measure type)
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections • Conducted by SWEPCO

Table 10-9 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 10-9. Commercial Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Standard Offer Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the Commercial SOP at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	



	Description	2015
	Desk reviews: For a sample of projects, review program sponsor savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	10
	On-site M&V: For a sample of projects, in addition to desk review, primary data will be collected on site to verify installation and operation of measures, collect data on measures or baseline equipment, and conduct metering of savings parameters for which significant uncertainty in the savings calculations are identified as part of the desk reviews (e.g., equipment hours of use).	4

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

10.4.1 Hard-to-Reach Standard Offer Program

Table 10-10. Hard-to-Reach Standard Offer Program Summary

Topic	Summary
Program Description	The Hard-to-Reach Standard Offer Program pays project sponsors for certain measures to be installed in retrofit applications for customers with total annual household incomes at or below 200% of the federal poverty level. The utility has a limited group of participating project sponsors determined through a selection procedure based on an application process including customer feedback. Along with retrofit opportunities, the program encourages energy-saving education.
Target Markets	<ul style="list-style-type: none"> • Market segments: Hard-to-reach residential customers • Eligibility criteria: Participants must have total annual household income at or below 200% of the federal poverty level, have properly completed a PUCT-approved income verification form, or have been designated as HTR-eligible through another PUCT-approved verification methodology. • Applications: Retrofit applications

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to inform and update potential project sponsors such as EESPs and national and local companies that provide energy-related services ○ Educates internal employees about the program to help increase the customers' awareness of the programs ○ Maintains website with detailed project eligibility, end-use measures, incentives, procedures, and application forms ○ Participates in appropriate industry-related meetings to generate awareness and interest ○ Sends information to customers concerned about utility bills ○ Participates in state-wide outreach activities as available ○ Conducts workshops to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process ○ Approves all marketing materials used by sponsors ○ Facilitate media opportunities to spotlight successful projects and/or interesting stories as applicable ○ Contract with a third-party implementer to conduct outreach, planning activities and recruit additional subcontractors. • Program sponsors: EESPs, contractors, national energy service companies
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: SWEPCO
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Any Commission-approved measure included in the statewide TRM for the Residential customer class is eligible, including attic insulation, duct efficiency, caulking/weather-stripping, AC, heat pumps, water heaters, ENERGY STAR® windows, refrigerators, dishwashers, clothes washers, wall insulation, floor insulation, water heater jackets, and water heaters • CFLs and PV or other distributed generation measures are not eligible measures. • \$25,000 cap, per sponsor, for multifamily projects. • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsors who pass on at their discretion to end-use customer. Higher incentives are available for customers in underserved counties, and for under-installed measures
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections for >10% of sites for each sponsor • Blower door and duct blaster tests will be randomly conducted during inspections to verify accuracy of post-treatment readings. • Conducted by SWEPCO

Table 10-11 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 10-11. Hard-to-Reach Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The HTR SOP comprises 11% of the energy and 8% of the demand savings for SWEPCO's 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.	High
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Desk reviews to verify inputs into claimed savings calculations	10

10.5 LOAD MANAGEMENT

10.5.1 Load Management Standard Offer Program

Table 10-12. Commercial Load Management Standard Offer Program Summary

Topic	Summary
Program Description	The Commercial Load Management Standard Offer Program was developed to pay incentives to customers for load interruptions of electric consumption on short notice during peak demand periods. Incentives are based on verified demand savings that occur at the customer's site as a result of an interruption.
Target Markets	<ul style="list-style-type: none"> • Market segments: Large commercial/industrial businesses • Eligibility criteria: <ul style="list-style-type: none"> ○ Identifies interruptible load at a facility that is served by SWEPCO ○ Must have Interval Data Recorder meter ○ Has a minimum demand of 500 kW or more. • Applications: Existing
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Website, Customer Account Managers • Program sponsors: National or local EESPs, or individual customers that identify interruptible load in their own facilities
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: SWEPCO



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: N/A <ul style="list-style-type: none"> ◦ Rebates/incentives: SWEPCO will pay a participating customer (or the project sponsor, if different) up to \$35 per kW of verified curtailed load each year of participation
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • SWEPCO will verify actual demand savings from interruptions.

Table 10-13 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 10-13. Commercial Load Management Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	Low priority was given to the Load Management program evaluation because savings are calculated using actual interval load data and comparing to the average of loads on similar days. Even though the demand savings are high, the energy savings are low.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • Are sponsor provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	<p>Program tracking data review: Review data for accuracy and alignment with demand interval metered data.</p> <p>Metered data review: Program rules require installation of demand interval metering to record real time participant demand profiles. Review of these data will verify program tracking data.</p>	
	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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.	



10.6 RESIDENTIAL MARKET TRANSFORMATION

10.6.1 CoolSaver® A/C Tune-Up Market Transformation Program

Table 10-14. CoolSaver® A/C Tune-Up Market Transformation Program Summary

Topic	Summary
Program Description	<p>This program is designed to overcome market barriers that prevent residential customers from receiving high performance air conditioning (A/C) system tune-ups and selecting high efficiency A/C and heat pump units for replacement. The program works with local A/C contractors to offer key program components, including:</p> <ul style="list-style-type: none"> • Training and certifying A/C technicians on the tune-up and air flow correction services and protocols • Paying incentives to A/C contractors for the successful implementation of A/C tune-up and air flow correction services • Paying incentives to the customers in the form of coupons to offset the increased cost of high efficiency A/C and heat pump units • Paying incentives to the customers in the form of coupons to be applied toward the completion of recommended work leading to the optimum unit efficiency.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers • Eligibility criteria: SWEPCO customers • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: SWEPCO markets the CoolSaver® MTP in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party implementer to conduct outreach, training and planning activities ○ Targets A/C contractors who service residential customers served by SWEPCO ○ Targets residential customers served by SWEPCO ○ Conducts training workshops with contractor staff on the specific tune-up and air flow correction services promoted by the program, as well as the measurement and verification 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 ○ Participates in appropriate industry-related meetings to generate awareness and interest. • Program sponsors: HVAC contractors
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer and the data source



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Central air conditioners and heat pumps • Technical assistance: Tune-up and air flow correction services • Rebates/incentives: The contractor is given \$75 for each verified CoolSaver tune-up and the customer receives a \$75 coupon for use toward A/C and heat pump efficiency services performed as a result of the tune-up analysis. If a new qualified unit is installed, the customer receives an incentive in the form of a coupon based on the size and efficiency of the new unit.
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Conducted by CLEAResult

Table 10-15 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 10-15. CoolSaver® A/C Tune-Up Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	Represents less of the portfolio overall savings, with the majority of savings from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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 the changes in equipment 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 process of data entry and storage more streamlined and effective? • Are goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	

10.7 RESIDENTIAL STANDARD OFFER

10.7.1 Residential Standard Offer Program

Table 10-16. Residential Standard Offer Program Summary

Topic	Summary
Program Description	The Residential Standard Offer Program pays incentives to 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 procedure based on an application process including customer feedback.



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential single family and multifamily homes over two years old • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to inform and update potential project sponsors such as EESPs and national and local companies that provide energy-related services ○ Educates internal employees about the program to help increase the customers' awareness of the programs ○ Maintains website with detailed project eligibility, end-use measures, incentives, procedures and application forms ○ Participates in appropriate industry-related meetings to generate awareness and interest ○ Sends information to customers concerned about utility bills ○ Participates in state-wide outreach activities as available ○ Conducts workshops to explain elements such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process ○ SWEPCO cannot directly market customers but encourages project sponsors to do so, and approves all marketing materials used by sponsors. • Program sponsors: EESPs, contractors, national energy service companies • Facilitate media opportunities to spotlight successful projects and/or interesting stories as applicable.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementer: SWEPCO
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Commission-approved measure included in the statewide TRM for the Residential customer class is eligible under SOP, including attic insulation, duct efficiency, caulking/weather-stripping, AC, heat pumps, water heaters, ENERGY STAR® windows, refrigerators, dishwashers, clothes washers, wall insulation, floor insulation, water heater jackets, and water heaters • CFLs, showerheads, faucet aerators, and PV or other distributed generation measures are not eligible measures. • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsors who pass on at their discretion to end-use customer. Higher incentives are available for customers in underserved counties, and for under-installed measures
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections for >10% of sites for each sponsor • Blower door and duct blaster tests will be randomly conducted during inspections to verify accuracy of post-treatment readings. • Conducted by SWEPCO



Table 10-17 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 10-17. Residential Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Residential SOP comprises 21% of the energy and 15% of the demand savings for SWEPCO's 2015 portfolio.	High
Key Researchable Issues	<ul style="list-style-type: none">• 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?	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Desk reviews to verify inputs into claimed savings calculations	30



11. TNMP

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

11.1 PORTFOLIO OVERVIEW

Table 11-1 shows the projected energy and demand savings for the TNMP programs for PY2015.

Table 11-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Com MTP	Open for Small Business MTP	Small Business DI	432	5%	1,750,000	11%
Com MTP	SCORE/CitySmart MTP	CitySmart / SCORE / Government	700	8%	2,457,000	16%
Com MTP	Commercial Solutions MTP	Commercial Solutions	700	8%	3,024,000	20%
LI/HTR SOP	Hard-to-Reach SOP	Hard-to-reach SOP	245	3%	417,000	3%
LI/HTR SOP	Low Income Weatherization	Low Income / HTR Weatherization Programs	433	5%	1,279,000	8%
Load Management	Load Management SOP	Commercial Load Management SOP	4,085	44%	9,450	0%
Res MTP	High-Performance Homes MTP	New Home Construction	1,093	12%	1,328,000	9%
Res SOP	Residential SOP	Residential SOP	1,609	17%	5,087,000	33%

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 is followed by the 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 issues will be investigated portfolio-wide:

- What are drivers of differences, if any, between claimed and evaluated savings?
- Are the program provisions for quality assurance and control adequate?

11.2 COMMERCIAL MARKET TRANSFORMATION

11.2.1 Open for Small Business Market Transformation Program

Table 11-2. Open for Small Business Market Transformation Program Summary

Topic	Summary
Program Description	The Open for Small Business MTP assists small business customers that do not have the in-house capacity or expertise to: (1) identify, evaluate, and undertake energy efficiency improvements; (2) properly evaluate energy efficiency proposals from vendors; and/or (3) understand how to leverage their energy savings to finance projects. Financial incentives are provided directly to the contractor, thereby reducing a portion of the project cost for the customer. Small commercial customers with peak demands not exceeding 100 kW in the previous 12 consecutive billing months may qualify to participate in the program. Additionally, customers whose peak demand is less than or equal to 10 kW may qualify for incentives that would offset up to 100% of the cost of their project(s).
Target Markets	<ul style="list-style-type: none"> • Market segments: Small commercial facilities • Eligibility criteria: Small commercial facilities within TNMP's service territory and with peak demands <=100kW. • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: TNMP plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Maintains a website containing the requirements for project participation, forms required for project submission, and the links to databases containing the current available funding ○ Leverage small business associations, government agencies and service providers to serve program customers. • Program sponsors: Contractors
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC (and controls), lighting (and controls), roofing, refrigeration, and food service • Technical assistance: Energy assessment provided by contractor • Rebates/incentives: Provided to contractor • Program direct install: DI approach
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer • In addition some verification is conducted by the utility

Table 11-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 11-3. Open for Small Business Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Small Business Market Transformation Program represents a small portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective? • Is a change in measure mix being seen by the program? • Are program goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Review the program tracking system data for completeness and accuracy.	
Key Researchable Issues	<ul style="list-style-type: none"> • As a newer program, are program goals established appropriately, and will they be met? • How does this program compare to other well established ones within the state? Are there major differences or similarities? • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • How do NTG results compare to other similar programs within the state? Are there major differences or similarities? • Is sufficient data being captured to effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? • Are program incentives set appropriately and similar to other programs within the state and to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	

11.2.2 SCORE/CitySmart Market Transformation Program

Table 11-4. Texas SCORE/CitySmart Market Transformation Program Summary

Topic	Summary
Program Description	The SCORE/CitySmart MTP helps educational facilities (childcare, public and private schools K-12 and higher education) and local government institutions in lowering their energy use by educating and assisting in integrating energy efficiency into their short and long term planning, budgeting, and operational practices. This is completed through assistance in areas such as energy master planning, energy performance benchmarking and identifying/assessing/implementing energy efficiency measures. Energy efficiency improvements include capital-intensive projects and implementing operational and maintenance practices and procedures. Financial incentives are provided to energy efficiency measures that reduce peak electricity demand.
Target Markets	<ul style="list-style-type: none"> • Market segments: Education and government facilities • Eligibility criteria: Education and government facilities within TNMP's service territory • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: TNMP plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party implementer to conduct outreach and planning activities ○ Targets a number of customer participants ○ Conducts workshops for program participants and industry professionals as necessary to explain elements of the program, such as responsibilities of the participants, project requirements, incentive information and the application and reporting process ○ Participates in regional outreach activities as may be necessary ○ Attends appropriate industry-related meetings to generate awareness and interest. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, VFDs, window film, roofing, or others that may require M&V planning and metering • Technical assistance: Includes communications support, financing assistance, performance benchmarking and energy master planning workshops in addition to identification of energy efficiency measures • Rebates/incentives: Provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer • In addition some verification is conducted by the utility

Table 11-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 11-5. Texas SCORE/CitySmart Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Texas SCORE/CitySmart Market Transformation Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	10
	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

11.2.3 Commercial Solutions Market Transformation Program

Table 11-6. Commercial Solutions Market Transformation Program Summary

Topic	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/or (3) understand how to leverage their energy savings to finance projects. Assistance from the program includes communications support and technical assistance to identify/assess/implement energy efficiency measures. Financial incentives are provided for eligible energy efficiency measures that result in verifiable demand and energy savings.

Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial facilities (other than government and education) • Eligibility criteria: Commercial facilities within TNMP's service territory • Applications: Retrofit or new construction projects
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: TNMP plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Contracts with a third-party implementer to conduct outreach and planning activities ○ Targets a number of customer participants ○ Conducts workshops for program participants and industry professionals as necessary to explain elements of the program, such as responsibilities of the participants, project requirements, incentive information and the application and reporting process ○ Participates in regional outreach activities as may be necessary ○ Attends appropriate industry-related meetings to generate awareness and interest. • Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: CLEAResult is the third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, motors, window film, roofing, fuel switching, or others that may require M&V planning and metering • Technical assistance: Includes communications support in addition to identification and evaluation of energy efficiency measures • Rebates/incentives: Provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by third-party implementer • In addition some verification is conducted by the utility

Table 11-7 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 11-7. Commercial Solutions Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Solutions Market Transformation Program represents a significant portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium

	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • To what degree is the program encouraging adoption of energy efficient operational techniques and technologies that would otherwise not have taken place? • Is the current mixture of rebated measures still appropriate, or are there some measures that could 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 performing as 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 effectively allow for appropriate verification? Are there significant differences in how data is captured and calculation methodologies used as compared to similar programs within the state? Are there significant differences in how data is captured and calculation methodologies as compared to industry standards? 	
Program Evaluation Approach	Program tracking system review: Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	10
	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

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

11.3.1 Hard-to-Reach Standard Offer Program

Table 11-8. Hard-to-Reach Standard Offer Program Summary

Topic	Summary
Program Description	The Hard-to-Reach Standard Offer Program 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% 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.

Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Hard-to-reach residential customers • Eligibility criteria: Participants must have total annual household income at or below 200% of the federal poverty level. Multifamily residences will qualify if at least 75% of residences qualify. • Applications: Retrofit applications, and certain qualifying multifamily new construction
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to keep potential project sponsors interested and informed ○ Maintains internet website with detailed project eligibility, end-use measures, incentives, procedures, and application forms ○ Attends appropriate industry-related meetings to generate awareness and interest ○ Participates in state-wide outreach activities as may be available ○ Conducts workshops as necessary 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: Wide range of contractors, service companies, community agencies and other organizations
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Envelope measures (insulation, infiltration, duct sealing, windows), HVAC measures (air conditioning, variable speed drives, heat pumps), water heating (clothes washers, water heater), refrigerators, photovoltaic/renewable technologies • Technical assistance: At discretion of the project sponsor, not part of program design • Rebates/incentives: Provided to project sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 10% of submitted invoices • Conducted by Frontier

Table 11-9 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 11-9. Hard-to-Reach Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The HTR SOP comprises 8% of the energy and 5% of the demand savings for TNMP's 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.	High



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants and a comparison group of 2015 participants to evaluate energy and demand impacts at program and measure-category levels.	

11.3.2 Low Income Weatherization

Table 11-10. Low-Income Weatherization Program Summary

Topic	Summary
Program Description	The low-income weatherization program provides weatherization and energy-efficiency measures to residential customers that meets DOE's Weatherization Assistance Program income eligibility guidelines and cost-effectiveness criteria (savings-to-investment ratio [SIR]). The utility contracts with Frontier, who then contracts with local government organizations and not-for-profit agencies to deliver weatherization services.
Target Markets	<ul style="list-style-type: none"> • Market segments: Low-income residential customers • Eligibility criteria: Receives electric power service through the utility's system; meets DOE income-eligibility guidelines (i.e., 200% FPL); qualified through service provider's guidelines • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Low income advocates throughout TNMP's service territory will be called upon to participate. Workshops and database training will take place and updates to policies and procedures will take place annually, as needed. • Project Sponsors: TDHCA sub-recipients and other not-for-profit community action and government agencies
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Attic insulation, central AC replacement, CFLs, electric water heater measures, infiltration control, refrigerator replacement, solar screens, wall insulation, and window AC replacement • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer



Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 10% of submitted invoices • Conducted by Frontier

Table 11-11 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 11-11. Low Income Weatherization EM&V Plan

	Description	2015
Evaluation Priority	The Low-Income Programs comprise 5% of the energy savings and 8% of the demand savings for TNMP's 2015 portfolio; however, SB 1434 requires T&D utilities to spend 10% of their energy-efficiency budget on targeted low-income weatherization programs, and TNMP budgeted 11%.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	

11.4 LOAD MANAGEMENT

11.4.1 Load Management

Table 11-12. Commercial Load Management Standard Offer Program Summary

Topic	Summary
Program Description	The TNMP Load Management SOP invites commercial class customers (including governmental, nonprofit, and institutional customers) receiving distribution-level service to provide on-call, voluntary curtailment of electric consumption during peak demand periods in return for incentive payments.



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial/industrial businesses • Eligibility criteria: <ul style="list-style-type: none"> ○ TNMP prefers that project sponsors be capable of providing at least 50 kW of peak demand reduction at each site for which load reduction is offered into the program. However, TNMP may accept applications including sites providing less than 50 kW of peak demand reduction in the interest of meeting its peak load reduction targets. ○ Must have Interval Data Recorder or AMS meter. ○ All included project sites must be nonresidential customers of TNMP taking service at the distribution level and/or be a nonprofit customer or government entity, including educational institutions. • Applications: Existing
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Website, retailer partners, etc. • Program sponsors: National or local EESPs, retail electric providers (REPs), or individual customers that identify interruptible load in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • TNMP is the program implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: N/A • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: TNMP will pay a participating customer (or the project sponsor, if different) up to \$50 per kW of verified curtailed load each year of participation
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • TNMP will verify actual demand savings from interruptions

Table 11-13 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 11-13. Commercial Load Management Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	Low priority was given to the Load Management program evaluation because savings are calculated using actual interval load data and comparing to the average of loads on similar days. Even though the demand savings are high, the energy savings are low.	Low



	Description	2015
Key Researchable Issues	<ul style="list-style-type: none"> • Are sponsor provided savings inputs and parameters accurate? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	<p>Program tracking data review: Review data for accuracy and alignment with demand interval metered data.</p> <p>Metered data review: Program rules require installation of demand interval metering to record real time participant demand profiles. Review of these data will verify program tracking data.</p>	Yes
	<p>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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.</p>	Yes

11.5 RESIDENTIAL MARKET TRANSFORMATION

11.5.1 High-Performance Homes Market Transformation Program

Table 11-14. High-Performance Homes Market Transformation Program Summary

Topic	Summary
Program Description	<p>The High-Performance Homes MTP provides financial incentives and other types of assistance to production and custom homebuilders who commit to construct homes within the TNMP service territory that meet High-Performance specifications. It is the homebuilder's primary responsibility to design, build, and market homes that comply with program requirements and achieve a 10% kWh savings or greater over the 2009 IRC/IECC code. The Rater's primary responsibility is to work with homebuilders to facilitate the construction of ENERGY STAR® certified and High-Performance homes that meet the performance requirements for the program. Incentives are paid to builders for installing certain measures in new construction applications, as defined in the Texas Technical Reference Manual. The program includes a bonus incentive for ENERGY STAR® Version 3.0 compliant homes</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers, homebuilders • Eligibility criteria: TNMP's program is for builders and raters who are building new homes in TNMP's service territory. To be eligible, builders must: <ul style="list-style-type: none"> ○ Be able to produce a copy of the REM/Rate .BLG files ○ Provide a copy of AHRI Certificates. <p>To be eligible for payment, homes must:</p> <ul style="list-style-type: none"> ○ Be located within TNMP's service territory ○ Have achieved 10% kWh savings OR have a valid ENERGY STAR® Version 3.0 certificate ○ Have been certified or rated between January 1, 2015 and December 31, 2015 ○ Not have received an incentive from any other utility



Topic	Summary
	<ul style="list-style-type: none"> ○ Have the REM/Rate files, AHRI Certificates, ENERGY STAR® Certificates, related spreadsheets and any online data forms completed and submitted by December 31, 2015. ● Applications: New home construction applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> ● Marketing strategies: TNMP markets the availability of its programs in the following manner: <ul style="list-style-type: none"> ○ Utilizes mass electronic mail (email) notifications to keep potential builders interested and informed ○ Maintains a website with detailed builder eligibility, end-use measures, incentives, and procedures ○ Participates in statewide outreach activities, as may be available. ● Program sponsors: N/A
Implementation and Delivery	<ul style="list-style-type: none"> ● Implementers: ICF is the third-party implementer and Frontier is the data source
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> ● Measure offerings: This is a whole-house program that is based on achieving a 10% kWh savings OR have a valid ENERGY STAR® Version 3.0 certificate ● Technical assistance: Builders must work with raters ● Rebates/incentives: Paid directly to participating builders
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> ● QA/QC conducted by ICF; 10% sample of all paperwork turned in

Table 11-15 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 11-15. High-Performance Homes Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	This program contributes to the overall portfolio of energy savings at a lesser level than other programs in the portfolio.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> ● 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 process of data entry and storage more streamlined and effective? ● Are goals established appropriately, and will they be met? 	
Program Evaluation Approach	Program tracking system review: Will review the program tracking system for data and accuracy.	
	Desk reviews: Will review the program files (e.g., REM/Rate) to assess reasonableness of energy savings, and QA/QC M&V reports.	3

11.6 RESIDENTIAL STANDARD OFFER

11.6.1 Residential Standard Offer Program

Table 11-16. Residential Standard Offer Program Summary

Topic	Summary
Program Description	The Residential Standard Offer Program provides incentives for the retrofit installation of a wide range of measures that reduce energy costs, reduce peak demand and save energy in residential facilities.
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers <100 kW maximum demand • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Utilizes mass email notifications to keep potential project sponsors interested and informed ○ Maintains internet website with detailed project eligibility, end-use measures, incentives, procedures, and application forms ○ Attends appropriate industry-related meetings to generate awareness and interest ○ Participates in state-wide outreach activities as may be available ○ Conducts workshops as necessary 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: Wide range of contractors, service companies, community agencies and other organizations or local companies that provide energy-related product
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Commission-approved measures included in the statewide TRM for the Residential customer class are eligible under SOP, including attic insulation, duct sealing, caulking/weather-stripping, AC, heat pumps, water heaters, ENERGY STAR® windows, refrigerators, dishwashers, clothes washers, solar window screens, wall insulation, floor insulation, water heater jackets, and renewable energy sources • Technical assistance: At discretion of the program manager, not part of program design • Rebates/incentives: Provided to project sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 10% of submitted invoices • Conducted by Frontier Associates

Table 11-17 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 11-17. Residential Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Residential SOP comprises 33% of the energy and 17% of the demand savings for TNMP's 2015 portfolio.	High
Key Researchable Issues	<ul style="list-style-type: none">• 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?	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Consumption analysis: Perform consumption analysis for a census of 2014 participants and a comparison group of 2015 participants to evaluate energy and demand impacts at program and measure-category levels.	



12. XCEL ENERGY

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

12.1 PORTFOLIO OVERVIEW

Table 12-1 shows the projected energy and demand savings for the Xcel Energy programs for PY2015.

Table 12-1. 2015 Projected Demand and Energy Savings

Program Category	Program Name	Program Type	2015 Demand Savings (kW)	Percent of total portfolio (kW)	2015 Energy Savings (kWh)	Percent of total portfolio (kWh)
Com MTP	Recommissioning MTP	Retro-commissioning SOP	264	4%	1,976,256	18%
Com SOP	Commercial SOP	Commercial SOP	1,900	26%	4,993,200	47%
Com SOP	Small Commercial SOP	Commercial SOP	301	4%	659,920	6%
LI/HTR SOP	Hard-To-Reach SOP	Hard-to-reach SOP	592	8%	1,036,600	10%
LI/HTR SOP	Low-Income Weatherization	Low Income / HTR Weatherization Programs	120	2%	210,240	2%
Load Management	Load Management SOP	Commercial Load Management SOP	3,000	42%	0	0%
Res SOP	Residential SOP	Residential SOP	1,035	14%	1,812,524	17%

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 is followed by the 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 issues will be investigated portfolio-wide:

- What are drivers of differences, if any, between claimed and evaluated savings?
- Are the program provisions for quality assurance and control adequate?



12.2 COMMERCIAL MARKET TRANSFORMATION

12.2.1 Recommissioning Market Transformation Program

Table 12-2. Recommissioning Market Transformation Program Summary

Topic	Summary
Program Description	The Recommissioning (RCx) MTP offers commercial customers the opportunity to make operational performance improvements in their facilities based on low cost/no cost measures identified by an engineering analysis. The program targets facilities with a minimum of 50,000 square feet of conditioned space. Financial incentives are provided to facility owners and RCx Agents for the implementation of energy efficiency measures and projects completed by approved project deadlines. ¹²
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial facilities within SPS's service territory • Eligibility criteria: Commercial facilities \geq50,000 square feet of air-conditioned space • Applications: Existing facilities
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: SPS plans to market the availability of this program in the following manner: <ul style="list-style-type: none"> ○ Utilize a third-party program implementer who will work with SPS account management to conduct outreach and identify suitable facilities ○ Maintains internet website with detailed information regarding requirements for project participation, project eligibility, end-use measure eligibility, incentive levels, application procedures, current available funding and application forms ○ Participates in state-wide outreach activities as may be available ○ Attends appropriate industry-related meetings to generate awareness and interest ○ Utilizes mass email notifications to keep potential project sponsors interested and informed. • Program sponsors: Third-party RCx agents
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Willdan is the third-party implementer.
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: may include HVAC temperature reset, outside air reduction, optimization of HVAC start-up, lighting (de-lamping, day-lighting, etc.), etc. • Technical assistance: includes technical energy analysis for identification of energy efficiency measures • Rebates/incentives: provided to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections for 100% of projects • Pre and post inspection is conducted by the utility

¹² No program information was found on the website; therefore, this information is only an estimate, as information is limited in the EEPR.



Table 12-3 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 12-3. Recommissioning Market Transformation Program EM&V Plan

	Description	2015
Evaluation Priority	The Recommissioning Market Transformation Program represents a small portion of the portfolio's current and future energy use and demand savings. This is a new program that began in 2013.	Low
Key Researchable Issues	<ul style="list-style-type: none">• How are program data handled? Are all data being tracked accurately and effectively? Is there room for improvement to make the process of data entry and storage more streamlined and effective?• Is a change in measure mix being seen by the program?• As a new program, are program goals established appropriately, and will they be met?• How does this program compare to other well established ones within the state? Are there major differences or similarities?	
Program Evaluation Approach	Program tracking system review: Review the program tracking system data for completeness and accuracy.	



12.3 COMMERCIAL STANDARD OFFER

12.3.1 Commercial Standard Offer Program

Table 12-4. Commercial Standard Offer Program Summary

Topic	Summary
Program Description	<p>The Commercial Standard Offer Program (SOP) has two components—Large and Small Commercial. The Large Commercial component of the Commercial SOP targets commercial customers with single-meter demand of 100 kW or more or aggregate meter demand of 250 kW or more. The Small Commercial component targets commercial customers with a single-meter demand of less than 100 kW or with a demand less than 250 kW for the sum of commonly-owned meters. 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, comply with all program rules and procedures, submit documentation describing their projects, and enter into a Standard Agreement with the IOU.</p>
Target Markets	<ul style="list-style-type: none"> • Market segments: Large and small commercial/industrial businesses • Eligibility criteria: Minimum projects size is 1 kW of deemed or measured peak demand savings • A large commercial customer can have maximum demand at any individual meter greater than 100 kW, or a maximum aggregate demand equal to or greater than 250 kW • A small commercial customer can have less than 100 kW or maximum aggregate less than 250 kW • Applications: New or retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Examples may include website, retailer partners, bill inserts, radio ads, billboards, home shows, etc. • Program sponsors include: <ul style="list-style-type: none"> ○ National or local energy service companies (ESCOs) ○ National or local companies that provide energy-related services (e.g., contracting) or products (e.g., lighting and HVAC equipment) ○ Commercial property developers, design/build firms ○ Individual customers who implement energy efficiency measures in their own facilities.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Third-party implementer
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: HVAC, lighting, controls, motors refrigeration, VFDs • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer • kW (demand savings) \$195.00 • kWh (energy savings) \$0.067



Topic	Summary
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Pre and post on-site inspections at the discretion of the utility • Conducted by utility or third-party implementer or combination

Table 12-5 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 12-5. Commercial Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Commercial Standard Offer Program represents a moderate portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures.	Medium
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the CSO programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	Desk reviews: For a sample of projects, review program sponsor savings calculations, along with other available project documentation, to independently estimate energy savings and develop project level realization rates.	15
	On-site M&V: For a sample of projects, in addition to desk review, primary data will be collected on site to verify installation and operation of measures, collect data on measures or baseline equipment, and conduct metering of savings parameters for which significant uncertainty in the savings calculations are identified as part of the desk reviews (e.g., equipment hours of use).	5

12.3.2 Small Commercial Standard Offer Program

For a summary of the Small Commercial Standard Offer Program, please see Table 12-4.

Table 12-6 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 12-6. Small Commercial Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Small Commercial Standard Offer Program represents a small portion of the portfolio's current and future energy use and demand savings. The majority of savings are from deemed measures	Low
Key Researchable Issues	<ul style="list-style-type: none"> • What are the gross impacts of the Small CSO programs at the utility level? • What are the gross impacts at the measure level? • Are sponsor provided savings inputs and deemed savings parameters providing accurate savings estimates? • Are utility verification regimes sufficient and reliable? 	
Program Evaluation Approach	Program tracking system review. Review tracking data to a sample of projects. Ensure all project activity is included and check for consistency with reported savings in utility annual reports.	
	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.	10
	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

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

12.4.1 Hard-to-Reach Standard Offer Program

Table 12-7. Hard-to-Reach Standard Offer Program Summary

Topic	Summary
Program Description	The Hard-to-Reach Standard Offer Program 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% 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. The Xcel HTR SOP distinguishes contract awards between large and small project applications.
Target Markets	<ul style="list-style-type: none"> • Market segments: Hard-to-reach residential customers • Eligibility criteria: Participants must have total annual household income at or below 200% of the federal poverty level • Applications: Retrofit applications, and new construction through the Affordable Single Family component

Topic	Summary
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Website (www.xcelefficiency.com) ○ Outreach workshops for contractors, retailers, and local and national EESPs. Workshops explain program elements, such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process. ○ Xcel SPS participates in statewide outreach activities as may be available and attends appropriate industry-related meetings to generate awareness and interest. ○ Xcel SPS utilizes mass email notifications to keep potential project sponsors interested and informed.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Xcel SPS
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Air infiltration control, CFLs, insulation, duct sealing, HVAC systems (central/window AC, heat pump), water heaters, windows, refrigerators, showerheads, aerators, solar screens • Must install at least one of the following primary measures at each site: air infiltration control, insulation, duct sealing, HVAC systems (central/window AC, heat pump), water heaters, windows, or refrigerators, • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections for 10% of invoices submitted by each contractor • Conducted by Xcel SPS

Table 12-8 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 12-8. Hard-to-Reach Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The HTR SOP comprises 10% of the energy and 8% of the demand savings for Xcel's 2015 portfolio. Given the similarity to RSOP design/delivery and the uncertainty around savings for key envelope measure offerings, this program is prioritized for impact assessment through consumption analysis.	High
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	



	Description	2015
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Desk reviews to verify inputs into claimed savings calculations	10

12.4.2 Low-Income Weatherization

Table 12-9. Low-Income Weatherization Program Summary

Topic	Summary
Program Description	The low-income weatherization program provides weatherization and energy education to residential customers that meets DOE's Weatherization Assistance Program income eligibility guidelines and cost-effectiveness criteria (savings-to-investment ratio [SIR]). The utility contracts with program implementer(s), who then subcontracts with local government organizations and not-for-profit agencies to deliver weatherization services.
Target Markets	<ul style="list-style-type: none"> • Market segments: Low-income residential customers • Eligibility criteria: Residential customers that meet DOE income-eligibility guidelines (i.e., 200% FPL) and have electric air conditioning • Applications: Retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Website (www.xcelefficiency.com) ○ SPS participates in statewide outreach activities as may be available and attends appropriate industry-related meetings to generate awareness and interest. ○ SPS utilizes mass email notifications to keep potential project sponsors interested and informed. • Program sponsors: Third-party implementer, Frontier, contracts with sub-recipients and other not-for-profit community action and government agencies to provide weatherization services
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Frontier
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: weatherization, energy education • Technical assistance: at discretion of the program sponsor, not part of program design • Rebates/incentives: provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections for 10% of invoices submitted by each contractor • Conducted by Xcel SPS

Table 12-10 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.



Table 12-10. Low Income Weatherization EM&V Plan

	Description	2015
Evaluation Priority	The Low-Income Programs comprise 2% of the energy and demand savings for Xcel's 2015 portfolio; however, SB 1434 requires T&D utilities to spend 10% of their energy-efficiency budget on targeted low-income weatherization programs.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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? 	
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	

12.5 LOAD MANAGEMENT

12.5.1 Load Management Standard Offer Program

Table 12-11. Commercial Load Management Standard Offer Program Summary

Topic	Summary
Program Description	The Xcel Energy Load Management Pilot SOP invites commercial class customers (including governmental, nonprofit, and institutional customers) receiving distribution-level service to provide on-call, voluntary curtailment of electric consumption during peak demand periods in return for incentive payments.
Target Markets	<ul style="list-style-type: none"> • Market segments: Commercial/industrial businesses • Eligibility criteria: <ul style="list-style-type: none"> ○ Signs up to deliver a specified amount of load reduction either from a single location (Project Site) or by combining multiple locations (Project Sites) ○ Ideally, individual project sites should be capable of delivering 100 kW of load reduction: applications from project sponsors with individual sites that provide less than 100 kW per site, but at least 100 kW in total, will be accepted. ○ Must have Interval Data Recorder meter. • Applications: Existing
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: Website, retailer partners, etc. • Program sponsors: Individual customers or other third-parties with customer agreements.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Utility



Topic	Summary
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: N/A • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Xcel Energy will pay a participating customer (or the project sponsor, if different) up to \$50 per kW of verified curtailed load each year of participation
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Xcel SPS verifies actual demand savings from interruptions

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

Table 12-12. Commercial Load Management Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	Low priority was given to the Load Management program evaluation because savings are calculated using actual interval load data and comparing to the average of loads on similar days. Even though the demand savings are high, the energy savings are low.	Low
Key Researchable Issues	<ul style="list-style-type: none"> • 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 installation of demand interval metering to record real time participant demand profiles. Review of these data will verify program tracking data.	
	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 comparison to similar-condition non-interrupt baseline days to validate impact estimates.	

12.6 RESIDENTIAL STANDARD OFFER

12.6.1 Residential Standard Offer Program

Table 12-13. Residential Standard Offer Program Summary

Topic	Summary
Program Description	The Residential Standard Offer Program was developed by Xcel Energy to provide an incentive to suppliers of energy services to implement electric energy-efficiency projects at Xcel Energy residential customers' facilities. The primary objective of these Standard Offer Programs is to achieve cost-effective reduction in peak summer demand.



Topic	Summary
Target Markets	<ul style="list-style-type: none"> • Market segments: Residential customers • Applications: New and retrofit applications
Marketing Strategies and Program Sponsors	<ul style="list-style-type: none"> • Marketing strategies: <ul style="list-style-type: none"> ○ Website (www.xcelefficiency.com). ○ Outreach workshops for contractors, retailers, and local and national EESPs. Workshops explain program elements, such as responsibilities of the project sponsor, project requirements, incentive information, and the application and reporting process. ○ Xcel SPS participates in statewide outreach activities as may be available and attends appropriate industry-related meetings to generate awareness and interest. ○ Xcel SPS utilizes mass email notifications to keep potential project sponsors interested and informed.
Implementation and Delivery	<ul style="list-style-type: none"> • Implementers: Xcel SPS
Measures/Products, Services, Offerings	<ul style="list-style-type: none"> • Measure offerings: Commission-approved measure included in the statewide TRM for the Residential customer class is eligible under SOP, including attic insulation, duct sealing, caulking/weather-stripping, AC, heat pumps, water heaters, ENERGY STAR® windows, refrigerators, dishwashers, clothes washers, solar window screens, wall insulation, floor insulation, water heater jackets, and renewable energy sources • Technical assistance: At discretion of the program sponsor, not part of program design • Rebates/incentives: Provided to program sponsor who passes on at their discretion to end-use customer
Quality Assurance/Quality Control (QA/QC) Processes	<ul style="list-style-type: none"> • Post on-site inspections for 10% of invoices submitted by each contractor • Conducted by Xcel SPS

Table 12-14 documents the key researchable issues to be addressed in the evaluation along with the impact methodologies and primary data collection activities.

Table 12-14. Residential Standard Offer Program EM&V Plan

	Description	2015
Evaluation Priority	The Residential SOP comprises 17% of the energy and 14% of the demand savings for Xcel's 2015 portfolio.	High
Key Researchable Issues	<p>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?</p> <p>Which measures have been installed and what type of equipment did they replace?</p>	



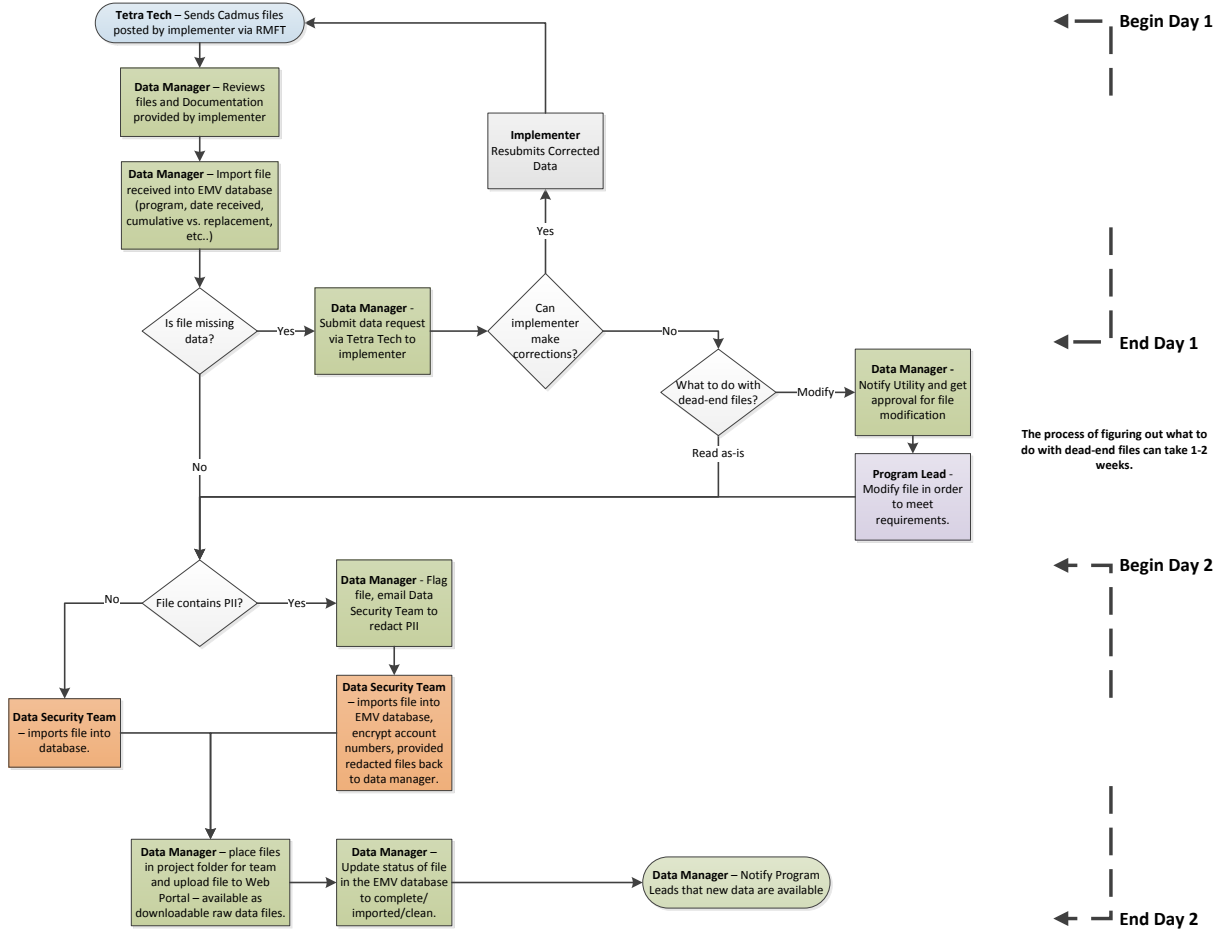
	Description	2015
Program Evaluation Approach	Program tracking system review: Review EnerTrek data for accuracy and confirm estimated savings concur with deemed savings database	
	Desk reviews to verify inputs into claimed savings calculations	25



APPENDIX A: DATA MANAGEMENT PROCESS

The following figure details the data management process.

Figure A-1. Data Management Process





APPENDIX B: COST-EFFECTIVENESS CALCULATIONS

The PACT benefit cost (BC) results will be calculated using the following formula:

$$BC = \frac{EB_e + EB_d}{Inc + EMV + RD + PB}$$

Where:

EB_e is the economic benefits resulting from energy savings, calculated as:

$$EB_e = \left(\sum_{t=0}^n \frac{kWh/(1 - Line Loss)}{(1 + WACC)^t} \right) * AC_e$$

Where

- kWh is the annual energy savings for a measure
- Line Loss is the established line loss factor for the utility
- WACC is the weighted average cost of capital (discount rate)
- AC_e is the avoided cost of energy for the program year in which the measure was installed
- N is the measure life
- t is the number of years since the base year (2012).

EB_d is the economic benefit from demand reduction, calculated similarly but using annual avoided peak demand and avoided cost of demand. The avoided cost of capacity is set at \$80 for both summer and winter.

All costs (Incentives, EM&V, R&D, and Performance Bonus) are calculated as:

$$Net Cost = \frac{Gross Cost}{(1 + WACC)^{PY-2012}}$$

Where:

- WACC is the weighted average cost of capital
- PY is the program year in which the cost was incurred.

Using the same definitions as just described, the SIR is calculated as:

$$SIR = \frac{EB_e + EB_d}{Inc^{13}}$$

¹³ Incentive.



APPENDIX C: QA/QC PROTOCOLS

This appendix documents the quality assurance (QA) protocols established for the PUCT EM&V team for reporting claimed, evaluated gross, and evaluated net impacts. Although quality control is a function of all evaluation stages (e.g., populating the EM&V database, sampling, analysis), this appendix focuses on the QA processes within the reporting stage. A Quality Assurance team (QA team), which will be led by the Tetra Tech EM&V data lead will be developed and accountable for ensuring all QA protocols are being followed.

Below we summarize the specific activities that will be subject to quality assurance and processes. Note that these QA processes focus on accuracy of data; this section does not address methodological issues.

Accuracy of ex-ante program data. The EM&V team is housing data, analysis, and reporting functions within the EM&V Database. Data will be provided by program implementers, read into the database in raw form, and organized for analysis. The database centrally stores the claimed (ex-ante) savings, which will be used for sampling and reporting of those claimed savings. Data will be provided to the EM&V team quarterly. The EM&V team will characterize the data received in terms of energy and demand savings and participants served and report the information within the detailed research plans. These detailed research plans will be delivered to the utilities for review and confirmation that the population data is accurate. Inaccurate population data may indicate missing data, errors in the data importation process, or misunderstanding of the data fields.

- Responsibility: Program leads
- Accountability: QA team
- Consulted: Utility staff and implementation contractors and EM&V Project Manager

Application of verification rates and net-to-gross ratios. The impacts will be generated in the EM&V database. The database will categorize measure-level information in the format it was provided to the EM&V team per the data acquisition process. Although projects may be sampled and verified at the measure level, the EM&V team will conduct impact evaluations to obtain and report verification and net-to-gross estimates at the utility and program type level, which will then be aggregated and reported at the program group level.

These impact estimates will be provided by the program leads and stored in two locations. First, the program leads will enter the impact results within an Excel tracking sheet stored on the SharePoint site. The Excel tracking sheet will include the following fields: program year, utility, program group, program type, measure group, program lead, verification rate, net-to-gross ratio, report source of verification rate, report source of net-to-gross ratio, and modification date. *Only one sheet will maintain current impact information.* Should data be updated throughout the process, the outdated records will be moved to a separate worksheet within that file. Doing so will ensure one sheet will maintain the correct rates, and that any modifications are documented including reason for modification.

Second, the EM&V database will include an interface where program leads will directly enter their impact results. These results will then be stored and applied against the claimed savings to calculate the evaluated gross and evaluated net results for the annual reporting.



By creating a two-staged impact reporting process, the EM&V team builds into the process a point of verification of the data. The evaluated and net savings results will be directly calculated out of the EM&V database using the rates supplied within the web interface. The EM&V team will then verify that the results are as expected using the values documented within the Excel impact reporting file. Should the results differ, the Quality Assurance team will be able to go refer to the original source to verify the results.

- Responsibility: Program leads
- Accountability: QA team
- Consulted: Impact leads, EM&V database lead, and Project Manager

Accuracy of reported savings. As documented within the report outline, program impacts will be aggregated and reported in various ways. At the most aggregate level, the data will be reported by program group overall and then by utility. At the most granular level, the data will be reported by program group for each utility. The annual report will therefore represent impacts within over 100 tables. It will be critical to spend considerable time providing QA against those reported values.

The EM&V database will calculate the full year claimed savings by utility, program type and program group. Although claimed savings will be documented in quarterly detailed research plans, adjustments made in claimed savings are likely to occur throughout the year. Therefore, it will be necessary to calculate the full program year claimed savings and verify our results against the utility claimed data, which will be reported to the commission. The EM&V team will request that the utilities provide their draft claimed savings to verify against the reported claimed savings within the EM&V database. Any differences in the evaluation and utility claimed savings will be clearly documented within the report.

All results tables will be cross-referenced to ensure the results true-up and are consistent with each other. For example, the sum of all Residential MTPs evaluated net savings documented within the utility-specific sections should equal the Residential MTP results captured in Volume I. The QA team will develop a checklist of tables to be cross-checked and against which sources, and will systematically go through this checklist throughout the report proofing process.

Although not a specific QA function, the team's development of these reporting functions with the overarching goal of ensuring transparency will inherently allow for ad hoc QA checks by the PUCT, utilities, implementation contractors, or other interested parties. For example, the EM&V database can export results and resulting calculations within easy-to-use Excel files. And impact-related reports will tie back to results clearly for secondary review.

- Responsibility: Utilities (for providing claimed savings) and program leads (for verifying claimed impacts provided)
- Accountability: QA team (for final review and cross-checks of impact tables)
- Consulted: Impact leads, EM&V database lead, utilities, and Project Manager

APPENDIX D: EM&V TEAM STAFFING AND BUDGET

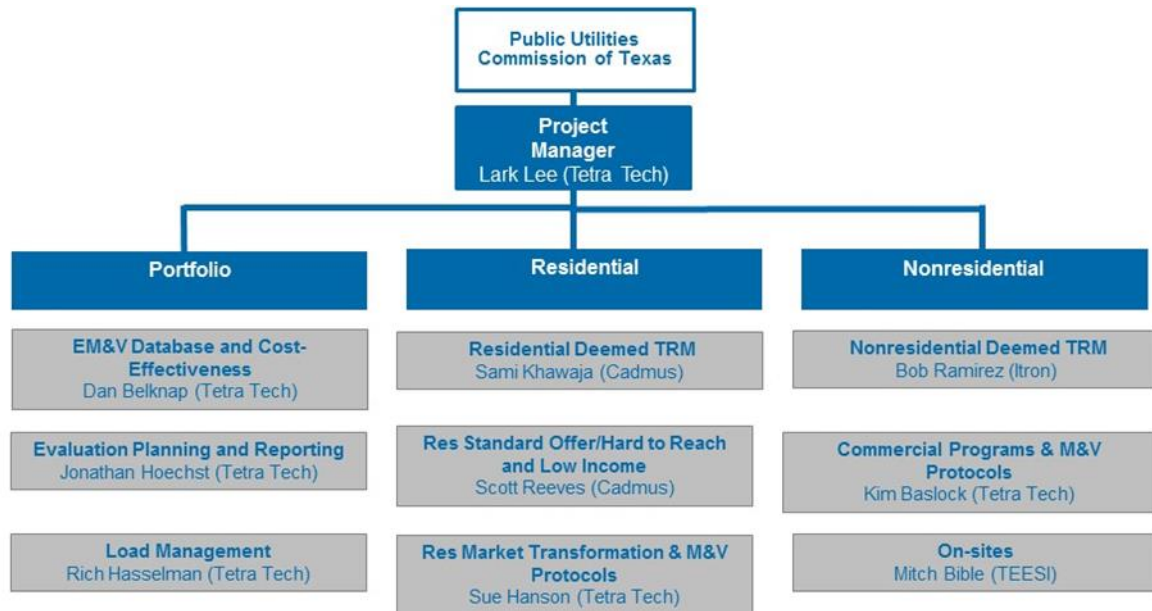
This appendix summarizes the EM&V team organization by task and team member (Request for Proposals 473-16-0003, Project No. 45019, Scope of Work Task 1B (a) (c)) for PY2015.

D.1 TEAM ORGANIZATION

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

The management plan laid out in the organizational chart below (Figure D-1) was strategically developed to ensure quality and clear lines of responsibility and accountability.

Figure D-1. EM&V Team Organizational Chart



The project manager is the primary point of contact to the PUCT and takes the lead in evaluation planning, reporting, and representing the EM&V team. She orchestrates the project by ensuring the team understands the PUCT's needs and resources are in place to meet these needs. Due to the breadth and depth of the EM&V effort, the project manager is supported by the leads for the following three functional areas: (1) EM&V Data, (2) Residential Evaluations and TRM, and (3) Nonresidential Evaluations and TRM. This structure optimizes the use of our team's deep technical expertise while maintaining consistency and realizing cost efficiencies.

Data is the foundation of the EM&V efforts; therefore, it is called out as its own functional area. Cross-cutting activities that fall under EM&V data are the EM&V database, cost-



effectiveness testing and on-site M&V. Designated staff responsible for these activities will ensure consistency and synergies across statewide and utility-level EM&V efforts.

The second and third functional areas comprise specific program categories and are led by the senior EM&V experts who are also responsible for leading the development and updates of the TRM for those program types. We have grouped the utility portfolios into broad “program categories” based on similarities of program delivery, target markets and objectives. Program specialists direct the evaluation research for their program category. The program specialists know their program area in depth and will either conduct the majority of the research for their programs or directly oversee the research.