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AEP Texas North Company 2016 Energy Efficiency Plan and Report

16 Tex. Admin. Code §§ 25.181 and 25.183

April 1, 2016





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Introduction

AEP Texas North Company (TNC or Company) presents this Energy Efficiency Plan and Report (EEPR) to comply with Public Utility Commission of Texas (PUCT or Commission) 16 Tex. Admin. Code §§ 25.181 and 25.183 (TAC) (EE Rule), which implement Public Utility Regulatory Act (PURA) § 39.905. As mandated by this section of PURA, the EE Rule requires that each investor-owned electric transmission and distribution utility (TDU) achieve the following demand reduction goals through market-based standard offer programs (SOPs) and targeted market transformation programs (MTPs). 16 TAC § 25.181(e)(1) provides in pertinent part as follows:

- (e)(1) An electric utility shall administer a portfolio of energy efficiency programs to acquire, at a minimum, the following:
 - (B) Beginning with the 2013 program year, until the trigger described in subparagraph (C) of this paragraph is reached, the utility shall acquire a 30% reduction of its annual growth in demand of residential and commercial customers.
 - (C) If the demand reduction goal to be acquired by a utility under subparagraph (B) of this paragraph is equivalent to at least four-tenths of 1% of its summer weatheradjusted peak demand for the combined residential and commercial customers for the previous program year, the utility shall meet the energy efficiency goal described in subparagraph (D) of this paragraph for each subsequent program year.
 - (D) Once the trigger described in subparagraph (C) of this paragraph is reached, the utility shall acquire four-tenths of 1% of its summer weather-adjusted peak demand for the combined residential and commercial customers for the previous program year.
 - (E) Except as adjusted in accordance with subsection (w) of this section, a utility's demand reduction goal in any year shall not be lower than its goal for the prior year, unless the commission establishes a goal for a utility pursuant to paragraph (2) of this subsection.

The EE Rule includes specific requirements related to the implementation of SOPs and MTPs that control the manner in which TDUs must administer their portfolio of energy efficiency programs in order to achieve their mandated annual demand reduction goals. TNC's plan enables it to meet its statutory goals through implementation of energy efficiency programs in a manner that complies with PURA § 39.905 and the EE Rule. This EEPR covers the periods of time as required in the EE Rule. The following section describes the information that is contained in each of the subsequent sections and appendices.

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EEPR Organization

This EEPR consists of an Executive Summary, fourteen sections, a list of acronyms, and four appendices.

• Executive Summary summarizes TNC's plans for achieving its goals and projected energy efficiency savings for program years 2016 and 2017 and highlights TNC's achievements for Program Year 2015.

Energy Efficiency Plan

- Section I describes TNC's program portfolio. It details how each program will be implemented, presents related informational and outreach activities, and provides an introduction to any programs not included in TNC's 2015 EEPR.
- Section II explains TNC's targeted customer classes, describes the estimated size of each class and the method of determining those class sizes.
- Section III presents TNC's energy and demand goals and projected savings for the prescribed planning period detailed by program for each customer class.
- Section IV describes TNC's proposed energy efficiency budgets for the prescribed planning period detailed by program for each customer class.

Energy Efficiency Report

- Section V documents TNC's demand reduction goal for each of the previous five years (2011-2015) based on its weather-adjusted peak demand and actual savings achieved for those years.
- Section VI compares TNC's projected energy and demand savings to its reported and verified savings by program for calendar years 2014 and 2015.
- Section VII details TNC's incentive and administration expenditures for each of the previous five years (2011-2015) detailed by program for each customer class.
- Section VIII compares TNC's actual 2015 expenditures with its 2015 budget by program for each customer class. It identifies funds committed but not expended and funds remaining and not committed. It also explains any cost differences of more than 10% from TNC's overall program budget and from each program budget.
- Section IX describes the results from TNC's MTPs.
- Section X describes Research and Development activities.
- Section XI documents TNC's 2016 Energy Efficiency Cost Recovery Factor (EECRF).
- Section XII documents TNC's 2015 EECRF Summary.
- Section XIII documents TNC's Underserved Counties.
- Section XIV describes TNC's Performance Bonus calculation for Program Year 2015.

Acronyms

• A list of abbreviations for common terms used within this document.

Appendices

- Appendix A Reported and verified demand and energy reductions by county for each program.
- Appendix B Program Templates for any new or significantly modified programs and programs not included in TNC's previous EEPR.
- Appendix C Existing energy efficiency contracts and obligations.
- Appendix D Data, explanations, or documents supporting other sections of the EEPR.

Executive Summary – Energy Efficiency Plan (Plan)

TNC plans to achieve its 2016 mandated demand and energy goals of 4,260 kW and 7,464,000 kWh as shown in Table 1 below through residential and non-residential SOPs and MTPs. TNC will utilize a budget of \$2,987,851 to accomplish these goals.

Calendar Year	Average Peak Demand at Meter (MW)	Goal Metric: 0.4% Peak Demand (MW)	Peak Demand Goal (MW)*	Energy Goal (MWh)	Projected Demand Reduction (MW)	Projected Energy Savings (MWh)	Projected Budget (000's)**
2016	993	3.97	4.26	7,464	5.17	11,192	\$2,988
2017	998	3.99	4.26	7,464	5.77	13,244	\$3,277

Table 1: Summary of Goals, Projected Savings (at the Meter),¹ and Budgets

*16 TAC § 25.181(e)(1)(E) - Beginning in 2009 a utility's demand reduction goal in megawatts for any year shall not be less than the previous year's goal.

**The 2016 Projected Budget includes costs associated with Evaluation, Measurement and Verification activities.

Executive Summary – Energy Efficiency Report (Report)

TNC achieved demand and energy reductions of 4,542 kW and 12,289,271 kWh, respectively, in 2015. The total energy efficiency cost for achieving these savings was \$2,770,773. TNC's achievement exceeded the 2015 mandated energy efficiency goals of 4,260 kW and 7,464,000 kWh, thus allowing TNC to earn a Performance Bonus.

A broad portfolio of residential and non-residential SOPs and MTPs was used to accomplish these savings.

¹ Average Growth in Demand figures are from Table 4; Projected Savings from Table 5; Projected Budget from Table 6.

ENERGY EFFICIENCY PLAN

I. 2016 Programs

A. 2016 Program Portfolio

TNC has implemented a variety of programs in 2016 to enable it to meet its goals in a manner that complies with PURA § 39.905 and the EE Rule. These programs target broad market segments and specific market sub-segments with significant opportunities for cost-effective energy savings.

Table 2 summarizes TNC's programs and targeted customer class markets for Program Year 2016. The programs listed in Table 2 are described in further detail in Subsections B and C. TNC maintains a web site containing information on participation and forms required for project submission at <u>www.AEPTexas.com</u>. This site is the primary method of communication used to provide program updates and information to Retail Electric Providers (REPs), potential Energy Efficiency Service Providers (EESPs), and other interested parties.

Implementation Process

MTPs are implemented by a third-party implementer. These implementers design, market and execute the applicable MTP. Based on the specific MTP, the implementer may perform outreach activities to recruit local contractors and provide participating contractors specialized education, training/certification and tools as necessary. Implementers validate proposed measures/projects, perform quality assurance/quality control, and verify and report savings derived from the program.

SOPs are managed in-house with project sponsors providing eligible program measures. Project sponsors are typically EESPs; however, for commercial projects a TNC end-use customer may serve as its own project sponsor. Eligible project sponsors can submit an application(s) for project(s) meeting the minimum SOP requirements.

TNC monitors projects being submitted so as to not accept duplicate enrollments.

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Outreach Activities

- Promote internet web sites with program information including project eligibility, end-use measures, incentives, procedures, application forms, and in some cases a list of participating project sponsors and the available program budget;
- Utilize mass e-mail notifications to inform and update potential project sponsors on TNC energy efficiency program opportunities;
- Conduct workshops as necessary to explain program elements such as responsibilities of the project participants, program requirements, incentive information and the application and reporting process;
- Conduct specific project sponsor/contractor training sessions as necessary based on the energy efficiency programs being implemented;
- Participate in local, regional, state-wide, and industry-related outreach activities as may be necessary; and
- Facilitate earned media opportunities, spotlighting successful projects and/or interesting stories as applicable.

Program	Target Market	Application	Link to Program Manual
Commercial Solutions MTP	Commercial	Retrofit & New Construction	http://eeprograms.net/aep/texasnorth/aep-texas-north-commercial-solutions- program/
Commercial SOP	Commercial	Retrofit & New Construction	https //www.aeptexas.com/save/business/programs/TNCPrograms.aspx
Earth Networks Residential DR Pilot MTP	Residential	Retrofit	No website available
Efficiency Connection Pilot MTP	Residential	Retrofit	No website available
Hard-to-Reach SOP	Residential Hard-to-Reach	Retrofit	https://www.aeptexas.com/save/residential.programs/TNCPrograms.aspx
Load Management SOP	Commercial	Retrofit	https://www.aeptexas.com/save/business/programs/TNCPrograms.aspx
Open MTP	Commercial	Retrofit	http://eeprograms.net/aep/texasnorth/aep-texas-north-open/
Residential SOP	Residential	Retrofit	https://www.aeptexas.com/save/residential/programs/TNCPrograms.aspx
SCORE/CitySmart MTP	Commercial	Retrofit & New Construction	http://eeprograms.net/aep/texasnorth/aep-texas-north-score-program/ http://eeprograms.net/aep/texasnorth/aep-texas-north-citysmart-program/
SMART Source SM Solar PV MTP	Commercial Residential	Retrofit & New Construction	http://www.tyreincentives.com/apv_
Targeted Low-Income Energy Efficiency Program	Low-Income Residential	Retrofit	No Website Available

Table 2: 2016 Energy Efficiency Program Portfolio

B. Existing Programs

Commercial Solutions Market Transformation Program (CS MTP)

The CS 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. Incentives are paid to customers served by TNC for eligible energy efficiency measures installed in new or retrofit applications that result in verifiable demand and energy savings.

Commercial Standard Offer Program (CSOP)

The CSOP targets commercial customers of all sizes. Variable incentives are available to project sponsors based upon deemed and/or verified demand and energy savings for eligible measures installed in new or retrofit applications.

Efficiency Connection Pilot MTP (EffCon)

The Efficiency Connection Pilot MTP is a partnership with REPs to help promote energy efficiency to TNC 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.

Hard-to-Reach Standard Offer Program (HTR SOP)

The HTR SOP targets residential customers with total annual household incomes at or below 200% of current federal poverty guidelines. Incentives are paid to project sponsors for eligible measures installed in retrofit applications that result in verifiable demand and energy savings. Program incentives are higher for work performed in historically underserved counties and for identified underserved measures to encourage activity. Project comprehensiveness is encouraged and customer education materials regarding energy conservation behavior are distributed by project sponsors.

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Load Management Standard Offer Program (LM SOP)

The LM SOP targets commercial customers with a peak electric demand of 500 kW or more. Incentive payments are based upon measured and verified peak demand reduction of curtailed loads during the summer peak period. Load management events are dispatched by TNC, using a one-hour-ahead notice for load reduction periods of one to four hours duration.

Open Market Transformation Program (Open MTP)

The Open MTP targets traditionally underserved small commercial customers who may not employ knowledgeable personnel with a focus on energy efficiency, who are limited in the ability to implement energy efficiency measures, and/or who typically do not actively seek the help of a professional EESP. Small commercial customers with a peak demand not exceeding 100 kW in the previous 12 consecutive billing months may qualify to participate in the program. Available incentives are paid directly to the contractor, thereby reducing a portion of the project cost for the customer.

The program is intended to overcome market barriers for participating contractors by providing technical support and incentives to implement energy efficiency upgrades and produce demand and energy savings.

The program implementer works with TNC to conduct outreach and planning activities for the Open MTP in the following manner:

- Identifies and recruits contractors who provide services to customers served by TNC to develop a network of participating contractors who will deliver the program directly to customers;
- Develops a recruitment packet with outreach information and enrollment materials, that participating contractors can use when marketing the program to customers; and
- 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.

Residential Standard Offer Program (RSOP)

The RSOP targets residential customers in existing homes. Incentives are paid to project sponsors for eligible measures installed in retrofit applications that result in verified demand and energy savings. Program incentives are higher for work performed in historically underserved counties to encourage activity. Project comprehensiveness is encouraged.

SCORE/CitySmart Market Transformation Program (SCORE/CS MTP)

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

SMART SourceSM Solar PV Market Transformation Program (PV MTP)

The PV MTP offers incentives to customers for the installation of solar photovoltaic (PV) systems interconnected on the customer's side of the meter. The incentives help offset the initial costs of installing solar PV systems, and encourage service providers to seek more installation opportunities. In addition to demand and energy savings achieved from the installations, the PV MTP aims to transform the solar PV market by increasing the number of qualified companies offering installation services in the TNC service area, and decreasing the average installed cost of PV systems, thereby creating greater market economies of scale.

Targeted Low-Income Energy Efficiency Program (TLIP)

The TLIP is designed to cost-effectively reduce the energy consumption and energy costs for lowincome residential customers in TNC's service territory. Weatherization service providers install eligible weatherization and energy efficiency measures in qualified households that meet the Department of Energy (DOE) income-eligibility guidelines of at or below 200% of the current federal poverty guidelines. A Savings-to-Investment Ratio of 1.0 or higher is required at each serviced dwelling unit.

C. New Programs for 2016

Earth Networks Residential Thermostat Demand Response (DR) Pilot Program

Earth Networks (EN) will use the WeatherBug Home (WBH) technology to deliver an Integrated Demand Side Mangement (IDMS) aggregation program that will bring residential energy efficiency and demand response capacity to TNC.

D. Discontinued Programs

TNC has no discontinued programs for 2016.

E. Existing DSM Contracts or Obligations

TNC has no existing DSM contracts or obligations.

II. Customer Classes

TNC's energy efficiency programs target its Residential and Commercial customer classes. TNC's energy efficiency programs also target customer sub-classes, such as Residential Hard-to-Reach and Low-Income, Schools, Small Businesses, and Local Governments.

The annual projected savings targets are allocated among these customer classes and sub-classes by examining historical program results and by evaluating economic trends, in compliance with $16 \text{ TAC } \S 25.181(e)(3)$.

Table 3 summarizes the number of customers in each customer class and the Residential Hard-to-Reach sub-class at TNC. The numbers listed are the actual number of active electric service accounts by class that TNC served for the month of January 2016. These numbers were used to determine goal and budget allocations for each customer class and program. It should be noted however, that the actual distribution of the annual goal and budget required to achieve the goal must remain flexible based upon the conditions of the marketplace, the potential interest of a customer class, and the overriding objective of meeting TNC's mandated demand and energy reduction goals in total. TNC offers a varied portfolio of SOPs and MTPs such that all eligible customer classes have access to energy efficiency alternatives.

Customer Class	Number of Customers
Commercial	36,762
Residential	154,519
Hard-to-Reach ²	57,481*

 Table 3: Summary of Customer Classes

* Hard-to-Reach customer count is a sub-set of the Residential total.

² According to the U.S. Census Bureau's 2014 Current Population Survey, 37.2% of Texas families fall below 200% of the poverty threshold. Applying that percentage to TNC's residential customer base of 154,519, the number of Hard-to-Reach customers is estimated at TNC's residential customer base of 57,481.

III. Energy Efficiency Goals and Projected Savings

TNC's 2016 annual demand and energy reduction goals to be achieved are 4.26 MW and 7,464 MWh, respectively. These goals have been calculated as prescribed by the EE Rule.

The 2016 goal was calculated by applying four-tenths of 1% (0.004) of its summer weatheradjusted peak demand for the combined residential and commercial customers to the five year average (2010-2014) peak demand at the meter of 993 MW. This resulted in a calculated goal of 3.97 MW.

TNC's 2017 demand goal is calculated by applying four-tenths of 1% (0.004) of its summer weather-adjusted peak demand for the combined residential and commercial customers to the five year average (2011-2015) peak demand at the meter of 998 MW. This results in a calculated goal of 3.99 MW.

As stated in 16 TAC § 25.181(e)(1)(E), except as adjusted in accordance with subsection (w), a utility's demand reduction goal shall not be lower than the previous year's goal which was 4.26 kW, with a corresponding 7,464 MWh goal. TNC's goal for 2016 and 2017 will be 4.26 kW and 7,464 MWh.

Table 4 presents historical annual growth in demand data for the previous five years that was used to calculate TNC's goals. Table 5 presents the projected demand and energy savings for Program Years 2016 and 2017 by program, for each customer class with fully-deployed program budgets.

Consumption
Energy
and
Demand
ii.
Growth
Annual
Table 4:

	Tota	Svstem	k Demand (N	IW) @ Source Residential &	Commercial		Energy	Consumption	n (MWh) (Reside	Ø Meter ntial &	Energy Effe	tiency Goal C	leulations
Catendar	Actual	Weather	Actual	Weather Adjusted	Opt-Out	Peak Demand at Source	Actual	Weather Adjusted	Actual	Weather Adjusted	Peak Demand at Meter (11.5% line losses)*	S year S year Average Peak Demand at Meter	Goal Metric: 0.4% Peak Demand
2011	1,203	1,130	1,194	1,118	-95	1,109	5,304	4,963	5,178	4,837	981	NA	NA
2012	1,172	1,114	1,168	1,107	-95	1,098	5,145	5,055	5,016	4,926	972	NA	NA
2013	1,147	1,145	1,142	1,140	-9 6-	1,130	5,221	5,131	5,084	4,994	1,000	NA	NA
2014	1,086	1,164	1,084	1,161	-91	1,152	5,600	5,526	5,459	5,385	1,020	NA	NA
2015	1,193	1,177	1,179	1,163	-157	1,147	5,779	5,741	5,532	5,495	1,015	993	3 97
2016	NA	NA	NA	NA	NA	NA	NA	NA	ΝA	NA	NA	993	3 97
2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	866	3 99
			-				1 4	the local day	h				

*Line losses are derived from the loss factors determined in TNC's most recent line loss study.

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Table 5: Projected Demand and Energy Savings by Program for Each Customer Class for2016 and 2017 (at the Meter)

	Projected Savings		
Customer Class and Program	kW	kWh	
Commercial			
Commercial Solutions MTP	323	2,000,000	
Commercial SOP	391	2,476,965	
Load Management SOP	2,014	7,222	
Open MTP	380	1,344,000	
SCORE/CitySmart MTP	161	1,000,000	
SMART Source SM Solar PV MTP	83	160,000	
Residential		+/ / ·	
Earth Networks Residential DR Pilot Program	500	500	
Efficiency Connection Pilot MTP	123	659,221	
Residential SOP	795	2,471,851	
SMART Source SM Solar PV MTP	79	151,481	
Hard-to-Reach			
Hard-to-Reach SOP	231	733,841	
Targeted Low-Income Energy Efficiency Program	88	186,989	
Total Annual Projected Savings	5,168	11,192,070	

Table 5: Projected Demand and Energy Savings by Program for Each Customer Class for 2016 and 2017 (at the Meter) (Continued)

2017	Proje	cted Savings
Customer Class and Program	kW	kWh
Commercial		
Commercial Solutions MTP	323	2,000,000
Commercial SOP	604	3,825,053
Load Management SOP	2,175	7,797
Open MTP	380	1,344,000
SCORE/CitySmart MTP	161	1,000,000
SMART Source SM Solar PV MTP	83	160,000
Residential		
Earth Networks Residential DR Pilot Program	500	500
Efficiency Connection Pilot MTP	123	659,221
Residential SOP	1,013	3,151,889
SMART Source SM Solar PV MTP	79	151,481
Hard-to-Reach		
Hard-to-Reach SOP	232	737,634
Targeted Low-Income Energy Efficiency Program	98	206,241
Total Annual Projected Savings	5,771	13,243,816

IV. Program Budgets

Table 6 presents total proposed budget allocations required to meet TNC's projected demand and energy savings to be achieved for the Program Years 2016 and 2017. The budget allocations are defined by the overall projected demand and energy savings, the avoided costs of capacity and energy specified in the EE Rule, allocation of demand goals, and the incentive levels by customer class. Table 6 budget allocations are detailed by customer class, program, and the following budget categories: incentives, administration, research and development (R&D), and evaluation, measurement and verification (EM&V).

2016	Incentives	Admin	R&D	EM&V	Total Budget
Commercial					
Commercial Solutions MTP	\$363,462	\$54,311			\$417,773
Commercial SOP	\$200,000	\$29,885			\$229,885
Load Management SOP	\$80,578	\$12,041			\$92,619
Open MTP	\$419,241	\$62,645			\$481,886
SCORE/CitySmart MTP	\$160,000	\$23,908			\$183,908
SMART Source SM Solar PV MTP	\$82,620	\$12,346			\$94,966
Residential					
Earth Networks Residential DR Pilot	\$20,000	\$2,989	Mata 11 - 1		\$22,989
Efficiency Connection Pilot MTP	\$150,000	\$22,414			\$172,414
Residential SOP	\$419,610	\$62,700			\$482,310
SMART Source SM Solar PV MTP	\$102,000	\$15,241			\$117,241
Hard-to-Reach					
Hard-to-Reach SOP	\$162,719	\$24,314			\$187,033
Targeted Low-Income Energy Efficiency Program	\$257,145	\$38,424			\$295,569
Research and Development					
R&D	NAP	NAP	\$177,011		\$177,011
Evaluation, Measurement & Verification (EM&V)					
EM&V	NAP	NAP	NAP	\$32,247	\$32,247
Total Budget	\$2,417,375	\$361,218	\$177,011	\$32,247	\$2,987,851

 Table 6: Projected Annual Budget by Program for Each Customer Class for 2016 and 2017

* - 2017 * *	Incentives	Admin	R&D ≊	Total Budget
Commercial				
Commercial Solutions MTP	\$363,660	\$54,340		\$418,000
Commercial SOP	\$308,850	\$46,150		\$355,000
Load Management SOP	\$87,000	\$13,000		\$100,000
Open MTP	\$419,340	\$62,660		\$482,000
SCORE/CitySmart MTP	\$160,080	\$23,920		\$184,000
SMART Source SM Solar PV MTP	\$82,650	\$12,350		\$95,000
Residential				
Earth Networks Residential DR Pilot	\$20,010	\$2,990		\$23,000
Efficiency Connection Pilot MTP	\$150,510	\$22,490		\$173,000
Residential SOP	\$535,050	\$79,950		\$615,000
SMART Source SM Solar PV MTP	\$102,660	\$15,340		\$118,000
Hard-to-Reach				
Hard-to-Reach SOP	\$163,560	\$24,440		\$188,000
Targeted Low-Income Energy Efficiency Program	\$283,620	\$42,380		\$326,000
Research and Development				
R&D			\$200,000	\$200,000
Total Budget	\$2,676,990	\$400,010	\$200,000	\$3,277,000

Table 6: Projected Annual Budget by Program for Each Customer Class for 2016 and 2017

ENERGY EFFICIENCY REPORT

V. Historical Demand and Energy Goals and Savings Achieved for the Previous Five Years

Table 7 contains TNC's demand and energy reduction goals and actual savings achieved for the previous five years (2011-2015) calculated in accordance with the EE Rule.

Calendar Year	Actual Weather Adjusted Demand Goal (MW)	Actual Weather Adjusted Energy Goal (MWh)	Savings Achieved (MW)	Savings Achieved (MWh)
2015	4.26	7,464	4.54	12,289
2014	4.26	7,464	8.15	11,867
2013	4.26	7,464	6.93	9,087
2012	4.26	7,464	6.02	7,353
2011	(1.82)	(3,194)	4.18	8,801

Table 7: Historical Demand and Energy Goals* and Savings Achieved (at the Meter)

* Actual Weather Adjusted MW and MWh Goals as reported in TNC's EEPRs filed in years 2011-2015.

VI. Projected, Reported and Verified Demand and Energy Savings

2015 ×	Projected Savings		Reported and Verified Savings	
Customer Class and Program	kW	kWh	kW	kWh
Commercial				
Commercial Solutions MTP	323	2,000,000	389	2,717,077
Commercial SOP	740	2,920,000	427	2,704,863
Load Management SOP	2,751	19,282	1,744	6,252
Open MTP	357	1,344,000	392	1,680,387
SCORE/CitySmart MTP	161	1,000,000	258	1,300,469
SMART Source SM Solar PV MTP	61	117,000	101	194,416
Residential				
Efficiency Connection Pilot MTP	105	525,131	5	22,397
Residential SOP	800	2,451,000	844	2,624,877
SMART Source SM Solar PV MTP	71	137,143	67	129,664
Hard-to-Reach				
Hard-to-Reach SOP	224	589,828	228	722,719
Targeted Low-Income Energy Efficiency Program	122	268,166	88	186,149
Total Annual Savings	5,715	11,371,550	4,542	12,289,271

Table 8: Projected versus Reported and Verified Savings for 2015 and 2014 (at the Meter)

2014		Projected Savings		Reported and Verified Savings	
Customer Class and Program		kWh	kW	kWh	
Commercial					
Commercial Solutions MTP	340	1,500,000	429	2,148,768	
Commercial SOP	760	3,009,000	656	2,928,946	
Irrigation Load Management MTP	800	38,400	454	3,636	
Load Management SOP	2,751	19,282	4,654	31,961	
Open MTP	340	1,344,000	341	1,517,443	
SCORE/CitySmart MTP	340	1,500,000	316	1,024,498	
SMART Source SM Solar PV MTP	62	120,000	28	53,992	
Residential					
A/C Distributor Pilot MTP	102	251,201	86	307,653	
Residential SOP	870	1,899,000	791	2,684,792	
SMART Source SM Solar PV MTP	62	120,000	61	118,296	
Hard-to-Reach					
Hard-to-Reach SOP	240	418,000	224	788,742	
Targeted Low-Income Energy Efficiency Program	60	97,000	110	258,479	
Total Annual Savings	6,727	10,315,883	8,150	11,867,206	

Table 8: Projected versus Reported and Verified Savings for 2015 and 2014 (at the Meter)(Continued)

VII. Historical Program Expenditures

This section documents TNC's incentive and administration expenditures for the previous five years (2011-2015) detailed by program for each customer class.

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	2015	5	50	14	20	13	201	2	201	_
	Incent.	Admin	Incent.	Admin	Incent.	Admin	Incent.	Admin	Incent.	Admin
Commercial										
AEP Texas CARE\$ Energy Efficiency for Not-for-Profit Agencies SOP	NAP	NAP	AVN	AVN	dvn	AAN	\$52.12	\$14.36	\$82.61	\$17.55
Commercial Solutions MTP	\$410.11	\$33.41	\$296.58	\$31.42	\$177.64	\$20.69	\$231.71	\$29.01	\$210.21	\$20.02
Commercial SOP	\$218.53	\$22.47	\$196.10	\$35.58	\$132.02	\$29.32	\$64.17	\$18.66	\$158.97	\$26.77
Irrigation Load Management MTP	NAP	NAP	\$ 50.00	\$ 6.59	\$140.00	\$18.25	NAP	NAP	NAP	NAP
Load Management SOP	\$ 31.89	\$ 3.17	\$ 41.50	\$ 8.64	\$ 96.30	\$18.30	\$50.00	\$11.27	\$40.03	\$8.12
Load Management SOP – Expanded	NAP	NAP	NAP	NAP	NAP	NAP	\$14.46	\$3.18	NAP	NAP
Open MTP	\$461.04	\$45.24	\$421.18	\$48.23	\$374.73	\$50.56	NAP	NAP	NAP	NAP
SCORE/CitySmart MTP	\$185.88	\$16.49	\$216.14	\$23.49	\$230.35	\$26.39	\$184.17	\$24.48	\$226.73	\$19.27
SMART Source SM Solar PV MTP	\$ 60.48	\$ 4.83	\$ 44.29	\$ 4.32	\$ 67.74	\$ 8.90	\$79.44	\$10.76	\$96.41	\$8.02

Table 9: Historical Program Incentive and Administrative Expenditures for 2011 through 2015 (000's)

(Table continued on next page)

AEP Texas North Company

Table 9: Historical Program Incentive and Administrative Expenditures for 2011 through 2015 (000's)(Continued)

	201		201	[4	201	3	201	2	201	1
	Incent.	Admin	Incent.	Admin	Incent.	Admin	Incent.	Admin	Incent.	Admin
Residential										
A/C Distributor Pilot MTP	NAP	dv N	\$139.28	\$21.69	\$133.59	\$22.28	\$41.01	\$9.38	NAP	NAP
Efficiency Connection Pilot MTP	\$ 62.05	\$ 10.23	NAP	NAP	NAP	NAP	NAP	NAP	NAP	NAP
Residential SOP	\$445.52	\$61.55	\$414.45	\$57.48	\$364.19	\$62.57	\$362.49	\$59.73	\$318.35	\$43.28
SMART Source SM Solar PV MTP	\$100.88	3 8.06	\$102.04	96.6 \$	\$ 68.73	\$ 9.03	\$100.70	\$13.45	\$122.04	\$10.11
Hard-to-Reach										
Hard-to-Reach SOP	\$160.19	\$ 15.79	\$160.60	\$23.69	\$177.12	\$32.97	\$213.45	\$36.82	\$239.01	\$32.63
Targeted Low-Income Energy Efficiency Program	\$256.02	\$ 27.07	\$248.23	\$32.82	\$251.37	\$37.13	\$199.29	\$40.23	\$198.47	\$34.57
Research and Development (R&D)	NAP	\$ 86.35	NAP	\$122.51	NAP	\$86.56	NAP	\$108.66	NAP	\$106.98
Evaluation, Measurement & Verification (EM&V)	NAP	\$ 43.51	NAP	\$53.82	NAP	\$68.34	NAP	NAP	NAP	NAP
Total Expenditures	\$2,392.59	\$378.19	\$2,330.39	\$480.24	\$2,213.78	\$491.29	\$1,593.01	\$379.99	\$1,692.83	\$327.32

AEP Texas North Company

2016 Energy Efficiency Plan and Report

VIII. Program Funding for Calendar Year 2015

As shown in Table 10, the total projected budget in 2015 was \$3,010,847 and the actual total funds expended in 2015 were \$2,770,773, an overall total program expenditure difference of 8% from the amount budgeted. The following program expenditures differed from the respective proposed program budgets by more than 10%. The differences are explained below.

The CS MTP exceeded its budget due to higher than expected demand from customers for energy efficiency projects, resulting in higher than expected customer incentive payments.

The EffCon Pilot MTP was under budget due to lower than projected results. This was primarily due to the time and scheduling necessary to create and communicate marketing materials to customers.

The LM SOP did not expend its entire budget due to lower than expected participation by Project Sponsors.

The commercial component of the PV MTP did not fully utilize its incentive budget during the program year due to lower than expected participation.

The SCORE/CS MTP exceeded its budget due to higher than expected demand from customers for energy efficiency projects, resulting in higher than expected customer incentive payments.

TNC's combined 2015 expenditures for the TLIP and the HTR SOP constituted 15% of its energy efficiency budget for the 2015 Program Year. TNC's 2015 expenditure for the TLIP constituted 9.4% of its energy efficiency budget for the 2015 Program Year.

	Total Projected Budget ³	Numbers of Customers Participating	Actual Funds Expended (Incentives)	Actual Funds Expended (Admin)	Research & Development	Evaluation, Measurement & Verification	Total Funds Expended
Commercial							
Commercial Solutions MTP	\$417.77	21	\$410.11	\$33.41			\$443.52
Commercial SOP	\$229.89	21	\$218.53	\$22.47			\$241.00
Load Management SOP	\$92.62	6	\$31.89	\$3.17			\$35.06
Open MTP	\$481.89	67	\$461.04	\$45.24			\$506.28
SCORE/CitySmart MTP	\$183.91	32	\$185.88	\$16.49			\$202.36
SMART Source SM Solar PV MTP	\$94.97	4	\$60.48	\$4.83			\$65.31
Residential							
Efficiency Connection Pilot MTP	\$172.41	38	\$62.05	\$10.23			\$72.28
Residential SOP	\$482.31	743	\$445.52	\$61.55			\$507.07
SMART Source SM Solar PV MTP	\$117.24	12	\$100.88	\$8.06			\$108.95
Hard-to-Reach							
Hard-to-Reach SOP	\$187.03	258	\$160.19	\$15.79			\$175.97
Targeted Low-Income Energy Efficiency Program	\$295.57	54	\$256.02	\$27.07			\$283.09
Research and Development	\$200.00	NAP	NAP	NAP	\$86.35	NAP	\$86.35
EM&V							
Statewide EM&V Contractor	\$55.24	NAP	NAP	NAP	NAP	\$43.51	\$43.51
Total Expenditures	\$3,010.85	NAP	\$2,392.59	\$248.32	\$86.35	\$43.51	\$2, 77 0. 77

Table 10: Program Funding for Calendar Year 2015 (Dollar amounts in 000's)

³ Projected Budget from the EEPR filed April 2015, Project No. 44480.

IX. Market Transformation Program Results

Commercial Solutions MTP

For 2015, TNC projected to acquire 323 kW demand savings from CS MTP. TNC's verified and reported results are 389 kW. This included participation by 21 customers.

Efficiency Connection Pilot MTP

The Efficiency Connection Pilot MTP goal was to acquire 105 kW demand savings and 525,131 kWh in energy savings. A total of 5 kW and 22,397 kWh were achieved in 2015. Reported savings included 38 customers.

Open MTP

The Open MTP goal was to acquire 357 kW demand savings and 1,344,000 kWh in energy savings. A total of 392 kW and 1,680,387 kWh were achieved in 2015. Reported savings included 67 small commercial customers and 7 participating contractors.

SCORE/CitySmart MTP

For 2015, TNC projected to acquire 161 kW demand savings from this program. TNC verified and reported 258 kW. This included participation by 32 customers.

SMART SourceSM Solar PV MTP

The 2015 PV MTP projected to acquire a 132 kW in demand savings and 253,783 kWh in energy savings from the residential and non-residential components. A total of 14 residential and non-residential solar PV projects were completed within the program, resulting in a peak demand reduction of 168 kW and 324,080 kWh of energy savings.

X. Administrative Costs and Research and Development

Adminstrative Costs

Administrative costs incurred by TNC to meet its energy efficiency goals and objectives include, but may not be limited to, energy efficiency employees' payroll, marketing costs associated with regulatory filings, and EM&V costs outside of the actual cost associated with the EM&V contractor. Any portion of these costs which are not directly assignable to a specific program are allocated among the programs in proportion to the program incentive costs.

Program Research and Development

R&D activities are intended to help TNC meet future energy efficiency goals by researching new technologies, program options and developing better, more efficient ways to administer current programs. The following is a summary of TNC's R&D activities for 2015.

TNC dedicated resources in 2015 to develop a new electronic data collection and management system for current programs. In addition, TNC participated with Electric Utility Marketing Managers of Texas (EUMMOT) in researching potentially new deemed savings measures for various programs.

Informational Activities

TNC continues its best efforts to encourage and facilitate the involvement of REPs and EESPs in the delivery of its programs to customers. TNC utilizes local, regional and national conferences, trade shows, and other events for outreach and information exchange with participating REPs and EESPs. TNC again presented detailed program information at its annual AEP Texas Competitive REP workshop in September 2015. TNC also provides new and existing energy efficiency program information to the REPs and EESPs throughout the year on a timely basis via e-mail.

XI. 2016 Energy Efficiency Cost Recovery Factor (EECRF)

The total amount approved to be collected through TNC's 2016 EECRF is \$1,715,498, which consists of the following components:

- recovery of \$1,480,871 in energy efficiency expenses budgeted for 2016 (TNC's actual projected budget for energy efficiency expenses for 2016 is \$2,955,604, which is reduced by \$1,294,430 in energy efficiency costs expressly included in base rates and \$180,303 of load growth);
- recovery of a performance bonus in the amount of \$518,092 for achieving energy efficiency goals in Program Year 2014;
- return to customers in the amount of \$333,281 in energy efficiency program costs overcollected through TNC's EECRF in 2014;
- recovery of \$32,247 in projected EM&V costs for evaluation of Program Year 2015; and
- recovery of \$17,569 for 2014 EECRF proceeding expenses incurred in Docket No. 42509 by municipalities as authorized by 16 TAC § R. 25.181(f)(3)(B).

Customer Class	EECRF
Residential Service	\$0.000435 per kWh
Secondary Service (less than or equal to 10 kW)	\$0.000164 per kWh
Secondary Service (greater than 10 kW)	\$0.000494 per kWh
Primary Service	(\$0.000005) per kWh
Transmission Service	(\$0.000166) per kWh

Table 11: 2016 EECRF

XII. 2015 EECRF Summary

2015 Collections for Energy Efficiency

TNC collected \$1,486,546 through its 2015 base rates, including \$1,294,430 expressly included in base rates and an adjustment for load growth in the amount of \$192,116, and \$2,080,624 through its 2015 EECRF for a total of \$3,567,170. A performance bonus of \$888,677 for exceeding its 2013 energy efficiency goals and \$283,963 returned to customers are reflected in TNC's total amount collected for energy efficiency in 2015.

Energy Efficiency Program Costs Expended

TNC expended a total of \$2,770,773 for its 2015 energy efficiency programs. The amount expended is \$240,074 less than TNC's 2015 projected budget of \$3,010,847 for energy efficiency programs.

Over-Recovery of Energy Efficiency Costs

TNC's actual 2015 energy efficiency program costs (including EM&V costs) less municipal rate case expenses are \$2,766,642 and actual energy efficiency program revenues are \$1,475,910. These associated 2015 costs and revenues result in an over-recovery of energy efficiency costs of \$195,815. This is the amount that TNC will request be returned to customers within its 2017 EECRF.

XIII. Underserved Counties

TNC has defined Underserved Counties as any county in the TNC service territory for which TNC reported no demand or energy savings through any of its 2015 SOPs or MTPs. Per 16 TAC § 25.181(n) (2) (U), a list of the Underserved Counties is as follows:

Baylor	Edwards	Knox	Stephens
Briscoe	Foard	Mason	Upton
Concho	Gillespie	McCullough	
Cottle	Hardeman	Motley	
Crane	Kent	Nolan	
Dickens	King	Reagan	

XIV. Performance Bonus

TNC achieved a 4,542 kW reduction in peak demand from its energy efficiency programs offered in 2015. This achievement represents 107% of its 2015 demand reduction goal of 4,260 kW. TNC also achieved 12,289,271 kWh, which represents 165%, of its energy reduction goal of 7,464,000 kWh. These results qualify TNC for a Performance Bonus. Per 16 TAC § 25.181(h), TNC is eligible for a Performance Bonus of \$186,197, which it will request within its June 1, 2016 EECRF Filing for recovery in 2017.

In 2015, TNC's total spending on energy efficiency programs was \$2,770,773. This includes actual EM&V expenditures to the EM&V contractor of \$43,510. Per the PUCT, the total program costs to be used in the Performance Bonus calculation should include the EM&V cost allocation provided by the EM&V contractor for Program Year 2015, instead of the actual EM&V contractor expenditures. As a result, the total program expenditures for the bonus calculation will not match the actual total program expenditures exhibited in the applicable tables in this EEPR. For the purposes of the Performance Bonus calculation, TNC's 2015 total program costs equaled \$2,763,640.

	kW	kWh
2015 Goals	4,260	7,464,000
2015 Savings		
Reported/Verified Total (including HTR and measures with <10yr EUL)	4,542	12,289,271
Reported/Verified Hard-to-Reach	316	
2015 Program Costs	\$2,7	763,640
2015 Performance Bonus	\$1	86,197

Table 12: Energy Efficiency Performance Bonus Calculation for 2015

Performance Bonus Calculation

107%	Percentage of Demand Reduction Goal Met (Reported kW/Goal kW)
165%	Percentage of Energy Reduction Goal Met (Reported kWh/Goal kWh)
TRUE	Met Requirements for Performance Bonus?
\$8,397,346	Total Avoided Cost (Reported kW * PV (Avoided Capacity Cost) + Reported kWh * PV(Avoided Energy Cost))
\$2,763,640	Total Program Costs
\$5,633,705	Net Benefits (Total Avoided Cost - Total Expenses)
Deres Calarda	4

Bonus Calculation

\$186,197	Calculated Bonus ((Achieved Demand Reduction/Demand Goal - 100%) / 2) * Net Benefits
\$563,371	Maximum Bonus Allowed (10% of Net Benefits)
\$186,197	Bonus (Minimum of Calculated Bonus and Bonus Limit)

Acronyms

CSOP	Commercial Standard Offer Program
CS MTP	Commercial Solutions Market Transformation Program
DR	Demand Response
DSM	Demand Side Management
EECRF	Energy Efficiency Cost Recovery Factor
EEPR	Energy Efficiency Plan and Report
EE Rule	Energy Efficiency Rule, 16 TAC §§ 25.181 and 25.183
EESP	Energy Efficiency Service Providers
EffCon	Efficiency Connection Pilot Market Transformation Program
EUMMOT	Electric Utility Marketing Managers of Texas
HTR	Hard-To-Reach
HTR SOP	Hard-to-Reach Standard Offer Program
LM SOP	Load Management Standard Offer Program
МТР	Market Transformation Program
NAP	Not Applicable
Open MTP	Open Market Transformation Program
PUCT	Public Utility Commission of Texas
PURA	Public Utility Regulatory Act
PV	Photovoltaic
PV MTP	SMART Source SM Solar PV Market Transformation Program
R&D	Research and Development

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Acronyms (Continued)

REP	Retail Electric Provider
RES	Residential
RSOP	Residential Standard Offer Program
SCORE	Schools Conserving Resources
SCORE/CS MTP ·	SCORE/CitySmart Market Transformation Program
SOP	Standard Offer Program
TDU	Transmission and Distribution Utility
TLIP	Targeted Low-Income Energy Efficiency Program
TNC	AEP Texas North Company

APPENDIX A:

REPORTED AND VERIFIED DEMAND AND ENERGY REDUCTION BY COUNTY

CALENDAR YEAR 2015

County	Reported Savings	
	kW	kWh
Brewster	26.14	250,169
Kimble	2.42	9,397
Presidio	6.02	23,401
Runnels	170.64	1,341,759
Taylor	66.76	354,268
Tom Green	116.51	738,083
Total	388.49	2,717,077

COMMERCIAL SOLUTIONS MTP

COMMERCIAL SOP

County	Reported Savings	
	kW	kWh
Haskell	61.16	297,191
Menard	7.21	9,127
Pecos	6.07	33,811
Runnels	8.27	49,647
Taylor	263.08	1,722,453
Tom Green	63.96	477,042
Wilbarger	17.65	115,592
Total	427.40	2,704,863

County	Reported Savings	
	kW	kWh
Brewster	0.06	311
Brown	0.07	350
Callahan	0.10	467
Childress	0.06	224
Jeff Davis	0.10	467
Presidio	0.10	505
Runnels	0.03	155
Shackelford	0.27	1,334
Taylor	2.64	12,948
Tom Green	1.07	5,266
Wilbarger	0.10	370
Total	4.60	22,397

EFFICIENCY CONNECTION MTP

HARD-TO-REACH SOP

County	Reported Savings	
	kW	kWh
Callahan	3.10	12,674
Eastland	0.70	1,227
Haskell	57.36	96,013
Stonewall	23.37	107,752
Taylor	61.13	207,802
Tom Green	81.96	297,252
Total	227.62	722,720

LOAD MANAGEMENT SOP

County	Reported Savings	
	kW	kWh
Taylor	1,743.95	6,252
Total	1,743.95	6,252

OPEN MTP

County	Reported Savings	
	kW	kWh
Kimble	19.54	76,267
Runnels	6.00	28,500
Sutton	5.10	23,803
Taylor	36.84	170,828
Tom Green	324.04	1,380,989
Total	391.52	1,680,387

County	Reported Savings	
	kW	kWh
Brown	3.06	9,847
Callahan	4.30	13,555
Eastland	1.66	6,093
Irion	8.14	13,877
Jones	1.99	4,979
Presidio	7.88	28,335
Runnels	6.58	15,016
Schleicher	0.77	1,816
Shackelford	2.29	2,850
Sterling	46.23	90,193
Stonewall	34.13	119,159
Taylor	497.99	1,670,671
Tom Green	228.87	648,485
Total	843.91	2,624,877

RESIDENTIAL SOP

SCORE/CITYSMART MTP

County	Reported Savings	
	kW	kWh
Childress	13.35	62,316
Coke	28.67	142,187
Fisher	2.80	15,781
Runnels	7.52	38,174
Taylor	18.15	104,302
Tom Green	187.39	937,709
Total	257.88	1,300,469

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Country	Reported Savings	
County	kW	kWh
Brewster	4.56	8,784
Callahan	25.60	49,360
Coleman	8.72	16,800
Eastland	1.66	3,200
Haskell	8.63	16,640
Jeff Davis	7.32	14,112
Presidio	3.98	7,680
Reeves	4.65	8,960
Schackelford	18.13	34,944
Taylor	6.43	12,400
Tom Green	78.44	151,200
Total	168.12	324,080

SMART SOURCESM SOLAR PV MTP

TARGETED LOW-INCOME ENERGY EFFICIENCY PROGRAM

County	Reported Savings	
	kW	kWh
Callahan	29.45	57,468
Coke	0.87	799
Crockett	1.06	1,573
Fisher	7.71	21,973
Hall	2.67	3,717
Haskell	4.23	10,075
Irion	0.49	1,775
Jones	3.73	6,157
Shackelford	0.87	850
Sutton	1.28	1,388
Taylor	24.88	64,160
Throckmorton	0.32	432
Tom Green	6.89	13,673
Wilbarger	3.61	2,109
Total	88.06	186,149

APPENDIX B:

PROGRAM TEMPLATES

TNC does not have any Program Templates to report this year.

APPENDIX C:

EXISTING CONTRACTS OR OBLIGATIONS

TNC has no Existing Contracts or Obligations documentation to provide.

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APPENDIX D:

OPTIONAL SUPPORT DOCUMENTATION

TNC has no Optional Supporting Documentation to provide.