PUBLIC UTILITY COMMISSION OF TEXAS

APPLICATION OF

AEP TEXAS INC.

TO ADJUST

ENERGY EFFICIENCY COST RECOVERY FACTOR AND RELATED RELIEF

DIRECT TESTIMONY OF

PAMELA D. OSTERLOH

FOR

AEP TEXAS INC.

JUNE 1, 2021

TESTIMONY INDEX

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, POSITION IN THE COMPANY, AND BUSINESS ADDRESS.

A. My name is Pamela D. Osterloh. I am the Energy Efficiency and Consumer Programs Compliance Coordinator Principal for AEP Texas Inc. My business address is 539 N. Carancahua, Corpus Christi, Texas 78401.

Q. PLEASE STATE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I received a Bachelor of Science degree from Texas A&M University in 1986. I was first employed by and worked in various capacities and locations for Central Power and Light Company (the predecessor of AEP Texas Central Company) from November 1991 through May 1992. In June 1992, I accepted the position of Market Research Analyst with West Texas Utilities Company (the predecessor of AEP Texas North Company). In September 1997, I was appointed Demand Side Management (DSM) Resource Evaluation Coordinator with Central and South West Services, Inc. (the corporate service affiliate of Central and South West Corporation or CSW) located in Austin, Texas. In that role, I was responsible for energy efficiency regulatory activities and compliance for DSM activities for CSW in Texas. In April 1999, I transferred to Corpus Christi with CSW and began work in my current role as Energy Efficiency and Consumer Program Compliance Coordinator Principal for AEP Texas. In my current position, I am responsible for implementing and administering energy efficiency programs in compliance with the Public Utility Regulatory Act[1] (PURA) provisions

[1] PURA is codified at Tex. Util. Code Ann. §§ 11.001–66.016.

and the Public Utility Commission of Texas (Commission) rules for such energy efficiency programs. I hold professional certification from the Association of Energy Engineers (AEE) as a Certified Energy Manager.

Q. HAVE YOU PREVIOUSLY FILED TESTIMONY BEFORE ANY REGULATORY AGENCY?

A. Yes, I have previously filed testimony before the Commission in numerous energy efficiency cost recovery factor (EECRF) dockets: Docket No. 35627; Docket No. 36960; Docket No. 38208; Docket No. 39360; Docket No. 40359; Docket No. 41538; Docket No. 42508; Docket No. 44717; Docket No. 45929; Docket No. 47236; Docket No. 48422; Docket No. 49592; and Docket No. 50892.

Q. DO YOU SPONSOR ANY OF THE SCHEDULES ACCOMPANYING AEP TEXAS' FILING?

A. Yes, I sponsor AEP Texas Schedules L through O, and R. In addition, I co-sponsor Central Division Schedule A with witnesses Robert Cavazos and Jennifer L. Jackson; Central Division Schedule B with witness Jackson; and Central Division Schedules J, P, and S with witness Cavazos.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to present information supporting the request to adjust AEP Texas' EECRF for 2022. Because portions of the EECRF are based on historical data, that information is presented by division, where appropriate. As Mr. Cavazos discusses in his direct testimony, AEP Texas seeks an adjustment in 2022 to reflect:

- recovery of $17,747,658, which is the amount of projected 2022 energy efficiency program costs;
- recovery from customers of $351,084, which is the amount of AEP Texas' under-recovered energy efficiency costs in 2020;
- recovery of $8,673,275, which is the amount of performance bonus earned from actual energy efficiency achievements in Program Year (PY) 2020 results;
- recovery of $27,739 representing 2020 EECRF proceeding expenses incurred in Docket No. 50892 and of $11,083 representing 2020 EECRF proceeding expenses incurred in Docket No. 50892 by municipalities as authorized by 16 Tex. Admin. Code § 25.182(d)(3) (TAC); and
- recovery of $211,359 representing AEP Texas' share of the Evaluation, Measurement and Verification (EM&V) cost to evaluate 2021.

The total amount that AEP Texas requests to be recovered through its 2022 EECRF is $27,021,197.

In my direct testimony, I first outline the energy efficiency goals established by PURA Section 39.905. I also discuss the impact of the identification notice referenced in 16 TAC § 25.181(u). I then present the actual energy efficiency expenditures incurred by AEP Texas for its 2020 programs, 2020 AEP Texas and municipal EECRF proceeding expenses, and EM&V costs incurred in PY 2020. I describe each of the programs AEP Texas implemented during 2020. I also present the projected costs and

the plans and programs AEP Texas will implement to achieve its energy efficiency objectives for PY 2022.

III. ENERGY EFFICIENCY REQUIREMENTS AND OBJECTIVES

A. Statutory and Regulatory Requirements

Q. PLEASE DESCRIBE THE BASIC REQUIREMENTS OF PURA § 39.905 AS RELEVANT TO YOUR TESTIMONY.

A. The requirements of PURA § 39.905 as relevant to my testimony are:

- A utility must provide incentives adequate for the purpose of acquiring cost-effective energy efficiency equivalent to at least 30% of the electric utility's annual growth in demand of residential and commercial customers beginning with the 2013 program year; but not less than the previous year.

- Once the utility's demand reduction goal is equivalent to at least four-tenths of one percent of its summer weather-adjusted peak demand for the combined residential and commercial customers for the previous calendar year, the utility's goal shall be four-tenths of one percent of its summer weather-adjusted peak demand for the combined residential and commercial customers but not less than the previous year.

- A utility must provide incentives through market-based standard offer programs (SOPs) or targeted market transformation programs (MTPs).

- A utility must provide incentives in such a manner that retail electric providers (REPs) and competitive energy efficiency service providers (EESPs) install the measures that produce the energy efficiency necessary to meet the utility's mandated annual goal.

Q. HAS THE COMMISSION ADOPTED RULES TO IMPLEMENT PURA § 39.905?

A. Yes, 16 TAC §§ 25.181 and 25.182 have been adopted to implement PURA § 39.905.

Q. WHAT ARE SOME OF THE KEY COMPONENTS OF 16 TAC §§ 25.181 and 25.182?

A. Some of the key components of 16 TAC §§ 25.181 and 25.182 are:

- An electric utility shall administer energy efficiency programs to acquire at a minimum 30% reduction of its annual growth in demand of residential and commercial customers until the demand reduction goal to be acquired is at least four-tenths of 1% of its summer weather-adjusted peak demand for the combined residential and commercial customers for the previous program year.
- Once the demand reduction goal to be acquired is equivalent to at least four-tenths of 1% of its summer weather-adjusted peak demand for the combined residential and commercial customers for the previous program year, 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.
- A utility's demand goal in any year shall not be lower than its goal for the prior year.
- Utilities are encouraged to achieve demand reduction and energy savings through a portfolio of cost-effective programs that exceed each utility's energy efficiency goals while staying within the required cost caps.
- A utility shall adjust an EECRF to timely recover forecasted annual energy efficiency program costs in excess of the actual energy efficiency revenues collected from base rates, the preceding year's over- or under-recovery including municipal and utility EECRF proceeding expenses, any performance bonus earned, and EM&V costs assigned to the utility.
- 16 TAC § 25.182(e) allows a utility exceeding the minimum goal to earn a performance bonus.
- A utility may use up to 15% of its total program costs for administration of its energy efficiency programs.
- A utility may use up to 10% of the previous program year's costs to perform necessary energy efficiency research and development (R&D) to foster continuous improvement and innovation in the application of energy efficiency technology and energy efficiency program design and implementation.
- The cumulative cost of administration and R&D shall not exceed 20% of a utility's total program costs.

- An EM&V framework is included to evaluate program portfolio performance and to measure and verify estimated demand and energy impacts reported for those programs.
- Qualifying industrial customers taking electric service at distribution voltage may submit a notice to identify metering points for their industrial processes, which allows those metering points to not be charged for any costs associated with programs provided through the EECRF nor shall the identified facilities be eligible to participate or receive incentives for a three-year period.

Q. HOW DOES AEP TEXAS IMPLEMENT THESE REQUIREMENTS?

A. AEP Texas develops and offers cost-effective energy efficiency programs to third-party EESPs as defined in 16 TAC § 25.181(c)(17), who in turn market their services to end-use retail residential and commercial customers. These programs offer incentives to encourage third-party EESPs, REPs, and/or eligible commercial customers to participate as project sponsors of energy efficiency measures. The Commission's energy efficiency rule allows commercial customers with a peak demand of 50 kilowatts (kW) or greater to act as their own EESP for measures they install for themselves. The EESPs or project sponsors then supply and install the measures at homes or businesses that produce the energy efficiency savings that AEP Texas reports to satisfy its energy efficiency objectives. Energy efficiency objectives and goals are established annually, so that each year AEP Texas may procure the necessary demand reduction and energy savings from participating project sponsors to meet AEP Texas' objectives for that year. The energy efficiency savings may be in the form of reduction in summer or winter peak demand (kW), energy usage (kWh), or both. AEP Texas pays incentives to the project sponsors for peak demand and energy savings resulting from the energy efficiency measures installed according to program guidelines.

Q. PLEASE DEFINE THE TERM SOP.

A. Pursuant to 16 TAC § 25.181(c)(55), a standard offer program ("SOP") is defined as a program under which a utility administers standard offer contracts between the utility and EESPs. A standard offer contract specifies standard payments based upon the amount of energy and peak demand savings achieved through energy efficiency measures, the applicable measurement and verification (M&V) protocols, and other terms and conditions, consistent with 16 TAC § 25.181.

Q. PLEASE DEFINE THE TERM MTP.

A. Pursuant to 16 TAC § 25.181(c)(37), a market transformation program (MTP) is defined as a strategic program intended to induce lasting structural or behavioral changes in a market that result in the increased adoption of energy efficiency technologies, services, and practices.

B. Annual Demand Reduction Goal

Q. PLEASE DESCRIBE THE DEMAND REDUCTION GOAL REQUIREMENT FOR AEP TEXAS.

A. Pursuant to 16 TAC § 25.181(e)(1), AEP Texas is required to acquire a 30% reduction of its annual growth in demand of residential and commercial customers until that goal is equivalent to at least four-tenths of 1% (the trigger) of AEP Texas summer weather-adjusted peak demand for the combined residential and commercial customers for the previous program year. Once that trigger is reached, AEP Texas 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. In addition, 16 TAC § 25.181(e)(1)(D) also states that, except as adjusted in accordance with

subsection (u) of the rule, 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 16 TAC § 25.181(e).

Q. HAS AEP TEXAS MET THE TRIGGER DESCRIBED IN 16 TAC § 25.181(e)(1)(B)?

A. Yes, AEP Texas met the trigger. The Central Division met the trigger when calculating its goal for PY 2016. The North Division met the trigger when calculating its goal for PY 2015.

Q. PLEASE DESCRIBE HOW AEP TEXAS' FOUR-TENTHS OF 1% DEMAND REDUCTION GOAL IS CALCULATED.

A. AEP Texas' four-tenths of 1% demand reduction goal was calculated by taking the average of the 2016 – 2020 weather adjusted peak demand at the meter. The resulting peak demand average for this time period was 5,207 MW; therefore, AEP Texas' four-tenths of 1% goal for PY 2022 is 20.83 MW.

Q. PLEASE DESCRIBE THE IDENTIFICATION NOTICE REFERENCED IN 16 TAC § 25.181.

A. 16 TAC § 25.181(u) states that an industrial customer taking electric service at distribution voltage that qualifies under subsection 16 TAC § 25.181(c)(30) may submit an identification notice to the utility for those metered points of delivery of the industrial process. The Electric Service Identifier (ESID) number(s) identified under this section are not to be charged for any costs associated with and will not be able to participate in energy efficiency programs for three years.

Q. COULD THE IDENTIFICATION NOTICE REQUIREMENT AFFECT THE UTILITY'S CALCULATED GOAL FOR ENERGY EFFICIENCY?

A. Yes. Pursuant to 16 TAC § 25.181(u) the utility's demand reduction goal must be adjusted to remove any load identified as a result of the identification notice provision.

Q. WILL ANY SUCH NOTICES BE EFFECTIVE IN PY 2022?

A. Yes. AEP Texas received identification notices prior to February 1, 2021 for 216 ESIDs representing 23.94 MW.

Q. WHAT IS AEP TEXAS' DEMAND REDUCTION GOAL FOR PY 2022?

A. The demand reduction goal for AEP Texas to achieve in PY 2022 is 20.83 MW, based on the requirements in 16 TAC § 25.181(e)(3)(D) and as adjusted in accordance with subsection (u). The minimum PY 2022 demand reduction goal is set forth in Schedule N that I sponsor. AEP Texas, however, projects it will achieve as much as 43.71 MW of demand reduction from the programs it will implement in PY 2022. As Mr. Cavazos explains in his testimony, AEP Texas interprets PURA § 39.905 and 16 TAC § 25.181 as intending to encourage as much cost-effective energy efficiency as can reasonably be achieved.

Q. WERE LINE LOSSES INCORPORATED IN THE CALCULATION OF THE DEMAND REDUCTION GOAL?

A. Yes. Calculation of the demand reduction goal used the line loss numbers referenced in Table 8 of its 2021 Energy Efficiency Plan and Report. Line losses are derived from the loss factors determined in AEP Texas' most recent line loss study.

C. Annual Energy Savings Goal

Q. HOW IS THE ENERGY SAVINGS GOAL CALCULATED UNDER 16 TAC § 25.181?

A. The minimum energy savings goal is calculated from the utility's calculated demand goal, using a 20% conservation load factor, as set forth in 16 TAC § 25.181(e)(4).

Q. WHAT IS AEP TEXAS' ENERGY SAVINGS GOAL TO BE ACHIEVED IN PY 2022?

A. The energy savings goal for AEP Texas to achieve in PY 2022 is 36,494 megawatt-hour (MWh). The 2022 energy savings goal is set forth in Schedule N. However, AEP Texas projects to achieve as much as 61,616 MWh of energy savings from the programs it will implement in PY 2022. As I mentioned above and as Mr. Cavazos explains in his testimony, AEP Texas interprets PURA § 39.905 and 16 TAC § 25.181 as intended to encourage utilities to achieve as much cost-effective energy efficiency as can reasonably be achieved.

D. Process to Achieve Savings

Q. WILL AEP TEXAS OFFER PROGRAMS TO ACHIEVE THESE PY 2022 SAVINGS?

A. Yes, I discuss the programs that AEP Texas will offer in Section V. of my testimony. AEP Texas' energy efficiency program portfolio is designed to achieve both its demand reduction and energy savings objectives for PY 2022.

Q. WILL ALL ELIGIBLE CUSTOMERS HAVE ACCESS TO ENERGY EFFICIENCY PROGRAMS OFFERED BY AEP TEXAS?

A. Yes, except for industrial customers who have submitted an identification notice, all customers in the residential and commercial customer classes will have access to the energy efficiency programs offered by AEP Texas.

IV. ENERGY EFFICIENCY COSTS

A. PY 2020

Q. WHAT COSTS DID AEP TEXAS INCUR WITH ITS PY 2020 ENERGY EFFICIENCY PROGRAMS?

A. The costs incurred by AEP Texas to implement its PY 2020 energy efficiency programs totaled $17,468,801 ($14,189,139 for the Central Division and $3,279,662 for the North Division), as shown in Schedule B-1 and B-2.

Q. WERE AEP TEXAS' ACTUAL PY 2020 ENERGY EFFICIENCY COSTS LESS THAN THE ENERGY EFFICIENCY AMOUNT PROJECTED FOR PY 2020?

A. Yes. AEP Texas' energy efficiency costs ($494,456 which is $385,476 for the Central Division and $108,980 for the North Division) were 2.8% less than the projected amount in 2020.

Q. WERE AEP TEXAS' PY 2020 PROGRAM PORTFOLIO COSTS LESS THAN OR EQUAL TO THE BENEFITS OF THE PROGRAMS?

A. Yes. AEP Texas program portfolio costs were less than the benefits of the program. The benefit-cost ratio for AEP Texas' entire PY 2020 program portfolio is shown in

Schedule P-1 for the Central Division and P-2 for the North Division. The estimated useful life for each measure is provided in Schedule M.

Q. PLEASE DESCRIBE AEP TEXAS' PY 2020 ADMINISTRATIVE COSTS.

A. AEP Texas' PY 2020 administrative costs included costs to review project applications, award contracts, review incentive reports, conduct field inspections of installed measures, review M&V plans for projects that do not utilize deemed savings measures, and interact with project sponsors. Administrative duties also include continuous review and monitoring of programs for successful program implementation. Costs associated with work activities regarding regulatory reporting and special projects are also considered administrative costs and are included in AEP Texas' administrative costs.

Q. DID AEP TEXAS HAVE ANY EXPENSES ASSOCIATED WITH R&D IN PY 2020?

A. Yes. AEP Texas expended $280,104 ($211,564 for Central Division and $68,540 for North Division) for R&D in PY 2020 as detailed in Schedule B-1 and B-2.

Q. PLEASE DESCRIBE AEP TEXAS' R&D EFFORTS.

A. AEP Texas' PY 2020 R&D projects included costs related to identifying, developing and implementing necessary enhancements to its electronic data collection and management systems to incorporate updates for new program requirements, regulatory requirements, and deemed savings values; and costs associated with researching new technologies and energy efficiency program ideas. AEP Texas also participated with the Electric Utility Marketing Managers of Texas (EUMMOT) in research activities that included providing technical support for the Texas Technical Reference Manual

(TRM). All of the R&D expenditures incurred in PY 2020 were for the purpose of fostering continuous improvement and innovation in the application of energy efficiency technology and energy efficiency program design and implementation.

Q. PLEASE DESCRIBE AEP TEXAS' PY 2020 EXPENDITURES FOR ITS TARGETED LOW-INCOME PROGRAM.

A. As required by 16 TAC § 25.181(p), AEP Texas expended $1,913,313 ($1,537,092 for Central Division and $376,221 for North Division) in PY 2020 for the targeted low-income energy efficiency program, which is 11% of AEP Texas' (11% for Central Division and 11% for North Division) PY 2020 energy efficiency budget.

Q. HAS AEP TEXAS PROVIDED INFORMATION ON THE BIDDING AND ENGAGEMENT PROCESS USED FOR CONTRACTING WITH EESPS?

A. Yes. Schedule L describes the process used to select and contract with EESPs.

Q. DID ANY SINGLE EESP RECEIVE MORE THAN 5% OF AEP TEXAS' OVERALL INCENTIVE PAYMENTS?

A. Yes. Please see Highly Sensitive Schedule J for a list of all EESPs that participated in the 2020 programs, including those EESPs receiving more than 5% of AEP Texas' PY 2020 overall incentive payments, as well as a list of all EESPs that participated in the 2020 programs. Schedule J also includes contracts associated with those receiving more than 5% of overall incentive payments.

B. EECRF Proceeding Expenses

Q. DOES AEP TEXAS REQUEST RECOVERY OF ANY COSTS RELATED TO THE 2020 EECRF PROCEEDING?

A. Yes. AEP Texas requests recovery of $37,822 ($30,257 for the Central Division and $7,564 for the North Division) for the Company's 2020 EECRF proceeding in Docket No. 50892. This request includes $11,083 paid to municipalities for their participation and $26,739 for outside legal expenses in Docket 50892. Please see the direct testimony of AEP Texas witness Cavazos for further discussion of the Company's requested recovery of its 2020 EECRF proceeding expenses.

Q. WHY DID AEP TEXAS INCLUDE EECRF PROCEEDING EXPENSES?

A. 16 TAC § 25.182(d) states that an EECRF proceeding is a ratemaking proceeding for the purposes of PURA § 33.023 and that a utility's EECRF proceeding expenses shall be included in the EECRF. AEP Texas has included proceeding expenses owed for the 2020 EECRF proceeding, as allowed by 16 TAC § 25.182(d)(3).

C. 2020 EM&V Costs

Q. DID AEP TEXAS INCUR ANY EM&V COSTS IN 2020 FOR THE EVALUATION OF PY 2019?

A. Yes, AEP Texas incurred $215,599 ($183,267 for the Central Division and $32,332 for the North Division) in costs paid to the statewide EM&V contractor during 2020 for the evaluation of PY 2019.

D. 2022 Projected Energy Efficiency Program Costs

Q. WHAT ARE AEP TEXAS' ENERGY EFFICIENCY PLANS FOR PY 2022?

A. As shown in Schedule A, AEP Texas will implement 12 energy efficiency programs in PY 2022 for a total projected cost of $17,959,017, which includes R&D and EM&V activities. The 12 energy efficiency programs are described in Schedule R and are designed to allow AEP Texas to achieve its energy efficiency objectives for PY 2022. This portfolio of programs will continue to encourage EESPs to provide energy efficiency services to all qualifying residential and commercial customers. Each year AEP Texas reviews the programs and activities that have taken place to improve its plan for the upcoming year. AEP Texas has selected the programs that it believes will achieve its PY 2022 objectives and comply with PURA provisions and the Commission's rule.

Q. HOW DID AEP TEXAS DETERMINE ITS PY 2022 ENERGY EFFICIENCY OBJECTIVES?

A. AEP Texas first determined to achieve even greater cost-effective energy efficiency savings than required by the Commission's Rule. AEP Texas then allocated portions of its PY 2022 projected program costs among customer classes using criteria such as customer counts, historical cost allocation, and previous program success. The Hard-to-Reach SOP and the Targeted Low-Income Energy Efficiency Program were designed to comply with PURA provisions and the Commission's rule. AEP Texas then estimated projected impacts from each program based on historical results and previous years' experience. Projected impacts from all programs within each customer class were then combined to formulate customer class projected savings. Finally, all

projected customer class savings were added together to produce AEP Texas' PY 2022 projected energy efficiency savings as shown in Schedule O.

Q. ARE THERE SPECIFIC TYPES OF ADMINISTRATIVE COSTS ASSOCIATED WITH THE PY 2022 ENERGY EFFICIENCY PROGRAMS?

A. Yes. Administrative costs for PY 2022 will include costs for reviewing project applications, awarding contracts, reviewing M&V plans for some projects that do not utilize deemed savings measures, performing field inspections of installed measures, processing incentive payments, and interacting with project sponsors. Administrative costs also include development, review and selection of new or revised programs that may be considered for successful program implementation. Costs associated with work activities regarding regulatory reporting, EECRF filing, and other energy efficiency-related projects are also considered administrative costs and are included as shown in Schedule A.

Q. DOES AEP TEXAS ANY R&D COSTS FOR PY 2022?

A. Yes, AEP Texas PY 2022 projected R&D costs include $353,646 or about 2% of its total projected program costs as shown in Schedule A.

E. 2022 EM&V Costs

Q. DOES AEP TEXAS INCLUDE ANY EM&V COSTS IN THIS FILING?

A. Yes. AEP Texas is including $211,359 as its apportioned EM&V costs to be incurred in 2022 for the evaluation of PY 2021.

V. ENERGY EFFICIENCY PROGRAMS

A. PY 2020 Programs

Q. WHAT PROGRAMS DID AEP TEXAS OFFER IN PY 2020 TO ACHIEVE ITS ENERGY EFFICIENCY OBJECTIVES?

A. AEP Texas offered the following programs in PY 2020:

- Commercial Solutions MTP
- Commercial SOP
- CoolSaver℠ A/C Tune-up MTP (Central Division only)
- Hard-to-Reach SOP
- High Performance New Homes MTP (Central Division only)
- Load Management SOP
- Open MTP
- Residential Pool Pump Pilot MTP (Central Division only)
- Residential SOP
- SCORE/CitySmart MTP
- SMART Source℠ Solar PV MTP
- Targeted Low-Income Energy Efficiency Program

Q. PLEASE DESCRIBE THE COMMERCIAL SOLUTIONS MTP.

A. The Commercial Solutions MTP identifies a variety of commercial customers having a high likelihood of installing energy efficiency measures within their facilities. These customers may have delayed making such improvements for a number of reasons, including an inability to identify appropriate actions to take or lack of understanding of energy efficiency project funding. The Commercial Solutions MTP provides education and information to such customers, and provides monetary incentives to encourage them to take action to improve their facilities' energy efficiency.

Q. PLEASE DESCRIBE THE COMMERCIAL SOP.

A. The Commercial SOP provides incentives for the installation of a wide range of measures that reduce customer energy costs and reduce peak demand and/or save energy in non-residential facilities. Examples of eligible customer sites include hotels, schools, manufacturing facilities, restaurants, and larger grocery and retail stores. These types of customers have installed eligible measures such as lighting systems, new or replacement chiller systems, high-efficiency pumping systems, and other similar efficient technologies. Incentives are paid to project sponsors on the basis of deemed savings or, if deemed savings have not been established for a particular qualifying energy efficiency measure, incentives may be paid on the basis of verified peak demand and/or energy savings using the International Performance Measurement & Verification Protocol.

Q. PLEASE DESCRIBE THE COOLSAVER℠ A/C TUNE-UP MTP.

A. The CoolSaver℠ A/C Tune-Up MTP is designed to overcome market barriers that prevent residential and small business customers from receiving high-performance A/C system tune-ups. This program works with local A/C distributor networks to train and certify A/C technicians on tune-up and air flow correction services and protocols.

Q. PLEASE DESCRIBE THE HARD-TO-REACH SOP.

A. The Hard-to-Reach SOP targets a specific subset of residential customers defined by 16 TAC § 25.181(c)(27). The hard-to-reach customer is one whose total household income is at or below 200% of federal poverty guidelines. The program provides incentives for the installation of a wide range of measures that reduce residential customer energy costs and reduce peak demand. It is designed to cost-effectively

provide energy efficiency improvements to individual households at no or very low cost. Incentives are paid to project sponsors for eligible measures installed in retrofit applications on the basis of deemed savings. Eligible measures include replacement air conditioners, wall and ceiling insulation, and air distribution duct improvements, among others.

Q. PLEASE DESCRIBE THE HIGH PERFORMANCE NEW HOMES MTP.

A. The High Performance New Homes MTP targets homebuilders and residential consumers. The program's goal is to create conditions where consumers demand high performance built homes, and homebuilders supply these energy-efficient homes. Incentives are paid to homebuilders who construct high performance built homes in the Central Division service area.

Q. PLEASE DESCRIBE THE LOAD MANAGEMENT SOP.

A. The Load Management SOP targets commercial customers that have a minimum demand of 500 kW or more. Incentives are paid to project sponsors that identify interruptible load and provide curtailment of this electric load on short notice. These payments are based on the verified demand savings methodology identified in the Texas TRM.

Q. PLEASE DESCRIBE THE OPEN MTP.

A. The Open MTP targets traditionally underserved small commercial customers who may not employ knowledgeable personnel with a focus on energy efficiency, who are limited in the ability to implement energy efficiency measures, and/or who typically do not actively seek the help of a professional EESP. Small commercial customers with a peak demand not exceeding 150 kW in the previous 12 consecutive billing months may

qualify to participate in the program. 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.

Q. PLEASE DESCRIBE THE RESIDENTIAL POOL PUMP PILOT MTP.

A. The Residential Pool Pump Pilot MTP Provides incentives to pool pump distributors for the installation of high-efficiency ENERGY STAR® certified variable speed pool pumps in new and existing single-family properties.

Q. PLEASE DESCRIBE THE RESIDENTIAL SOP.

A. The Residential SOP provides incentives for the installation of a wide range of measures that reduce residential customer energy costs and reduce peak demand. It is also designed to encourage private sector delivery of energy efficiency products and services. Incentives are paid to project sponsors for eligible measures installed in retrofit applications on the basis of deemed savings. Eligible measures include replacement air conditioners, wall and ceiling insulation, and air distribution duct improvements, among others.

Q. PLEASE DESCRIBE THE SCORE/CITYSMART MTP.

A. The Schools COnserving REsources/CitySmart MTP (SCORE/CitySmart) provides energy efficiency and demand reduction solutions for government and educational customers. SCORE/CitySmart facilitates the examination of actual demand and energy savings, operating characteristics, program design, long-range energy efficiency planning and overall measure and program acceptance by the targeted cities and schools. This program is designed to help educate and assist these customers to lower energy use by integrating energy efficiency into their short- and long-term planning,

budgeting and operational practices. Incentives are paid to participants for certain qualifying measures installed in new or retrofit applications that result in verifiable demand and energy savings.

Q. PLEASE DESCRIBE THE SMART SOURCE^{SM} SOLAR PV MTP.

A. The SMART Source^{SM} Solar PV MTP offers residential and commercial installations a financial incentive for installations of solar electric (photovoltaic) systems interconnected on the customer's side of the electric service meter. The goal of this program is to transform the market by increasing the number of qualified companies offering installation services and by decreasing the average installed cost of systems, creating economies of scale.

Q. PLEASE DESCRIBE THE TARGETED LOW-INCOME ENERGY EFFICIENCY PROGRAM.

A. AEP Texas' Targeted Low-Income Energy Efficiency Program is designed to cost-effectively reduce the energy consumption and energy costs of AEP Texas' low-income residential customers. The program provides eligible residential customers with appropriate weatherization measures and basic on-site energy education.

B. PY 2020 Achievements

Q. PLEASE DESCRIBE THE CENTRAL DIVISION'S REQUIRED DEMAND REDUCTION GOAL FOR PY 2020 AND THE RESULTS THAT WERE ACHIEVED IN 2020.

A. The Central Division's required demand reduction goal to be achieved in PY 2020 was 16.38 MW. The Central Division's actual demand reduction achieved was 50.42 MW of peak demand savings from its PY 2020 energy efficiency programs.

Q. PLEASE DESCRIBE THE NORTH DIVISION'S REQUIRED DEMAND REDUCTION GOAL FOR PY 2020 AND THE RESULTS THAT WERE ACHIEVED IN 2020.

A. The North Division's required demand reduction goal to be achieved in PY 2020 was 4.26 MW. The North Division's actual demand reduction achieved was 5.80 MW of peak demand savings from its PY 2020 energy efficiency programs.

Q. PLEASE DESCRIBE THE CENTRAL DIVISION'S REQUIRED ENERGY REDUCTION GOAL FOR PY 2020 AND THE RESULTS THAT WERE ACHIEVED IN PY 2020.

A. The Central Division's required energy reduction goal to be achieved in PY 2020 was 28,698 MWh. The Central Division's actual energy reduction achieved was 59,265 MWh from its PY 2020 energy efficiency programs.

Q. PLEASE DESCRIBE THE NORTH DIVISION'S REQUIRED ENERGY REDUCTION GOAL FOR PY 2020 AND THE RESULTS THAT WERE ACHIEVED IN PY 2020.

A. The North Division's required energy reduction goal to be achieved in PY 2020 was 7,464 MWh. The North Division's actual energy reduction achieved was 12,785 MWh from its PY 2020 energy efficiency programs.

Q. PLEASE DESCRIBE THE AMOUNT OF DEMAND REDUCTION THAT AEP TEXAS ACHIEVED FROM ITS HARD-TO-REACH PROGRAMS FOR EACH DIVISION.

A. The Central Division achieved a total demand reduction of 3.18 MW from its hard-to-reach programs (2.35 MW from its Hard-To-Reach SOP and 0.83 MW from its

Targeted Low Income Energy Efficiency Program). The North Division achieved a total demand reduction of 0.72 MW from its hard-to-reach programs (0.58 MW from its Hard-To-Reach SOP and 0.14 MW from its Targeted Low Income Energy Efficiency Program) in 2020.

Q. DID AEP TEXAS ACHIEVE MORE THAN 5% OF ITS STATUTORY DEMAND REDUCTION GOAL FROM ITS HARD-TO-REACH PROGRAMS?

A. Yes, the Central Division achieved 19% of its PY 2020 statutory demand reduction goal from its hard-to-reach programs. The North Division achieved 17% of its PY 2020 statutory demand reduction goal from its hard-to-reach programs.

Q. DID AEP TEXAS EARN A PERFORMANCE BONUS FOR PY 2020?

A. Yes. Mr. Cavazos discusses the $8,673,275 ($6,974,884 for Central Division and $1,698,391 for North Division) performance bonus earned by AEP Texas for its PY 2020 results.

Q. SHOULD AEP TEXAS BE GRANTED ITS PERFORMANCE BONUS?

A. Yes, AEP Texas should be granted its performance bonus set forth in Schedules D1 and D2.

C. PY 2022 Programs

Q. WHAT PROGRAMS WILL AEP TEXAS OFFER IN PY 2022 TO ACHIEVE THE ENERGY EFFICIENCY OBJECTIVES?

A. AEP Texas will offer the following programs in PY 2022:

- Commercial Solutions MTP
- Commercial SOP
- CoolSaver℠ A/C Tune-up MTP
- Hard-to-Reach SOP

- High Performance New Homes MTP
- Load Management SOP
- Open MTP
- Residential Pool Pump Pilot MTP
- Residential SOP
- SCORE/CitySmart MTP
- SMART Source^{SM} Solar PV MTP
- Targeted Low Income Energy Efficiency Program

Q. WHAT IS THE PY 2022 PROJECTED COST FOR EACH PROGRAM?

A. Schedule A contains details of the PY 2022 projected cost for each of AEP Texas' programs.

Q. WHAT ARE THE PROJECTED SAVINGS FROM EACH PROGRAM?

A. Schedule O contains the PY 2022 projected savings from each program.

VI. CONCLUSION

Q. DO AEP TEXAS' ENERGY EFFICIENCY COSTS INCURRED IN PY 2020 COMPLY WITH THE COMMISSION RULES?

A. Yes. The costs incurred in connection with the PY 2020 energy efficiency programs were reasonable and necessary to provide energy efficiency to residential and commercial customers and were properly incurred consistent with 16 TAC §§ 25.181 and 25.182.

Q. DO AEP TEXAS' CALCULATIONS OF ITS ENERGY EFFICIENCY GOALS, OBJECTIVES, AND THE PROJECTED COSTS TO BE INCURRED IN PY 2022 AND INCLUDED IN THE REQUESTED 2022 EECRF COMPLY WITH THE COMMISSION RULE?

A. Yes. AEP Texas' statutory minimum goals to be achieved in PY 2022 are 20.83 MW of demand reduction and 36,494 MWh of energy reduction, and are in compliance with the Commission rule. As discussed above and in Mr. Cavazos's testimony, in order to satisfy PURA § 39.905 and the Commission rule that utilities achieve as much energy efficiency savings as reasonably possible within the limitations in the statute and the rule, AEP Texas has established energy efficiency objectives for PY 2022 above the minimum goals in the statute and rule. The $17,959,017 that AEP Texas projects it will incur in PY 2022 is a reasonable estimate of the costs (including EM&V) necessary to provide energy efficiency programs to meet AEP Texas' energy efficiency objectives for PY 2022 in furtherance of PURA § 39.905 and 16 TAC § 25.181.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

PUBLIC UTILITY COMMISSION OF TEXAS

APPLICATION OF

AEP TEXAS INC.

TO ADJUST

ENERGY EFFICIENCY COST RECOVERY FACTOR AND RELATED RELIEF

DIRECT TESTIMONY OF

BRIAN T. LYSIAK

FOR

AEP TEXAS INC.

JUNE 1, 2021

TESTIMONY INDEX

EXHIBITS

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS, AND POSITION.

A. My name is Brian T. Lysiak. My business address is 1 Riverside Plaza, Columbus, Ohio 43215. I am Senior Manager, Corporate Accounting, of American Electric Power Service Corporation (AEPSC), a wholly owned subsidiary of American Electric Power Company, Inc. (AEP).

Q. WHAT ARE YOUR PRINCIPAL AREAS OF RESPONSIBILITY WITH AEPSC?

A. I am responsible for maintaining the accounting books and records, and regulatory reporting for AEPSC. I am also responsible for AEPSC's monthly service billings to its affiliates. My responsibilities for AEPSC also include compliance with the Federal Energy Regulatory Commission's (FERC) Uniform System of Accounts accounting and reporting requirements.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL BACKGROUND.

A. I attended Kent State University and received a Bachelor of Business Administration degree, with an emphasis in Accounting in 2000 and a Master of Business Administration degree from Otterbein College in 2006. In January 2001, I was hired by AEPSC as a Staff Accountant in the Corporate and General Accounting group. Since that time, I have worked in several accounting departments. In January 2013, I was promoted to Supervisor of the Fuel and Contract Accounting group. In August 2016, I became Supervisor of AEPSC Accounting. In December 2018, I was promoted to Senior Manager Corporate Accounting, my present position.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE ANY REGULATORY COMMISSIONS?

A. Yes, I submitted written testimony to the Public Utility Commission of Texas (Commission) in Docket No. 50892, AEP Texas' most recent energy efficiency cost recover factor (EECRF) proceeding and Docket No. 49592, AEP Texas' 2019 EECRF proceeding and to the Virginia State Corporation Commission (VSCC) in Case No. PUE-2020-00015.

II. PURPOSE OF TESTIMONY

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. AEP Texas Central Company and AEP Texas North Company have been merged into a single entity, AEP Texas Inc. However, in approving the merger, the Commission required AEP Texas to maintain separate divisions, the AEP Texas Central Division and AEP Texas North Division, until the Commission issued a subsequent order combining the rates of the two divisions. In AEP Texas' last rate case, Docket No. 49494, the Commission ordered the combination of rates for AEP Texas, with a few exceptions.

Although the Commission has authorized the consolidation of AEP Texas' divisions' rates and tariffs, AEP Texas maintained separate divisions for a period of time during the 2020 EECRF program year (PY), and the two divisions charged costs to each other. The two divisions are not affiliates as defined in the Public Utility

Regulatory Act[1] (PURA) and the Commission's rules. Nevertheless, I am presenting the charges for each division to show that even if the divisions of AEP Texas were treated as affiliates, they would meet the Commission's standards.

Specifically, my testimony provides the following information regarding the services provided between the Central and North Divisions in support of AEP Texas' energy efficiency programs:

- An explanation of how services related to energy efficiency activities between the Central and North Divisions are assigned;
- A discussion of the workings of the affiliate billing systems for the services provided to AEP Texas and the other AEP utility operating companies;
- The Texas standards governing recovery of affiliate costs;
- A demonstration that the work order billing system ensures that the costs of services provided between the Central and North Divisions in support of AEP Texas' energy efficiency programs are no higher than those of other AEP affiliates for the same services or types of services; and
- A review of the costs included in this filing.

Q. DO YOU SPONSOR ANY SCHEDULES IN THE FILING?

A. Yes, I co-sponsor Schedule K for each division with witness Robert Cavazos.

Q. WHAT EXHIBITS DO YOU SPONSOR?

A. I sponsor EXHIBITS BTL-1, BTL-2, BTL-3, and BTL-4 as listed in the index to my testimony.

[1] PURA is codified at Tex. Util. Code Ann. §§ 11.001–66.016.

III. AFFILIATE COST ACCOUNTING AND OVERSIGHT

A. Assignment of Costs to AEP Texas

Q. HOW ARE SERVICES RELATED TO ENERGY EFFICIENCY ACTIVITIES ASSIGNED TO AEP TEXAS?

A. AEP and its affiliates use a work order system designed for the express purpose of meeting the FERC requirements to fairly allocate common charges among AEP affiliates and to do so at cost. By using a work order system, the expenses for specific projects are identified and the work orders are assigned specific and approved benefiting locations and allocation factors. Common costs are allocated based on the factor that best matches the charge with the cost driver related to the service, and that same factor is applied to all companies in proportion to the benefit they receive from the service.

The costs for services benefiting only one company are directly assigned and are billed 100% to that company. AEPSC and operating company employees directly assign costs to the maximum extent practicable by coding their time to unique work orders. Unique work orders have also been established for billing of certain affiliate support services exclusively performed for the AEP Texas energy efficiency programs, which allow the associated costs billed to energy efficiency programs to be tracked and readily identified.

Q. HOW DO AEPSC AND OTHER AEP AFFILIATES BILL FOR THE SERVICES THEY PROVIDE TO AEP TEXAS AND OTHER AFFILIATES?

A. Services are billed at cost, without any profit. Included in the billings are overheads for benefits (i.e., medical, dental, pension), payroll taxes, nonproductive time (sick time, vacation time, jury duty, etc.), and departmental charges for certain administrative costs, such as computers and the maintenance of automated accounting systems required to provide a service. To the extent third-party labor under a contract is involved, the contract labor charges are at the contract employee's hourly rate paid by the AEP affiliate to the contractor providing the services, without any profit to the AEP affiliate.

Q. HOW DOES THE WORK ORDER SYSTEM ENSURE THAT AEP AFFILIATE CHARGES TO AEP TEXAS ARE NO HIGHER THAN THE CHARGES TO OTHER AFFILIATES FOR THE SAME OR SIMILAR SERVICES, AND THAT THE CHARGES REASONABLY REFLECT THE ACTUAL COST OF PROVIDING THE SERVICE TO AEP TEXAS?

A. Through the use of the work order system, AEP Texas and every other affiliate included in the benefiting locations receiving a shared service is charged the same unit price, which is its appropriate share of the actual cost of the service. Accordingly, consistent with the requirements of PURA § 36.058(c)(2), the price charged to AEP Texas for the service (actual cost) is no higher than the price charged to the other affiliates receiving the same service (actual cost).

Q. ARE THE CHARGES FOR SERVICES PROVIDED BY THE CENTRAL AND NORTH DIVISIONS REASONABLE AND NECESSARY?

A. Yes, the services provided by the AEP Texas divisions to each other are reasonable and necessary costs of each division's provision of energy efficiency programs. These services have been reasonably and necessarily incurred to support the energy efficiency programs as set forth in EXHIBITS BTL-1, BTL-2, BTL-3, and BTL-4 and within the testimonies of Mr. Cavazos and Ms. Pamela D. Osterloh.

B. Standards Governing Recovery of Affiliate Costs

Q. ARE AFFILIATE EXPENSES ADDRESSED IN PURA?

A. Yes, affiliate expenses are addressed by PURA § 36.058, which allows an electric utility to include in its revenue requirement payments to affiliates that meet certain requirements. PURA § 36.058(b) directs the Commission to allow recovery of affiliate payments "only to the extent that the regulatory authority finds the payment is reasonable and necessary for each item or class of items. . ." In addition, PURA § 36.058(c) requires that the Commission find that "the price to the electric utility [for the affiliate service] is not higher than the prices charged by the supplying affiliate for the same item or class of items" to other affiliates or to non-affiliated persons. PURA § 36.058(f) provides:

> (f) If the regulatory authority finds that an affiliate expense for the test period is unreasonable, the regulatory authority shall:
>
> (1) determine the reasonable level of the expense; and
>
> (2) include that expense in determining the electric utility's cost of service.

Q. DOES THE COMMISSION ALSO HAVE RULES PERTINENT TO THE REVIEW OF AFFILIATE TRANSACTIONS?

A. Yes. 16 Tex. Admin. Code § 25.272 (TAC) discusses the code of conduct with which electric utilities and their affiliates must comply. Specifically, § 25.272(e)(1) states:

> In accordance with PURA and the commission's rules, a utility and its affiliates shall fully allocate costs for any shared services, including corporate support services, offices, employees, property, equipment, computer systems, information systems, and any other shared assets, services, or products.

Q. DO THE COSTS INCLUDED IN AEP TEXAS' FILING COMPLY WITH APPLICABLE STANDARDS IN TEXAS STATUTES AND RULES?

A. Yes, they do. Other witnesses and I will discuss how the costs meet the tests for being reasonable and necessary, and that these costs are no higher than prices charged to others.

IV. ENERGY EFFICIENCY AFFILIATE COSTS

Q. WERE ANY AFFILIATE SERVICES PROVIDED IN SUPPORT OF AEP TEXAS' ENERGY EFFICIENCY PROGRAMS IN 2020?

A. No. During 2020, no AEPSC services were provided for the 2020 energy efficiency programs. However, there were services provided by each division of AEP Texas to support the other division. Because the Central and North divisions are not affiliates under PURA or the Commission's rules, there were no affiliate services in 2020. However, I am providing testimony to show that even if the Commission's affiliate

rules were applied, the services provided by the two divisions would comply with the affiliate standards.

Q. PLEASE DESCRIBE THE SERVICES PROVIDED BY THE CENTRAL AND NORTH DIVISIONS IN 2020 IN SUPPORT OF AEP TEXAS' ENERGY EFFICIENCY PROGRAMS.

A. As shown by department and project on EXHIBIT BTL-1 and EXHIBIT BTL-3, the Central Division incurred costs for services from the North Division of $182,456 in 2020, and the North Division incurred costs for services from the Central Division of $178,199 in 2020. The services shown above were provided by the Energy Efficiency/Demand Response Programs department as detailed on EXHIBIT BTL-1 and EXHIBIT BTL-3. This department is comprised of employees of AEP Texas and is responsible for the overall design and implementation of the programs discussed throughout the testimonies of witnesses Cavazos and Osterloh.

Q. WERE THE SERVICES PROVIDED IN 2020 REASONABLY ALLOCATED?

A. Yes, they were. As shown on EXHIBIT BTL-2 and EXHIBIT BTL-4, all of the Central Division and North Division costs were allocated between the Central Division and the North Division, which both participate in energy efficiency programs. These services were performed in a manner to benefit AEP Texas and were shared among each division using its relative number of customers as the allocation methodology, which is an appropriate manner in which to share the cost of such services.

Q. HOW DO THE 2020 COSTS COMPARE TO AEP TEXAS' TOTAL ENERGY EFFICIENCY COSTS DURING THIS PERIOD?

A. As shown in the table below, services received by the Central Division from the North Division are 1.3% of total energy efficiency costs during the year. The remaining cost, 98.7%, is incurred directly by the Central Division.

Table 1

Central Division's Costs from North Division as Percentage of Total Costs – 2020

Category	**2020 ($)**
Cost from North Division	182,456
Total Cost	14,189,139
Percentage of Total Cost	1.3%

Source: EXHIBIT BTL-1 and Schedule B

As shown in the table below, services received by the North Division from the Central Division are 5.4% of total energy efficiency costs during the year. The remaining cost, 94.6%, is incurred directly by the North Division.

Table 2

North Division's Costs from Central Division as Percentage of Total Costs – 2020

Category	**2020 ($)**
Cost from Central Division	178,199
Total Cost	3,279,662
Percentage of Total Cost	5.4%

Source: EXHIBIT BTL-3 and Schedule B

V. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. My testimony describes and supports AEP Texas' compliance with the rules governing affiliate costs. My testimony also addresses the overall reasonableness and necessity of costs billed between the Central and North Divisions, as well as the work order system utilized to ensure that AEP Texas pays no more than any other AEP company for the comparable services it receives from affiliates.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

AEP Texas Central Division Costs - 2020

Cost Type	From Department		To Project		From BU Grouping	Total
Administrative Costs	10329	TX EE/DR Programs	TXDSMANDA	Texas DSM Admin & General	AEP Texas North Division	135,511
			EON100551	EE/DR EECRF	AEP Texas North Division	18,263
	10329	**TX EE/DR Programs Total**				**153,774**
Administrative Costs Total						**153,774**
Program Direct Costs	10329	TX EE/DR Programs	EON100547	DSM - EM&V - TX	AEP Texas North Division	589
			EON100512	DSM-C&I Standard Offer - TX	AEP Texas North Division	861
	10329	**TX EE/DR Programs Total**				**1,450**
Program Direct Costs Total						**1,450**
R&D Costs	10329	TX EE/DR Programs	EON100535	EE/DR R&D - TX	AEP Texas North Division	27,232
	10329	**TX EE/DR Programs Total**				**27,232**
R&D Costs Total						**27,232**
Grand Total						**182,456**

AEP Texas Central Division Costs - 2020 by Benefiting Location and Allocation Factor

Benefiting Location		Allocation Factor	Total	%
1397	Distribution - AEPTC/AEPTN	08 - Number of Customers	182,202	99.9%
1397	**Distribution - AEPTC/AEPTN Total**		**182,202**	**99.9%**
211	AEPTC Distribution	39 - Direct	254	0.1%
211	**AEPTC Distribution Total**		**254**	**0.1%**
Grand Total			182,456	100.0%

AEP Texas North Division Costs - 2020

Cost Type	From Department		To Project		From BU Grouping	Total
Administrative Costs	10329	TX EE/DR Programs	TXDSMANDA	Texas DSM Admin & General	AEP Texas Central Division	47,374
			EON100551	EE/DR EECRF	AEP Texas Central Division	39
	10329	**TX EE/DR Programs Total**				**47,413**
Administrative Costs Total						**47,413**
Program Direct Costs	10329	TX EE/DR Programs	EON100547	DSM - EM&V - TX	AEP Texas Central Division	12,910
			EON100508	DSM-Res Standard Offer - TX	AEP Texas Central Division	28,716
			EON100514	DSM-Hard To Reach SOP - TX	AEP Texas Central Division	38,782
			EON100522	DSM-Low Income Weatherization	AEP Texas Central Division	19,222
			EON100534	DSM Solar PV Pilot MTP	AEP Texas Central Division	13,944
	10329	**TX EE/DR Programs Total**				**113,575**
Program Direct Costs Total						**113,575**
R&D Costs	10329	TX EE/DR Programs	EON100535	EE/DR R&D - TX	AEP Texas Central Division	17,211
	10329	**TX EE/DR Programs Total**				**17,211**
R&D Costs Total						**17,211**
Grand Total						**178,199**

AEP Texas North Division Costs - 2020 by Benefiting Location and Allocation Factor

	Benefiting Location	Allocation Factor	Total	%
1397	Distribution - AEPTC/AEPTN	08 - Number of Customers	76,724	43.1%
1397	**Distribution - AEPTC/AEPTN Total**		**76,724**	**43.1%**
119	AEPTN Distribution	39 - Direct	101,475	56.9%
119	**AEPTN Distribution Total**		**101,475**	**56.9%**
Grand Total			178,199	100.0%

PUBLIC UTILITY COMMISSION OF TEXAS

APPLICATION OF

AEP TEXAS INC.

TO ADJUST

ENERGY EFFICIENCY COST RECOVERY FACTOR AND RELATED RELIEF

DIRECT TESTIMONY OF

JENNIFER L. JACKSON

FOR

AEP TEXAS INC.

JUNE 1, 2021

TESTIMONY INDEX

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME, POSITION, AND BUSINESS ADDRESS.

A. My name is Jennifer L. Jackson. I am a Regulatory Pricing and Analysis Manager in Regulated Services, Pricing and Analysis, part of the American Electric Power Service Corporation (AEPSC) Regulatory Services Department, 212 East Sixth Street, Tulsa, Oklahoma 74119-1295.

Q. PLEASE BRIEFLY DESCRIBE THE AEPSC REGULATORY SERVICES DEPARTMENT, YOUR CURRENT JOB RESPONSIBILITIES, AND EDUCATION.

A. AEPSC Regulated Pricing and Analysis reports through Regulatory Services which is part of AEPSC's External Affairs Group. Among its activities, Regulated Pricing and Analysis provides cost-of-service, rate design, pricing analysis, and tariff-related services to the AEP operating companies, including AEP Texas Inc. My job duties include providing testimony, rate review analysis and support, pricing design, implementation of pricing programs, and regulatory compliance for the AEP operating companies. I have been involved in regulatory rate review and pricing design proceedings since 1991 in all four of the AEP west state jurisdictions: Arkansas, Louisiana, Oklahoma, and Texas. I received a Bachelor of Business Administration Degree with an emphasis in Marketing, in 1989 from Texas Tech University

Q. HAVE YOU PREVIOUSLY SPONSORED TESTIMONY BEFORE THIS COMMISSION?

A. Yes, I have previously sponsored testimony before the Public Utility Commission of Texas (Commission) in the following dockets: 20545, 28520, 28840, 31251, 31461,

32758, 33309, 33310, 35625, 35627, 36422, 36928, 36949, 36961, 36960, 36959, 38208, 38209, 38210, 39359, 39360, 39361, 40358, 40359, 40443, 41538, 41539, 41879, 41970, 42370, 42508, 42509, 44717, 44718, 45787, 45788, 45928, 45929, 47015, 47236, 48110, 48422, 49163, 49494, 49592, and 51415. I have also sponsored testimony before the Arkansas Public Service Commission and the Oklahoma Corporation Commission.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to support the calculation of the annual redetermination of AEP Texas' energy efficiency cost recovery factors (EECRF) and to support the revised tariff (Rider EECRF) accompanying this filing, proposed to be effective March 1, 2022. I also address the final transition included in the 2021 filing for approval of 2022 EECRF factors, necessitated by the Final Order from Docket No. 49494, *Application of AEP Texas Inc. For Authority to Change Rates* (Final Order).

The annual redetermination of AEP Texas adjusted factors are proposed based on 16 Tex. Admin. Code § 25.182(d) (TAC), which, among other things, provides for a cost recovery factor that allows a utility to recover its reasonable energy efficiency expenditures as well as a performance bonus for exceeding its goals, EECRF proceeding expenses, and Evaluation, Measurement and Verification (EM&V) costs.

Q. THE FINAL ORDER IN DOCKET NO. 49494 APPROVED THE REMOVAL OF ENERGY EFFICIENCY COSTS FROM BASE RATES FOR RECOVERY THROUGH ONE AEP TEXAS RIDER EECRF. HAS AEP TEXAS COMPLETELY TRANSITIONED FROM BASE RATE RECOVERY INTO ONE EECRF RIDER?

A. Yes, a combined AEP Texas EECRF rider currently recovers all of AEP Texas' energy efficiency costs. However, a trailing transition from base-rate recovery exists because of the true up of the 2020 Program Year (PY), which included recovery of a portion of AEP Texas' energy efficiency costs through base rate amounts through May 2020—i.e., before energy efficiency costs were removed from base rates in June 2020 with the approval of Docket No. 49494 compliance rates.

Q. WHAT SCHEDULES THAT ACCOMPANY THE AEP TEXAS FILING DO YOU SPONSOR?

A. As part of my testimony, I will provide one set of schedules for AEP Texas that includes information from both the Central Division and the North Division. I sponsor the following schedules:

Schedule	**Description**
Schedule E	Calculation of the 2022 AEP Texas combined EECRF Factors
Schedule F	AEP Texas Energy Efficiency Cost Recovery Factor Rider
Schedule G	Calculation of Cost Caps
Schedule H	Development of Forecasted Billing Units
Schedule I	2020 Energy Efficiency Costs Recovered Through Base Rates
Schedule Q	System and Line Losses

I also sponsor the workpapers supporting these schedules.

Q. WHAT SCHEDULES ARE YOU CO-SPONSORING?

A. I am co-sponsoring Schedule A with AEP Texas witnesses Robert Cavazos and Pamela D. Osterloh; Schedule B with AEP Texas witness Osterloh; and Schedule C with AEP Texas witness Cavazos.

Q. PLEASE DESCRIBE THE SCHEDULES THAT YOU ARE SPONSORING.

A. Schedule E provides the calculation of the proposed 2022 AEP Texas EECRF class factors. Schedule F contains the adjusted Rider EECRF, which sets forth the adjusted 2022 EECRF factors by EECRF rate class. Schedule G provides the 2022 cost cap calculation for the requested program budget year based on the combined information from both AEP Texas divisions and the 2020 actual cap calculated on 2020 actual costs, without EM&V and class kWh from each division. Schedule H details the development of the forecasted EECRF class kWh for program year 2022, including combined historical kWh for the most recent calendar year, January through December 2020. Schedule I shows the determination of the energy efficiency costs included in base rates from the historical PY 2020 and the adjustment to the base rate revenues using 2020 actual billing units for the months of January through May 2020. Schedule Q indicates that system and line losses are not applicable in the determination of the AEP Texas Rider EECRF factors.

Q. PLEASE DESCRIBE THE SCHEDULES THAT YOU CO-SPONSOR.

A. Schedule A provides the requested program budget year proposed incentives and administrative costs, research and development (R&D) and EM&V costs in total and by EECRF rate class. Schedule B provides the historical program budget year actual incentives and administrative costs, and R&D and EM&V costs in total and by EECRF rate class. Schedule C provides the actual results from the PY 2020 by EECRF rate class, including EECRF revenues.

Q. PLEASE LIST THE COMBINED AND DIVISIONAL FILING PACKAGE SCHEDULES AND WORKPAPERS.

A. The schedules and workpapers that I sponsor that are included in the AEP Texas Combined Schedules include the following:

- Schedule A, page 2, (PY 2022 budget by rate class)
- Schedule C (combined 2020 over/under recovery by class)
- Schedule E (2022 AEP Texas EECRF factors)
- Schedule F (2022 Rider EECRF)
- Schedule G (2022 cap calculation)
- Schedule H (2022 projected kWh)
- Schedule Q (line losses)
- Workpaper Schedule E (PY 2022 budget class allocation)
- Workpaper Schedule E (EM&V class allocation)
- Workpaper Schedule E (combined earned performance bonus)
- Workpaper Schedule E (EECRF proceeding expenses)
- Workpaper Schedule E (adjusted allocators)
- Workpaper Schedule G (CPI data)

A set of schedules and workpapers is being provided for each division. The divisional workpapers used in the determination of the total combined AEP Texas EECRF revenue requirement include the following:

- Schedule B, page 2 (2020 actual expenses by division by rate class)
- Schedule C (2020 program cost over/under recovery by division, by class)
- Schedule G (2020 historical cap calculations based on actuals by division)
- Schedule H (projected kWh by division)
- Schedule I (base rate energy efficiency revenue plus base rate adjustment by division)
- Workpaper Schedule C (summary of 2020 over/under recovery by division)
- Workpaper Schedule C (2020 over/under recovery calculation detail by division)
- Workpaper Schedule C (2020 EECRF rider revenue by division)
- Workpaper Schedule E (2020 bonus by division)

II. ADJUSTED ENERGY EFFICIENCY COST RECOVERY REVENUE REQUIREMENT

Q. WHY IS AEP TEXAS REQUESTING APPROVAL OF AN ADJUSTED EECRF?

A. AEP Texas is requesting approval of an adjusted EECRF based on 16 TAC § 25.182(d). Specifically, in the current application, AEP Texas is requesting: 1) recovery of its 2022 projected and combined energy efficiency program costs; 2) an adjustment to the EECRF factors for the under-recovery of actual energy efficiency program costs in 2020, including interest developed for each division and then combined; 3) recovery of AEP Texas' 2020 performance bonus for demand and energy reduction that exceeded the minimum goal to be achieved in 2020 developed for each division and then combined; 4) recovery of AEP Texas' and the municipalities' EECRF proceeding expenses from Docket No. 50892; and 5) recovery of projected EM&V costs for the evaluation of PY 2021 to be included in the PY 2022 EECRF. AEP Texas is requesting Commission approval of a combined, adjusted Rider EECRF with factors to be effective March 1, 2022.

Q. WHILE THE FINAL ORDER IN DOCKET NO. 49494 APPROVED THE REMOVAL OF ENERGY EFFICIENCY COSTS FROM ITS BASE RATES, ARE ENERGY EFFICIENCY COSTS INCLUDED IN BASE RATES STILL THE SUBJECT OF THIS FILING?

A. Yes, as noted above, AEP Texas' base rates included energy efficiency costs through May 2020. Consequently, recognition of the recovery of energy efficiency costs through base rates through May 2020 is required in order to evaluate the 2020 over/under recovery amount to be included in the 2022 EECRF rate update.

Q. WHAT AMOUNT EXPRESSLY SPECIFIED AS ENERGY EFFICIENCY COSTS WAS INCLUDED IN AEP TEXAS' BASE RATES IN 2020?

A. AEP Texas had $7,629,379 expressly specified as energy efficiency costs in base rates in 2020 prior to the Final Order in Docket No. 49494. For the Central Division, the Commission's final order in Docket No. 33309 expressly included $6,334,949 of energy efficiency program funding in base rates. For the North Division, the Commission's final order in Docket No. 33310 expressly included $1,294,430 of energy efficiency program funding in base rates. To determine an appropriate amount of base rate revenue, five-twelfths of the annual level of energy efficiency cost expressly included in base rates was calculated. For the Central Division, five-twelfths of the annual amount is $2,639,562 and for the North Division, five-twelfths of the annual amount is $539,346.

Q. HAS AEP TEXAS MADE AN ADJUSTMENT TO THE ENERGY EFFICIENCY REVENUES INCLUDED IN BASE RATES?

A. Yes. Because AEP Texas had energy efficiency costs in base rates through May of 2020, an adjustment was made pursuant to 16 TAC § 25.182(d)(2) that states:

> where a utility collects energy efficiency costs in its base rates, actual energy efficiency revenues collected from base rates consist of the amount of energy efficiency costs expressly included in base rates, adjusted to account for changes in billing determinants from the test year billing determinants used to set rates in the last base rate proceeding.

The Central Division has increased actual energy efficiency base revenues by $156,692 to account for changes in test year billing determinants as determined in Docket No. 33309. Total energy efficiency base revenues for the Central Division are adjusted to be $2,796,254 for January through May 2020. The North Division has

increased actual energy efficiency base revenues by $55,222 to account for changes in test year billing determinants as determined in Docket No. 33310. Total energy efficiency base revenues for the North Division are adjusted to be $594,568 for January through May 2020.

The revenue adjustment is used in the base rate revenue adjustment determination for the 2020 actual over/under recovery. Based on the Final Order in Docket No. 49494, AEP Texas will not be recovering any energy efficiency costs through base rates in PY 2022; therefore, a revenue adjustment is not applied to the 2022 forecasted PY. The base rate energy efficiency adjustment is represented in the determination of the 2020 over-/under- recovery (Schedule C 2020) for the combined AEP Texas schedules and WP Schedule C (2020 Costs) and WP Schedule C (Summary)) included in the divisional workpapers. Schedule I, included in the divisional workpapers, details the calculation of the base revenue adjustment, including the base rate billing determinants and the 2020 billing determinants through May by class. The workpapers supporting the AEP Texas combined schedules will provide the details for each division.

Q. WHAT IS AEP TEXAS REQUESTING THROUGH THE ADJUSTED EECRF?

A. AEP Texas, through this application, is requesting to adjust the EECRF cost recovery factors to reflect:

- recovery of $17,747,658; in energy efficiency program costs projected to be incurred in 2021;
- recovery of $340,233; to account for the under-recovery of EECRF revenues below actual energy efficiency program expenditures incurred for its 2020 programs determined by division and then combined, including the recovery of 2020 EM&V costs and interest in the amount of $10,851;

- recovery of $8,673,275 representing the AEP Texas earned performance bonus;
- recovery of $26,739 representing 2020 EECRF proceeding expenses incurred in Docket No. 50892 by AEP Texas and of $11,083 representing 2020 EECRF proceeding expenses incurred in Docket No. 50892 by municipalities as authorized by 16 TAC § 25.182(d)(3)(B); and
- recovery of EM&V costs in the amount of $211,359.

In sum, AEP Texas requests Commission approval of the adjusted EECRF cost recovery factors as provided for in 16 TAC § 25.182(d)(1) to recover $27,021,197 in energy efficiency costs in 2022.

Q. HOW ARE THE PY 2022 PROGRAM COSTS SOUGHT TO BE RECOVERED THROUGH THE EECRF ASSIGNED TO EACH CLASS?

A. AEP Texas has assigned the PY 2022 program costs, including the administrative portion of each program cost, to each EECRF rate class based on each class's eligibility to participate in the proposed 2022 programs. Where more than one EECRF rate class is eligible to participate in a specific program, AEP Texas has employed an adjusted and weighted demand allocator to assign program costs across the eligible classes based on the allocators from Docket No. 49494. AEP Texas has employed the weighted and adjusted class demand allocator to assign PY 2022 R&D costs across the eligible classes.

The transmission service class of customers is not allocated energy efficiency program costs through the EECRF because those customers taking service at 69 kilovolts (kV) and above are not eligible for participation in the 2022 energy efficiency programs.

Q. PLEASE DESCRIBE THE ADJUSTED DEMAND ALLOCATION FACTORS USED TO ALLOCATE PY 2022 COSTS THAT ARE NOT DIRECTLY ASSIGNED TO RATE CLASSES.

A. The class distribution function demand allocators from Docket No. 49494 have been weighted to remove the lighting class and transmission customers at or above 69 kV and adjusted using 2022 projected kWh. The 2022 kWh projection has accounted for industrial customers identifying themselves under 16 TAC § 25.181(c)(30) and (u). Under 16 TAC § 25.181(c)(30) and (u), distribution voltage industrial customers that qualify for a tax exemption under Tex. Tax Code Ann. § 151.317 and submit an identification notice by February 1 characterizing the account as such, are not eligible for participation in energy efficiency programs through the EECRF beginning with the next calendar year. AEP Texas has therefore removed kWh associated with those customers from the 2022 kWh projection. The removal of the identification notice customers affects the adjusted demand allocators and the calculation of the proposed class EECRF factors for 2022. The kWh associated with the identification notice customers and the resulting 2022 kWh projection are shown in Schedule H and the adjusted demand allocators and supporting data are shown in the rate design workpapers supporting Schedule E; WP Schedule E (Adj Allocators).

Q. HOW IS THE 2020 UNDER-RECOVERY DETERMINED?

A. The under-recovery is determined by first assessing the total energy efficiency costs incurred in 2020 for each division. The Central Division incurred total energy efficiency costs of $14,189,139, including EM&V for 2020. The North Division incurred total energy efficiency costs of $3,279,662, including EM&V for 2020.

EECRF proceeding expenses are removed from the 2020 expenses prior to determining the over/under recovery. Both the Central and North Divisions had EECRF proceeding expenses from Docket No. 50892. The municipal rate case expenses from Docket No. 50892 are removed from the 2020 expenses and included as part of the request for recovery through the 2022 EECRF rates in this cause. Also, AEP Texas EECRF proceeding legal expenses are not included in the 2020 administrative costs.

In addition, $18,254 in financially based incentive compensation was removed from the Central Division 2020 expenses prior to determining the 2020 under-recovery. For the North Division, $5,086 in financially-based incentive compensation was removed prior to determining the 2020 under-recovery. The adjusted 2020 expense, excluding municipal proceeding expenses and financially based incentives is $14,162,018 for Central and $3,272,360 for North.

After the adjusted 2020 expenses are determined, the total energy efficiency program revenue is recognized. AEP Texas recovered energy efficiency program costs through its base rates, including a base rate adjustment, in January through May of 2020, and through the EECRF rider.

Central Division recovered $2,796,254 (5/12 of the annual amount) in energy efficiency program costs through base rates (including the 2020 base rate adjustment) and $12,983,798 in energy efficiency costs through the EECRF rider for a total program cost recovery of $15,780,052. The difference between total costs incurred, including EM&V costs, less municipal rate case expenses and financially based incentives, and total program revenue determines the 2020 under-recovery amount of $221,247 for the Central Division. Interest on the under recovery balance is required per 16 TAC §

25.182(d)(10)(D). Interest on the under-recovery balance is $7,056 for a total under-recovery with interest of $228,303 for the Central Division.

North Division recovered $594,568 (5/12 of the annual amount) in energy efficiency program costs through base rates (including the 2020 base rate adjustment) and $2,869,747 in energy efficiency program costs through the EECRF rider for a total program cost recovery of $3,464,315. The difference between total costs incurred, including EM&V, less municipal rate-case expenses and financially based incentives, and total program revenue determines the 2020 under-recovery amount of $118,986 for the North Division. Interest on the under recovery balance is required per 16 TAC § 25.182(d)(10)(D). Interest on the under-recovery balance is $3,795 for a total under-recovery with interest of $122,781 for the North Division. The Central and North Division under-recovery with interest is included in WP Schedule C (2020 Costs) in each of the divisional workpapers and the combined under-recovery with interest is included in Schedule C (2020) as part of the combined AEP Texas filing schedules.

Q. HOW IS AEP TEXAS ASSIGNING THE 2020 UNDER-RECOVERY TO THE CLASSES?

A. The divisional under-recovery assignment to each class is based on a comparison of the total 2020 energy efficiency revenues, including the adjusted 2020 base rate and EECRF Rider revenues by EECRF rate class, to actual 2020 program costs assigned to each EECRF rate class. As stated above, the EECRF proceeding expenses and financially based incentives are not included in the under-recovery determination for PY 2020. The actual 2020 energy efficiency program costs by division have been directly assigned to the individual EECRF rate classes that actually participated in each

program using a direct, program-by-program assignment. The 2020 administrative costs follow the assignment of the incentive costs, and the R&D costs have been either directly assigned to the rate classes or allocated to the classes based on the 2020 class program cost assignment. The specifics of the class assignment of the under-recovery are shown in the workpapers supporting Schedule C, for each division.

Q. HOW IS AEP TEXAS ASSIGNING THE PY 2020 EARNED PERFORMANCE BONUS TO THE CLASSES?

A. The earned performance bonus and the allocation to the rate classes was determined by division. AEP Texas has assigned the PY 2020 earned performance bonus to all EECRF rate classes eligible for participation in the PY 2020 energy efficiency programs using an allocator based on the direct assignment of the PY 2020 program incentives to the EECRF rate classes. AEP Texas' allocation is in accordance with 16 TAC § 25.182(e)(6), which states that the bonus shall be allocated in proportion to the program costs associated with meeting the demand and energy goals and allocated to the eligible customers on a rate class basis. The performance bonus is combined for a total AEP Texas bonus based on the goals achieved by each division. The divisional bonus is first allocated to each class within each division and then the divisional classes are combined to yield a total AEP Texas bonus for each class. The detail for the earned performance bonus allocation is shown in the divisional workpapers, WP Schedule E (2020 Bonus) and the combined bonus is shown in the WP Schedule E (2020 Bonus) for the combined AEP Texas EECRF filing schedules.

Q. ARE THERE EECRF PROCEEDING EXPENSES INCLUDED IN THE 2022 TOTAL REVENUE REQUIREMENT?

A. Yes. AEP Texas was invoiced by the municipal entities who took part in the EECRF proceeding in Docket No. 50892 in 2020. The invoices were presented in 2020. The municipal rate case expenses from Docket No. 50892 are included for recovery in 2022. AEP Texas is also requesting recovery of EECRF proceeding expenses incurred by AEP outside legal counsel in support of Docket No. 50892, as addressed in the testimony of Mr. Cavazos. The detail of the municipal and AEP Texas EECRF rate-case expenses are shown in WP Schedule E (Proceeding Expenses). The support for AEP Texas' expenses are included in Exhibit RC-1 to the testimony Mr. Cavazos.

Q. HOW IS AEP TEXAS ASSIGNING THE EECRF PROCEEDING EXPENSES TO THE CLASSES?

A. AEP Texas has assigned the total requested EECRF proceeding expenses to the classes using an allocator developed using the combined assignment of the 2022 program cost to the EECRF rate classes.

Q. HAS AEP TEXAS INCLUDED EM&V COSTS IN THE 2022 REVENUE REQUIREMENT?

A. Yes. AEP Texas has included statewide EM&V contractor costs in the 2022 revenue requirement for evaluating PY 2021 to be recovered through the 2022 EECRF. The statewide EM&V contractor costs are shown in WP Schedule E (EMV).

III. DEVELOPMENT OF CLASS ENERGY EFFICIENCY COST RECOVERY FACTORS

Q. WHAT ARE THE COMPONENTS NEEDED TO DEVELOP AEP TEXAS' ADJUSTED ENERGY EFFICIENCY COST RECOVERY FACTORS?

A. The components needed to develop the PY 2022 EECRF cost recovery factors include:

1) the projected, combined PY 2022 energy efficiency program cost provided in Schedule A and the assignment of PY 2022 program costs to the EECRF rate classes;
2) the over- or under-recovery associated with the 2020 energy efficiency programs for each division;
3) the performance bonus achieved for 2020 performance for each division;
4) the projected EM&V costs for the evaluation of PY 2021
5) the class kWh and demand allocation factors from Docket No. 49494;
6) the identification notice customers and related kWh;
7) the forecasted billing units by EECRF rate class for PY 2022; and
8) the proceeding expenses from prior EECRF docket.

Q. HOW ARE THE EECRF FACTORS DETERMINED ONCE ALL THE COMPONENTS ARE ASSEMBLED?

A. Once the total EECRF class revenue requirement based on the components listed above has been assigned to EECRF rate classes by direct assignment or by using the appropriate allocators, and the 2020 divisional data has been accumulated into the combined AEP Texas set of EECRF Schedules, the combined EECRF class factors are calculated by dividing the revenue requirement for each EECRF rate class by the 2022 projected billing units for each EECRF rate class. The 2022 EECRF factors for AEP Texas are shown in Schedule E and the revised AEP Texas Rider EECRF is contained in Schedule F.

Q. WHAT BILLING UNIT IS AEP TEXAS PROPOSING TO USE TO RECOVER THE ENERGY EFFICIENCY COSTS?

A. As was approved in Docket Nos. 35627, 36960, 38208, 39360, 40359, 41538, 42508, 44717, and 45929 for the Central Division and Docket Nos. 36959, 38209, 39361, 40358, 41539, 42509, 44718 and 45928 for the North Division, and in the combined AEP Texas EECRF Docket Nos. 47236, 48422, 49592 and 50892, AEP Texas is proposing to continue to use an energy charge (kWh) for recovery of energy efficiency costs for all classes of customers included in the EECRF, as authorized by 16 TAC § 25.182(d)(6). AEP Texas' kWh proposal is consistent with past approved EECRF billing methodologies and is in compliance with 16 TAC § 25.182(d)(6). AEP Texas has supplied forecasted 2022 kWh data for all classes in Schedule H for each division and in the combined AEP Texas schedules. Any true-up associated with the Transmission class for remaining base rate amounts associated with January through May of 2020 are recovered based on a demand-billing determinant.

Q. PLEASE DESCRIBE HOW THE 2022 FORECASTED BILLING UNITS USED IN THE DEVELOPMENT OF THE EECRF FACTORS FOR PY 2022 WERE DETERMINED.

A. As part of the normal course of business, AEP projects monthly kWh sales for each of its operating companies, including AEP Texas. The AEPSC Economic Forecasting Department provides the total retail kWh sales forecasts by revenue class for each division. Because the kWh sales are projected on a revenue class basis, kWh data must be converted to EECRF rate class forecasted kWh sales. Forecasted kWh sales by EECRF rate class were established by first determining each EECRF rate class's

percentage of total retail sales based on twelve months of historical kWh sales data for each division. Forecasted kWh sales by rate class were then calculated by multiplying each rate class's percentage of total retail kWh sales by the total retail forecasted kWh sales. As discussed above, the projection of the 2022 kWh reflect the removal of the identification notice customer kWh. The annual class projected kWh sales less the customer identification notice kWh for each division were combined for an AEP Texas total and each EECRF rate class total was used to determine the adjusted 2022 EECRF class factors. Schedule H specifies the process for determining the projected kWh sales by EECRF rate class for each division and for the combined AEP Texas.

Q. WERE SYSTEM AND LINE LOSSES USED TO DEVELOP THE EECRF FACTORS?

A. No. AEP Texas' kWh sales forecast for 2022 is based on energy delivered at the meter, so it was not necessary to adjust the EECRF factors to reflect system and line losses.

Q. WHAT ARE THE PROPOSED 2022 EECRF RATE CLASS FACTORS?

A. The proposed 2022 factors by EECRF rate class are:

AEP Texas

Rate Class	Proposed kWh Factor	Billing Unit Per Rate
Residential	$0.001205	kWh
Secondary <= 10 kW	$0.001045	kWh
Secondary > 10 kW	$0.001146	kWh
Primary	$0.000257	kWh
Transmission	$0.000323	kW

These EECRF factors are shown in the 2022 EECRF Schedule F.

Q. DO THE 2022 EECRF FACTORS, EXCLUDING MUNICIPAL EECRF PROCEEDING EXPENSES AND STATEWIDE EM&V CONTRACTOR COSTS, EXCEED THE MAXIMUM PRICE PER KWH FOR RESIDENTIAL AND COMMERCIAL CUSTOMERS AS SPECIFIED IN 16 TAC § 25.182(d)(7)?

A. No, they do not. 16 TAC § 25.182(d)(7) recognizes two groups of customers for the purposes of setting cost caps, residential and commercial. Neither class factor exceeds the PY 2022 cost cap. In 2022, energy efficiency costs are entirely recovered through Rider EECRF factors. There are no costs included for base rate recovery for 2022.

Q. HOW ARE THE 2022 EECRF COST CAPS DETERMINED?

A. The method of calculating the 2022 cost caps is described in 16 TAC § 25.182(d)(7)(C). The most recently available calendar year's percentage change in the South urban consumer price index is calendar year 2020. The percentage change for calendar year 2022 is 0.96%. AEP Texas has evaluated the cap based on the adjusted 2022 per kWh residential cap of $.001364 and commercial cap of $.000853. The 2022 cost cap calculation is included in Schedule G of the combined AEP Texas EECRF filing schedules.

Q. HOW DO THE PROPOSED FACTORS FOR RESIDENTIAL AND COMMERCIAL COMPARE TO THE 2022 COST CAPS?

A. The revised residential factor excluding municipal EECRF proceeding expenses, EM&V statewide contractor costs, and interest on the under-recovery is $0.001195 per kWh which does not exceed the residential maximum of $0.001364 per kWh. The maximum commercial rate per kWh for 2022 is $0.000853 per kWh as explained above. The updated commercial class factor excluding the municipal EECRF

proceeding expenses, statewide EM&V contractor cost, and interest on the under-recovery is $0.000851 per kWh which does not exceed the cap for the commercial class. Schedule G details the 2022 cost-cap comparison.

Q. HOW HAS AEP TEXAS TREATED THE MUNICIPAL RATE CASE EXPENSES AND EM&V COST WHEN DETERMINING WHETHER THE PROPOSED EECRF FACTORS EXCEED THE LIMITATIONS DETAILED IN 16 TAC § 25.182(d)(7)?

A. AEP Texas has not included municipal EECRF proceeding expenses or any statewide EM&V contractor's costs in its determination of the EECRF factor limitations based on 16 TAC § 25.182(d)(7), which states that the municipal EECRF proceeding expenses and the statewide EM&V contractor costs shall not count against the utility's cost caps. The interest on the over/under recovery is also eligible for exclusion from the cost cap calculation. AEP Texas has included in Schedule E the total EECRF factor calculation including the municipal EECRF proceeding expenses and the EM&V cost and in Schedule G a separate calculation of the limitation on EECRF factors without the municipal EECRF proceeding expenses and the statewide EM&V contractor cost. The EECRF factors calculated without the municipal EECRF proceeding expenses and the statewide EM&V contractor cost are slightly lower than the total EECRF factors. AEP Texas is requesting recovery of the municipal EECRF proceeding expenses through the total proposed EECRF factor as shown on adjusted Rider EECRF, Schedule F in this filing.

Q. HAS AEP TEXAS INCLUDED A CALCULATION OF THE 2020 CAP BASED ON ACTUAL PROGRAM COSTS AND ACTUAL 2020 BILLING UNITS?

A. Yes, AEP Texas has included a 2020 cap calculation based on actual 2020 program costs and billing units as part of Schedule G. The 2020 cap calculation was performed for each division.

Q. DID AEP TEXAS EXCEED THE 2020 CAPS BASED ON ACTUAL DATA?

A. No. Neither the Central Division nor the North Division exceeded the 2020 caps for either EECRF class.

Q. HOW ARE ENERGY EFFICIENCY COSTS EXPRESSLY INCLUDED IN BASE RATES TREATED IN DETERMINING WHETHER EECRF FACTORS EXCEED THE AMOUNTS PRESCRIBED IN 16 TAC § 25.182(d)(7) FOR THE HISTORICAL PY 2020?

A. Each division recovered an amount of energy efficiency costs expressly identified in its base rates in 2020 so the sum of the base rate recovery of energy efficiency costs (including the base rate revenue adjustment) and the EECRF for PY 2020 shall not exceed the amounts prescribed in 16 TAC § 25.182(d)(7). In Docket Nos. 39360 and 39361, the EECRF class base rate per kWh amounts were identified. The base rate adjustment amount on a per kWh basis also has been determined based on 2020 actual data. The detail for the cost cap calculation for 2020 is shown in Schedule G (2020 Cap) in the divisional workpapers.

Q. HOW WERE THE 2020 CAPS CALCULATED?

A. The 2020 caps were calculated by removing the statewide EM&V contractor's costs and the municipal EECRF proceeding expenses paid in 2020 from the total 2020

Energy Efficiency actual costs, and dividing that total amount by the class 2020 EECRF billing units less any customer ID notice kWh. Because the 2020 expenses are determined by division, the 2020 cost caps are shown for each division. This calculation yields the following results for the classes:

Central Division Class	2020 Cost per kWh	2020 Cap
Residential	$0.000870	$0.001332
Commercial	$0.000685	$0.000833

North Division Class	2020 Cost per kWh	2020 Cap
Residential	$0.000914	$0.001332
Commercial	$0.000511	$0.000833

Q. ARE SOME CUSTOMERS EXCLUDED FROM EECRF CHARGES?

A. Yes, in addition to transmission customers taking service at 69 kV, distribution industrial customers meeting the definition and fulfilling the requirements as outlined in 16 TAC § 25.181(c)(30) and (u) (ID Notice Customers) are excluded from EECRF charges. Also, the lighting class has not been assigned or allocated any 2022 costs.

Q. HAVE YOU PROVIDED THE REVISED TARIFF REFLECTING 2022 EECRF FACTORS FOR AEP TEXAS?

A. Yes. The proposed Rider EECRF is shown in Schedule F. AEP Texas requests that the Commission approve the proposed Rider EECRF to be effective March 1, 2022.

IV. CONCLUSION

Q. PLEASE SUMMARIZE YOUR TESTIMONY.

A. AEP Texas is requesting recovery of $27,021,197 through its combined Rider EECRF, which include projected PY 2022 energy efficiency program costs of 17,747,658, EM&V costs of $211,359, the recovery of the under-recovery of $351,084 in 2020 program costs including interest, EECRF proceeding expenses from Docket No. 50892 of $37,822 and the 2020 earned performance bonus of $8,673,275.

AEP Texas' base rates for each division included energy efficiency costs in PY 2020 in the months of January through May. Those costs and the corresponding revenue adjustment have been treated in accordance with 16 TAC § 25.181(d)(1). The class assignment of the estimated PY 2022 program costs is based on the direct assignment to the EECRF rate classes eligible for specific programs where possible. Where more than one EECRF rate class is eligible to participate in a specific 2022 program, the allocation of that program cost is based on a weighted demand allocator from Docket No. 49494, adjusted based on the most recent projection of EECRF rate class kWh, less the identification notice customer kWh. The class assignment of the 2020 actual program costs is based on direct assignment to the participating EECRF rate classes in each division. The earned performance bonus has been assigned to the classes in accordance with 16 TAC § 25.182(e)(6). The EECRF proceeding expenses have been assigned to the classes using an allocator developed based on the PY 2022 program costs assigned to the classes. Recovery of the 2022 EECRF revenue requirement is based on projected 2022 kWh sales for all EECRF classes eligible for the EECRF.

Q. WHAT RELIEF IS AEP TEXAS REQUESTING IN THIS PROCEEDING?

A. AEP Texas is requesting that the following EECRF class factors below, included in AEP Texas Rider EECRF contained in Schedule F, be approved effective March 1, 2022.

EECRF Class	AEP Texas	Unit
Residential	$0.001205	kWh
Secondary <= 10 kW	$0.001045	kWh
Secondary > 10 kW	$0.001146	kWh
Primary	$0.000257	kWh
Transmission	$0.000323	kW
Lighting	$0.000000	kWh

Q. HAS AEP TEXAS CALCULATED THE EECRF FACTORS IN A MANNER CONSISTENT WITH 16 TAC § 25.182?

A. Yes.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

AEP Texas
2022 Energy Efficiency Cost Recovery Factor

SCHEDULE A

2022 Projected Energy Efficiency Program Costs

	Incentives	Administrative	Research & Development	EM&V	Total Projected Energy Efficiency Costs
Commercial					
Commercial Solutions MTP	$903,248	$115,485			$1,018,733
Commercial SOP	$1,875,762	$218,467			$2,094,229
CoolSaver© A/C Tune-Up MTP	$796,700	$88,522			$885,222
Load Management SOP	$737,700	$85,300			$823,000
Open MTP	$1,213,041	$150,959			$1,364,000
SCORE/CitySmart MTP	$1,192,300	$141,884			$1,334,184
SMART Source^{SM} Solar PV MTP	$287,310	$35,017			$322,327
Residential					
CoolSaver© A/C Tune-Up MTP	$825,000	$91,667			$916,667
High Performance New Homes MTP	$965,000	$107,222			$1,072,222
Residential Pool Pump Pilot MTP	$150,300	$16,700			$167,000
Residential SOP	$2,764,357	$326,368			$3,090,725
SMART Source^{SM} Solar PV MTP	$670,941	$79,059			$750,000
Hard-to-Reach					
Hard-to-Reach SOP	$1,412,560	$156,840			$1,569,400
Targeted Low-Income Energy Efficiency Program	$1,799,159	$187,144			$1,986,303
Research and Development					
R&D Programs	NAP	NAP	$353,646		$353,646
Total Projected Program Costs	**$15,593,378**	**$1,800,634**	**$353,646**	**$0**	**$17,747,658**
Evaluation Measurement & Verification (EM&V)					
EM&V				$211,359	$211,359
Total Projected Energy Efficiency costs	**$15,593,378**	**$1,800,634**	**$353,646**	**$211,359**	**$17,959,017**

Sponsored by Pamela D. Osterloh, Robert Cavazos and Jennifer L. Jackson

2022 AEP Texas	Res	Sec < 10	Sec > 10	Primary	Total
Commercial					
Commercial Solutions MTP		$44,747	$731,072	$242,914	$1,018,733
Commercial SOP		$101,142	$1,652,453	$549,062	$2,302,657
CoolSaver© A/C Tune-Up MTP		$29,122	$475,788	$158,091	$663,000
Load Management SOP			$617,742	$205,258	$823,000
Open MTP		$78,671	$1,285,329		$1,364,000
SCORE/CitySmart MTP		$55,678	$909,673	$302,258	$1,267,610
SMART SourceSM Solar PV MTP		$14,158	$231,311	$76,858	$322,327
Residential					
CoolSaver© A/C Tune-Up MTP	$750,000				$750,000
High Performance New Homes MTP	$850,000				$850,000
	$0				
Residential Pool Pumps Pilot MTP	$167,000				$167,000
Residential SOP	$3,754,496				$3,754,496
SMART SourceSM Solar PV MTP	$364,007				$364,007
Hard-to-Reach					
Hard-to-Reach SOP	$1,569,400				$1,569,400
Targeted Low-Income Energy Efficiency Program	$1,986,303				$1,986,303
Research and Development (R&D)					
R&D Programs	$296,008	$10,941	$178,774	$59,402	$545,125
EM&V	$115,962	$3,983	$72,433	$18,981	$211,359
Total Energy Efficiency Program Revenue Requirement	$9,853,176	$338,442	$6,154,574	$1,612,825	$17,959,017

AEP Texas
2022 Energy Efficiency Cost Recovery Factor

Schedule B -1 Central Division

2020 Actual Energy Efficiency Expenditures

Customer Class and Program	2020				
	Incentives	Administrative	Research & Development	Evaluation, Measurement & Verification	Total Funds Expended
Commercial					
Commercial Solutions MTP	$ 507,572	$ 45,114			$552,686
Commercial SOP	$ 1,485,869	$ 171,471			$1,657,340
CoolSaver© A/C Tune-Up MTP	$ 595,495	$ 49,418			$644,913
Load Management SOP	$ 760,815	$ 50,566			$811,381
Open MTP	$ 787,619	$ 73,130			$860,749
SCORE/CitySmart MTP	$ 904,220	$ 81,563			$985,783
SMART Source[SM] Solar PV MTP	$ 204,000	$ 19,640			$223,640
Residential					
CoolSaver© A/C Tune-Up MTP	$672,996	$55,850			$728,846
High Performance New Homes MTP	$909,558	$78,918			$988,476
Residential Pool Pump Pilot MTP	$65,900	$13,111			$79,011
Residential SOP	$2,897,646	$261,037			$3,158,683
SMART Source[SM] Solar PV MTP	$195,318	$19,108			$214,426
Hard-to-Reach					
Hard-to-Reach SOP	$1,237,391	$113,891			$1,351,282
Targeted Low Income Energy Efficiency Program	$1,432,344	$104,748			$1,537,092
Research & Development					
Research & Development	NAP	NAP	$211,564		$211,564
Evaluation, Measurement & Verification					
PY 2019 Statewide EM&V Contractor	NAP	NAP	NAP	$183,267	$183,267
TOTAL	**$12,656,743**	**$1,137,565**	**$211,564**	**$183,267**	**$14,189,139**

2020 Central Division	Res	Sec < 10	Sec > 10	Primary	Total
Commercial Programs					
ComSol MTP		$0.00	$490,064.18	$62,622 03	$552,686.21
Commercial SOP		$113,238.49	$1,507,597.36	$36,504 34	$1,657,340.19
CoolSaver© A/C Tune-Up MTP		$59,499.26	$585,413.83	$0.00	$644,913.10
Load Management SOP		$0.00	$318,744.59	$492,636.79	$811,381.38
Open MTP		$68,512.72	$792,236.38	$0.00	$860,749.10
SCORE/CitySmart MTP		$44,570.00	$941,212.43	$0.00	$985,782.43
SMART Source^{SM} Solar PV MTP		$3,851.58	$219,788.74	$0 00	$223,640.32
Total Commercial		$289,672 06	$4,855,057.51	$591,763.16	$5,736,492.73
Residential Programs					
CoolSaver© A/C Tune-Up MTP	$728,845.51				$728,845.51
High Performance New Homes MTP	$988,475.51				$988,475.51
Residential Pool Pumps Pilot MTP	$79,010.61				$79,010.61
Residential SOP	$3,158,683.60				$3,158,683.60
Residential Pool Pumps Pilot MTP	$214,424.97				$214,424 97
Total Residential	$5,169,440.20				$5,169,440.20
Hard-to-Reach Programs					
Hard-To-Reach SOP	$1,351,282.48				$1,351,282.48
Targeted Low Income Energy Efficiency Program	$1,537,092.34				$1,537,092.34
Total HTR	$2,888,374.81				$2,888,374 81
Total Programs	$8,057,815 01	$289,672 06	$4,855,057.51	$591,763.16	$13,794,307 74
Research & Development	$4,179.29	$70,247.34	$8,756.17	$128,381.18	$211,563.99
EM&V -statewide contr	$3,816.15	$64,143.53	$7,995.35	$107,311.92	$183,266.95
Total R&D	$7,995.44	$134,390.87	$16,751.52	$235,693.10	$394,830.94
Total 2020	$8,065,810.45	$424,062.93	$4,871,809.03	$827,456.26	$14,189,138.68

AEP Texas
2022 Energy Efficiency Cost Recovery Factor

Schedule B-2 North Division

2020 Actual Energy Efficiency Expenditures

Customer Class and Program	2019				
	Incentives	Administrative	Research & Development	Evaluation, Measurement & Verification	Total Funds Expended
Commercial					
Commercial Solutions MTP	$ 361,497	$ 52,035			$413,532
Commercial SOP	$ 312,650	$ 44,569			$357,219
Load Management SOP	$ 67,585	$ 11,175			$78,760
Open MTP	$ 417,858	$ 61,239			$479,097
SCORE/CitySmart MTP	$ 217,750	$ 24,788			$242,538
SMART Source^{SM} Solar PV MTP	$ 50,474	$ 8,162			$58,636
Residential					
Residential SOP	$548,154	$65,260			$613,414
SMART Source^{SM} Solar PV MTP	$97,859	$11,929			$109,788
Hard-to-Reach					
Hard-to-Reach SOP	$387,515	$62,070			$449,585
Targeted Low Income Energy Efficiency Program	$338,793	$37,428			$376,221
Research & Development					
Research & Development	NAP	NAP	$68,540		$68,540
Evaluation, Measurement & Verification					
PY 2019 Statewide EM&V Contractor	NAP	NAP	NAP	$32,332	$32,332
TOTAL	**$2,800,135**	**$378,655**	**$68,540**	**$32,332**	**$3,279,662**

2020 North Division	Res	Sec < 10	Sec > 10	Primary	Total
Commercial Programs					
ComSol MTP		$35,370.06	$378,162.73	$0.00	$413,532.79
Commercial SOP		$4,307.98	$280,150 81	$72,760.00	$357,218.78
Load Management SOP		$0 00	$78,759.71	$0.00	$78,759.71
Open MTP		$67,437.54	$411,658 77	$0.00	$479,096 31
SCORE/CitySmart MTP		$0.00	$242,538.32	$0.00	$242,538.32
SMART Source^{SM} Solar PV MTP		$7,203.42	$51,432.44	$0.00	$58,635.86
Total Commercial		$114,319.00	$1,442,702.78	$72,760.00	$1,629,781.78
Residential Programs					
Residential SOP	$613,414.35				$613,414.35
SMART Source^{SM} Solar PV MTP	$109,787.77				$109,787.77
Total Residential	$723,202.12				$723,202.12
Hard-to-Reach Programs					
Hard-To-Reach SOP	$449,585.27				$449,585.27
Targeted Low Income Energy Efficiency Program	$376,221.23				$376,221.23
Total HTR	$825,806.50				$825,806 50
Total Programs	$1,549,008.62	$114,319.00	$1,442,702.78	$72,760.00	$3,178,790.40
Research & Development	$45,998.23	$1,574 16	$19,962.36	$1,005.39	$68,540.14
EM&V -statewide contr	$15,845.56	$1,151.28	$14,599 71	$735.31	$32,331.86
Total R&D	$61,843.79	$2,725.44	$34,562.07	$1,740.70	$100,872.00
Total 2020	$1,610,852.41	$117,044.44	$1,477,264.84	$74,500.70	$3,279,662.40

AEP Texas, Inc
Adjusted Energy Efficiency Cost Recovery Factor Filing

AEP Texas Combined
Schedule C
Calculation of 2020 Over/Under Recovery Class Factor

2020 Residential Energy Efficiency Expenditures + R&D - Municipal EECRF Expenses	$9,885,332
2020 Actual Residential Energy Efficiency Factor Revenues + Base	$9,563,299
2020 Residential Under Recovery	$322,033
2020 Commercial Energy Efficiency Expenditures + R&D - Municipal EECRF Expenses	$7,549,045
2020 Actual Commercial Energy Efficiency Factor Revenues + Base	$7,530,845
2020 Commercial Under Recovery	$18,200
2020 Total Energy Efficiency Expenditures + R&D - Municipal EECRF Expenses	$17,434,378
2020 Actual Total Energy Efficiency Factor Revenues	$17,094,145
2020 Under Recovery	$340,233
Interest on 2020 Under Recovery	$10,851
Total Under Recovery With Interest	$351,084

Class	2020 Program Costs Over/Under Recovery Allocation	2022 Forecasted Billing Unit	2022 Over/Under Recovery Factor	Unit
Residential	$332,303	12,557,651,463	$0 000027	kWh
Secondary <= 10 kW	$103,606	664,612,203	$0 000156	kWh
Secondary > 10 kW	$770,517	8,775,083,270	$0 000088	kWh
Primary	($861,617)	4,404,419,205	($0 000196)	kWh
Transmission	$6,275	16,836,816	$0 000373	kW
Lighting	$0	264,601,414	$0 000000	kWh
Total	$351,084	26,683,204,371		

Under-Recovery Without Interest for 2022 Cap Purposes	
Class	2020 Program Costs Over/Under Recovery Allocation
Residential	$322,033
Secondary <= 10 kW	$100,403
Secondary > 10 kW	$746,703
Primary	($834,987)
Transmission	$6,081.25
Total Without Interest	$340,233

Sponsored by: Jennifer L Jackson

AEP Texas Central Division
Energy Efficiency Cost Recovery Factor

Schedule D

2020 Goal Achievement and Performance Bonus Calculation

Central Division achieved 50,420 kW in demand savings and 59,264,534 kWh in energy savings by January 1, 2021. The total present value of the avoided costs associated with these demand reductions and energy savings is $86,195,602. Central Division's total costs for purposes of calculating the bonus for the 2020 program year were $16,446,759. The resulting net benefits are $69,748,843. Central Division's demand reduction goal (DRG) was 16,380 kW and its energy savings goal was 28,698,000 kWh. Central Division achieved 308% of its DRG and 207% of its energy savings goal, qualifying it for a performance bonus as calculated under 16 TAC § 25.182(e).

Central Division's calculated bonus is $72,473,362; however, its maximum bonus allowed is $6,974,884, which is 10% of its total net benefits (16 TAC § 25.182(e) (3)).

	kW (Demand)	kWh (Energy)
2020 Goals	16,380	28,698,000
2020 Savings	50,420	59,264,534
Reported/Verified HTR	2,888	
2020 Program Costs (excluding bonus)	$14,203,176	
2019 Performance Bonus	$6,974,884	

Performance Bonus Calculation

308%	Percentage of Demand Reduction Goal Met (Reported kW/Goal kW)
207%	Percentage of Energy Reduction Goal Met (Reported kWh/Goal kWh)
TRUE	Met Requirements for Performance Bonus?
$86,195,602	Total Avoided Cost
$2,243,583	Docket No. 48297 requirement (add previous bonus to current year bonus calculation)
$16,446,759	Total Program Costs (including bonus)
$69,748,843	Net Benefits

Bonus Calculation

$72,473,362	Calculated Bonus [(Achieved Demand Reduction/Demand Goal - 100%) / 2 * Net Benefits]
$6,974,884	Maximum Bonus Allowed (10% of Net Benefits)
$6,974,884	*Bonus (Minimum of Calculated Bonus and Bonus Limit)*

Sponsored by: Robert Cavazos

AEP Texas North Division
Energy Efficiency Cost Recovery Factor

Schedule D

2020 Goal Achievement and Performance Bonus Calculation

North Division achieved 5,804 kW in demand savings and 12,785,272 kWh in energy savings by January 1, 2021. The total present value of the avoided costs associated with these demand reductions and energy savings is $20,750,240. North Division's total costs for purposes of calculating the bonus for the 2020 program year were $3,279,662. The resulting net benefits are $16,986,171. North Division's demand reduction goal (DRG) was 4,260 kW and its energy savings goal was 7,464,000 kWh. North Division achieved 136% of its DRG and 171% of its energy savings goal, qualifying it for a performance bonus as calculated under 16 TAC § 25.182(e).

North Division's calculated bonus is $3,077,955; however, its maximum bonus allowed is $1,698,391, which is 10% of its total net benefits (16 TAC § 25.182(e) (3)).

	kW (Demand)	kWh (Energy)
2020 Goals	4,260	7,464,000
2020 Savings	5,804	12,785,273
Reported/Verified HTR	718	
2020 Program Costs (excluding bonus)	$3,283,713	
2020 Performance Bonus	$1,698,391	

Performance Bonus Calculation

136%	Percentage of Demand Reduction Goal Met (Reported kW/Goal kW)
171%	Percentage of Energy Reduction Goal Met (Reported kWh/Goal kWh)
TRUE	Met Requirements for Performance Bonus?
$20,750,240	Total Avoided Cost
$482,617	Docket No. 48297 requirement (add previous bonus to current year bonus calculation)
$3,766,330	Total Program Costs (including bonus)
$16,983,909	Net Benefits

Bonus Calculation

$3,077,955	Calculated Bonus [(Achieved Demand Reduction/Demand Goal - 100%) / 2 * Net Benefits]
$1,698,391	Maximum Bonus Allowed (10% of Net Benefits)
$1,698,391	*Bonus (Minimum of Calculated Bonus and Bonus Limit)*

Sponsored by: Robert Cavazos

AEP Texas Inc
Adjusted Energy Efficiency Cost Recovery Factor Filing

Schedule E
Calculation of Requested EECRF by Customer Class Using Direct Assignment of EECRF Program Costs

AEP Texas Inc		
2022 Program Costs Above Base Rates	$17,747,658	65.68%
EM&V Evaluation of PY 2021	$211,359	0.78%
2020 Under Recovery	$340,233	1.26%
2020 Interest	$10,851	0 04%
Calculated Performance Bonus for 2020	$8,673,275	32 10%
EECRF Proceeding Expenses DN 49592/50892	$37,822	0 14%
Adjusted EECRF Revenue Requirement	$27,021,197	100 00%

Class	Total Adjusted 2022 EECR Revenue Requirement	2022 Forecasted Billing Unit	2022 EECR Factor RVSD	Unit
Residential	$15,133,059	12,557,651,463	$0 001205	kWh
Secondary <= 10 kW	$694,371	664,612,203	$0 001045	kWh
Secondary > 10 kW	$10,053,991	8,775,083,270	$0 001146	kWh
Primary	$1,133,502	4,404,419,205	$0 000257	kWh
Transmission	$6,275	19,436,495	$0 000323	kW
Lighting	$0	264,601,414	$0 000000	kWh
Total	$27,021,197 47			

Class	2022 EECRF Program Costs with EM&V	2020 Over/Under With Interest	2020 Bonus	EECRF Proceeding Expenses DN 49592	Total 2021 EECRF Revenue Requirement	2021 Forecasted Billing Unit	2021 EECR Factor	Unit
Residential	$9,863,475	$332,303	$4,916,508	$20,772	$15,133,059	12,557,651,463	$0 001205	kWh
Secondary <= 10 kW	$384,242	$103,606	$205,714	$809	$694,371	664,612,203	$0 001045	kWh
Secondary > 10 kW	$6,062,570	$770,517	$3,208,135	$12,768	$10,053,991	8,775,083,270	$0 001146	kWh
Primary	$1,648,730	($861,617)	$342,917	$3,472	$1,133,502	4,404,419,205	$0 000257	kWh
Transmission	$0	$6,275	$0	$0	$6,275	19,436,495	$0 000323	kW
Lighting	$0	$0	$0	$0	$0	264,601,414	$0 000000	kWh
Total	$17,959,017	$351,084	$8,673,275	$37,822	$27,021,197			

Sponsored by: Jennifer L Jackson

6.1.1.4.2 Rider EECRF – Energy Efficiency Cost Recovery Factors

AVAILABILITY

Rider EECRF recovers the cost of energy efficiency programs not already included in base distribution service rates and is applicable to the kWh sales of Retail Customers taking retail electric delivery service from the Company.

APPLICABILITY

The Rider EECRF is applicable to the current month's billed kWh of each Retail Customer taking electric delivery service from the Company.

MONTHLY RATE

Rate Schedule	Factor	
Residential Service	$0.001205 per kWh	I
Secondary Service Less than or Equal to 10 kW	$0.001045 per kWh	I
Secondary Service Greater than 10 kW	$0.001146 per kWh	I
Primary Service	$0.000257 per kWh	R
Transmission Service	$0.000323 per kW	I

NOTICE

This Rate Schedule is subject to the Company's Tariff and Applicable Legal Authorities.

Schedule G
Cap Calculation

AEP Texas	
2022 Program Costs (no EM&V cost)	$17,747,658
2020 Over/Under Recovery without Interest	$340,233
Calculated Performance Bonus - 2020	$8,673,275
AEP Texas EECRF Proceeding Expenses	$26,739
Adjusted EECR Revenue Requirement*	$26,787,905

*no municipal EECRF proceeding expenses or EM&V costs or interest on the over/under recovery are included in the cap calculation

Class	Total Adjusted 2022 EECRF Revenue Requirement (no EM&V cost)	2022 Forecasted Billing Unit	2022 EECR Factor (no EM&V)	Unit
Residential	$15,000,618	12,557,651,463	$0 001195	kWh
Secondary <= 10 kW	$686,409	664,612,203	$0 001033	kWh
Secondary > 10 kW	$9,955,085	8,775,083,270	$0 001134	kWh
Primary	$1,139,711	4,404,419,205	$0 000259	kWh
Transmission	$6,081	19,436,495	$0 000313	kW
Total (no EM&V cost)	26,787,905	26,401,766,141		

South Urban CPI 0 96%

Class	Base Rate Including Revenue Adjustment	2022 EECR Factor (no EM&V)	2022 Total	2021 Cap	2022 Cap
Residential	$0 000000	$0 001195	$0 001195	$0 001351	$0 001364
Non-Residential	$0 000000	$0 000851	$0 000851	$0 000845	$0 000853

Calculation of Non-Residential per kWh Rate	
2022 Rev Req	$11,781,205
2022 kWh	13,844,114,678
Combined per kWh	$0 000851

Sponsored by Jennifer L Jackson

Schedule G
2020 Actuals Cap Calculation

2020 Cap Analysis

Central	Actual 2020 Program Costs*	2018 Performance Bonus	2018 (O)/U (no EM&V)	2020 Billing kWh (less ID Notice)	2020 per kWh Cost Based on Actuals	2020 Cap
Residential	$8,181,004	$1,231,993	($507,271)	10,233,246,315	$0 000870	$0 001332
Non-Residential	$5,816,001	$1,011,590	($68,407)	9,861,846,258	$0 000685	$0 000833
Total	$13,997,005	$2,243,583	($575,678)	20,095,092,573		

*less TetraTech EM&V costs & municipal EECRF proceeding expenses

Sponsored by Jennifer L. Jackson

Schedule G

Schedule G
2020 Actuals Cap Calculation

2020 Cap Analysis

North	Actual 2020 Program Costs*	2018 Performance Bonus	2018 (O)/U (no EM&V)	2020 Billing kWh (less ID Notice)	2020 Cost Cap Based on Actuals	2020 Cap As Prescribed in §25 181(f)(8)(B)
Residential	$1,593,921	$234,726	($94,360)	1,896,462,462	$0 000914	$0.001332
Non-Residential	$1,651,193	$247,891	($108,522)	3,503,023,303	$0 000511	$0.000833
Total	$3,245,114	$482,617	($202,881)	5,399,485,765		

*less TetraTech EM&V costs & muni expenses

Sponsored by Jennifer L. Jackson

AEP Texas Inc
Adjusted Energy Efficiency Cost Recovery Factor Filing

Schedule H

AEP Texas Projected 2022 Retail kWh Sales	33,228,860,173

Rate Classes	2020 Historical Billing Units	Percent of Total kWh	Customer ID Notice kWh	2022 Forecasted Billing Unit Less ID Notice Customers	Unit
Residential	12,129,708,777	37 79%		12,557,651,463	kWh
Secondary <= 10 kW	643,304,109	2 00%	1,393,841	664,612,203	kWh
Secondary > 10 kW	8,481,979,879	26.43%	6,141,464	8,775,083,270	kWh
Primary	4,458,555,868	13.89%	211,434,990	4,404,419,205	kWh
Transmission	6,127,337,102	19.09%		6,343,522,322	kWh
Lighting	255,594,445	0 80%		264,601,414	kWh
Total	32,096,480,180	100.00%	218,970,295	33,009,889,877	
			ID Notice kWh	218,970,295	
			Total 2022 kWh	33,228,860,172	

Sponsored by. Jennifer L. Jackson

Central Division
Schedule I
Energy Efficiency Program Costs Included in Base Rates

Docket No 33309 TCC Comission Staff's Final Number Run
33309 TCC Dist Model re-run 010908

Class	Distribution - FERC Account 907	Distribution Function Allocator	Customer Service - FERC Account 907	Customer Service Function Allocator	Total Energy Efficiency Costs Expressly Included In Base Rates*	Docket No 33309 Billing Data	Base Distribution Billing Unit	Docket No 33309 EE Rate per Billing Unit	2020 Billing Unit Adjusted For Base Rate Credit Units	2020 EE Base Revenue -16 TAC § 25 181	Adjustment to Base Revenue	Distribution Function Allocator w/out Trans	Weighted Allocator
Residential	$2,948,779	47 209%	$75,656	85 323%	$1,260,181	8,352,353,434	kWh	$0 000362	3,444,520,049	$1,246,916	($13,265 01)	47 209%	51 884%
Secondary <= 10 kW	$107,362	1 719%	$6,725	7 5848%	$47,537	398,752,267	kWh	$0 000286	182,142,246	$52,093	$4,556 12	1 719%	1 889%
Secondary > 10 kW IDR	$126,356	2 023%	$24	0 0269%	$52,658	1,421,383	kW	$0 078608	959,520 40	$75,426	$22,768	2 023%	2 223%
Secondary > 10 kW Non-IDR	$1,825,465	29 225%	$6,118	6 9001%	$763,160	23,486,386	kW	$0 078608	10,533,540 10	$828,021	$64,861	29 225%	32 119%
Primary IDR	$609,991	9 766%	$37	0 0419%	$254,179	5,776,539	kW	$0 105418	2,614,663 91	$275,633	$21,454	9 766%	10 733%
Primary Non-IDR	$65,439	1 048%	$23	0 0257%	$27,276	631,219	kW	$0 105418	221,056 70	$23,303	($3,973)	1 048%	1 151%
Transmission	$562,887	9 012%	$5	0 0060%	$234,538	13,980,065	kW	$0 040264	7,323,237 60	$294,863	$60,324	0 000%	0 000%
Lighting	$0	0 000%	$81	0 0915%	$34	229,634,991	kWh	$0 000000	92,572,488	$0	($34)	0 000%	0 000%
Total	$6,246,279	100 000%	$88,670		$2,639,562					$2,796,254 28	$156,692	90 988%	100 000%

* 5/12 partial rate year with base rate EE costs expressly included in base rates in January - May and base rate amounts were moved to the EECRF rider effective with the June billing month

North Division
Schedule I
Energy Efficiency Program Costs Included in Base Rates

Docket No 33310 Final Order

Class	Distribution - FERC Account 907	Distribution Function Allocator	Customer Service - FERC Account 907	Customer Service Function Allocator	Total Energy Efficiency Costs Expressly Included In Base Rates*	Docket No 33310 Billing Data	Base Distribution Billing Unit	Docket No 33310 EE Rate per Billing Unit	2020 Billing Unit Adjusted For Base Rate Credit Units	2020 EE Base Revenue - 16 TAC § 25 181	Adjustment to Base Revenue	Distribution Function Allocator w/out Trans	Weighted Allocator
Residential	$602,129	46 553%	$783 7	77 215%	$251,214	1,713,078,230	kWh	$0 000352	683,144,791	$240,466 97	($10,747)	46 553%	46 834%
Secondary <= 10 kW	$37,472	2 897%	$148 5	14 628%	$15,675	146,926,027	kWh	$0 000256	53,836,836	$13,782 23	($1,893)	2 897%	2 915%
Secondary > 10 kW IDR	$77,527	5 994%	$8 5	0 841%	$32,307	982,774	kW	$0 067725	503,512 70	$34,100	$1,794	5 994%	6 030%
Secondary > 10 kW Non-IDR	$399,266	30 869%	$66 9	6 592%	$166,389	6,058,441	kW	$0 067725	2,547,421 14	$172,524	$6,135	30 869%	31 055%
Primary IDR	$160,223	12 388%	$4 1	0 400%	$66,761	2,081,550	kW	$0 076100	1,445,025 36	$109,966	$43,205	12 388%	12 462%
Primary Non-IDR	$9,045	0 699%	$1 4	0 135%	$3,769	142,816	kW	$0 076100	143,348 47	$10,909	$7,140	0 699%	0 704%
Transmission	$7,753	0 599%	$0 8	0 083%	$3,231	443,710	kW	$0 017474	733,609 30	$12,819	$9,588	0 000%	0 000%
Lighting	$0	0 000%	$1 1	0 107%	$0	57,913,901	kWh	$0 000000	16,410,244	$0	($0)	0 000%	0 000%
Total	$1,293,415	100 000%	$1,015	100 000%	$539,346					$594,568	$55,222	99 401%	100 000%

* 5/12 partial rate year with base rate EE costs expressly included in base rates- base rate amounts included in EECRF rider effective with the June billing month

Sponsored by Jennifer L Jackson

AEP Texas

2022 Energy Efficiency Cost Recovery Factor

Schedule J

2020 Energy Efficiency Service Providers
Who Received Incentives from the Energy Efficiency Programs in 2020

A list of the energy service provides, those receiving more than 5% of the total incentive funds for 2020 and the associated contracts are provided.

The information provided in Schedule J is voluminous. The information is also CONFIDENTIAL, under the terms of the Protective Order. Due to current restrictions associated with COVID-19, this information is being provided electronically and a secure login to access the information will be provided upon request to individuals who have signed the Protective Order Certification.

Schedule K - Costs
AEP Texas Central Division Costs - 2020

Line	Cost Type	Department		Project Description		Affiliate	2019 ($)	Discussion of Reasonableness & Necessity/No Higher Than Standard
1	Administrative Costs	10329	TX EE/DR Programs	TXDSMANDA	Texas DSM Admin & General	AEP Texas North Division	135,511	See Direct Testimonies of Robert Cavazos, Pam Osterloh and Brian Lysiak
2	Administrative Costs	10329	TX EE/DR Programs	EON100551	EE/DR EECRF	AEP Texas North Division	18,263	See Direct Testimonies of Robert Cavazos, Pam Osterloh and Brian Lysiak
3	**Total Administrative Costs**						**$ 153,774**	
4	Program Direct Costs	10329	TX EE/DR Programs	EON100547	DSM - EM&V - TX	AEP Texas North Division	589	See Direct Testimonies of Robert Cavazos, Pam Osterloh and Brian Lysiak
5	Program Direct Costs	10329	TX EE/DR Programs	EON100512	DSM-C&I Standard Offer - TX	AEP Texas North Division	861	See Direct Testimonies of Robert Cavazos, Pam Osterloh and Brian Lysiak
6	**Total Program Direct Costs**						**$ 1,450**	
7	R&D Costs	10329	TX EE/DR Programs	EON100535	EE/DR R&D - TX	AEP Texas North Division	27,232	See Direct Testimonies of Robert Cavazos, Pam Osterloh and Brian Lysiak
8	**Total R&D Costs**						**$ 27,232**	
9	**Grand Total**						**$ 182,456**	

Schedule K - Costs
AEP Texas North Division Costs - 2020

Line	Cost Type		Department		Project Description	Affiliate	2019 ($)	Discussion of Reasonableness & Necessity/No Higher Than Standard
1	Administrative Costs	10329	TX EE/DR Programs	TXDSMANDA	Texas DSM Admin & General	AEP Texas Central	47,374	See Direct Testimonies of Robert Cavazos, Rhonda Fahrlender and Brian Lysiak
2	Administrative Costs	10329	TX EE/DR Programs	EON100551	EE/DR EECRF	AEP Texas Central	39	See Direct Testimonies of Robert Cavazos, Rhonda Fahrlender and Brian Lysiak
3	**Total Administrative Costs**						**$ 47,413**	
4	Program Direct Costs	10329	TX EE/DR Programs	EON100547	DSM - EM&V - TX	AEP Texas Central	12,910	See Direct Testimonies of Robert Cavazos, Rhonda Fahrlender and Brian Lysiak
5	Program Direct Costs	10329	TX EE/DR Programs	EON100508	DSM-Res Standard Offer - TX	AEP Texas Central	28,716	See Direct Testimonies of Robert Cavazos, Rhonda Fahrlender and Brian Lysiak
6	Program Direct Costs	10329	TX EE/DR Programs	EON100514	DSM-Hard To Reach SOP - TX	AEP Texas Central	38,782	See Direct Testimonies of Robert Cavazos, Rhonda Fahrlender and Brian Lysiak
7	Program Direct Costs	10329	TX EE/DR Programs	EON100522	DSM-Low Income Weatherization	AEP Texas Central	19,222	See Direct Testimonies of Robert Cavazos, Rhonda Fahrlender and Brian Lysiak
8	Program Direct Costs	10329	TX EE/DR Programs	EON100534	DSM Solar PV Pilot MTF	AEP Texas Central	13,944	See Direct Testimonies of Robert Cavazos, Rhonda Fahrlender and Brian Lysiak
9	**Total Program Direct Costs**						**$ 113,575**	
10	R&D Costs	10329	TX EE/DR Programs	EON100535	EE/DR R&D - TX	AEP Texas Central	17,211	See Direct Testimonies of Robert Cavazos, Rhonda Fahrlender and Brian Lysiak
11	**Total R&D Costs**						**$ 17,211**	
12	**Grand Total**						**$ 178,199**	

Sponsored by Robert Cavazos and Brian T Lysiak

AEP Texas
2022 Energy Efficiency Cost Recovery Factor

Schedule L
Bidding and Engagement Process

AEP Texas has several procedural paths through which it contracts with energy efficiency service providers (EESPs) for the purpose of implementing energy efficiency and demand response (EE/DR) programs to achieve its goals. The procedures and processes AEP Texas uses differs according to the program type, as shown in more detail below.

Standard Offer Program (SOP) Process

AEP Texas posts specific program application procedures and timelines along with program manuals on its web site (aeptexas.com/save). In accordance with the published schedule, EESPs may submit their project applications and all supplemental documentation required for participation in a program.

As part of the application process, EESPs describe the project measures to be installed, including applicable measurement and verification methods (M&V). As required, the M&V plan may include approved deemed savings values or the appropriate International Performance Measurement and Verification Protocol (IPMVP) to be utilized.

AEP Texas reviews each Project Application on a first-come, first-served basis. AEP Texas awards contracts based upon each EESP's timely and complete submission of qualifications, history and appropriate reference information, and potential ability to help meet program goals. AEP Texas may request clarification of, or additional information about any item submitted as part of the Project Application. A Project Application may be rejected for failure to meet the required procedures or deadlines.

Each EESP is notified of its application status according to program procedures and, if approved as a Project Sponsor, the associated incentive budget.
For residential projects, AEP Texas and the approved Project Sponsor enter into a standard offer agreement contract. When the SOP agreement is fully executed, the Project Sponsors may begin to solicit and engage residential customers to implement eligible EE measures.

EESPs or qualified commercial customers identify and submit applications for the installation of EE measures at commercial customer sites. Applications are reviewed as described above. AEP Texas and the approved Project Sponsor enter into a standard offer agreement for the implementation of the EE measures or projects at commercial customer sites.

AEP Texas
2021 Energy Efficiency Cost Recovery Factor

Schedule L
Bidding and Engagement Process

Market Transformation Program (MTP) Process

AEP Texas may implement an MTP as a full program or as a limited MTP pilot. Programs may be selected based on a concept presented by an EESP or from observation of successful programs already implemented at another utility. For programs proposed by an EESP that are deemed viable, A may contract with the initiating EESP to implement the program on a limited pilot basis for a period typically no longer than two years.

When a pilot program has been deemed successful by AEP Texas and a baseline study has been completed, a competitive solicitation process is implemented. A Request for Proposals (RFP) is developed and may be posted on industry-related websites and/or may be sent electronically to all EESPs who have contacted AEP Texas and expressed an interest in implementing such programs in the Texas market.

Interested EESPs submit program proposals according to the published requirements and schedule. AEP Texas forms an internal proposal evaluation and scoring team, and all proposals are individually evaluated according to standard scoring criteria. References submitted by EESPs are contacted and interviewed. Scoring and reference results are consolidated and the EESP proposal with the highest score is selected for further negotiation as the program implementer.

Sponsored By: Pamela D. Osterloh

AEP Texas
2021 Energy Efficiency Cost Recovery Factor

SCHEDULE M

Residential & Commercial EULs

Sector	TRM Measure	Energy Efficiency Measure	EUL (years)	*TRM Version*
Custom	NA	Custom	NA	*NA*
Residential	2 1 1	Res Standard Compact Fluorescent Lamps (Standard Baseline)	8 0	*7 0*
Residential	2 1 1	Res Standard Compact Fluorescent Lamps (Low income Baseline)	10 0	*7 0*
Residential	2 1 2	Res Specialty Compact Fluorescent Lamps (EISA Compliant, Standard Baseline)	8 0	*7 0*
Residential	2 1 2	Res Specialty Compact Fluorescent Lamps (EISA Compliant, Low Income Baseline)	10 0	*7 0*
Residential	2 1 2	Res Specialty Compact Fluorescent Lamps (Non-EISA Compliant, 10,000 to 11,000 hour Rated Measure Life)	11 0	*7 0*
Residential	2 1 2	Res Specialty Compact Fluorescent Lamps (Non-EISA Compliant, 11,001 to 13,500 hour Rated Measure Life)	13 0	*7 0*
Residential	2 1 2	Res Specialty Compact Fluorescent Lamps (Non-EISA Compliant, 13,501 to 17,500 hour Rated Measure Life)	16 0	*7 0*
Residential	2 1.2	Res Specialty Compact Fluorescent Lamps (Non-EISA Compliant, ≥ 17,501 hour Rated Measure Life)	20 0	*7 0*
Residential	2 1 3	Res Energy Star Omni-Directional LED Lamps (Standard Baseline)	8 0	*7 0*
Residential	2 1 3	Res Energy Star Omni-Directional LED Lamps (Low Income Baseline)	10 0	*7 0*
Residential	2 1 4	Res Energy Star Specialty and Directional LED Lamps (EISA Compliant, Standard Baseline)	8 0	*7 0*
Residential	2 1 4	Res Energy Star Specialty and Directional LED Lamps (EISA Compliant, Low Income Baseline)	10 0	*7 0*
Residential	2 1.4	Res Energy Star Specialty and Directional LED Lamps (Non-EISA Compliant, 15,000 hour Rated Measure Life)	16 0	*7 0*
Residential	2 1 4	Res Energy Star Specialty and Directional LED Lamps (Non-EISA Compliant, 20,000 hour Rated Measure Life)	20 0	*7 0*
Residential	2 2 1	Res AC or HP Tune-Ups	5 0	*7 0*
Residential	2 2 2	Res Duct Efficiency Improvement	18 0	*7 0*
Residential	2 2 3	Res Ground Source Heat Pumps	20 0	*7 0*
Residential	2 2 4	Res Central Air Conditioners	18 0	*7 0*
Residential	2 2.4	Res Central Heat Pumps	15 0	*7 0*
Residential	2 2 5	Res Mini-Split Air Conditioners	18 0	*7 0*
Residential	2 2 5	Res Mini-Split Heat Pumps	15 0	*7 0*
Residential	2 2 6	Res Large Capacity Split System and Single-Package AC	18 0	*7 0*
Residential	2 2 6	Res Large Capacity Split System and Single-Package HP	15 0	*7 0*
Residential	2 2 7	Res PTHPs	15 0	*7 0*
Residential	2 2 8	Res Room Air Conditioners	8 0	*7 0*
Residential	2 2 9	Res Connected Thermostats	11 0	*7 0*
Residential	2 2 10	Res Smart Thermostat Load Management	1 0	*7 0*
Residential	2 2 11	Res Evaporative Cooling	15 0	*7 0*
Residential	2 3 1	Res Air Infiltration	11 0	*7 0*
Residential	2 3 2	Res Ceiling Insulation	25 0	*7 0*
Residential	2 3 3	Res Attic Encapsulation	25 0	*7 0*
Residential	2 3 4	Res Wall Insulation	25 0	*7 0*
Residential	2 3 5	Res Floor Insulation	25 0	*7 0*
Residential	2 3 6	Res Windows	25 0	*7 0*
Residential	2 3 7	Res Solar Screens	10 0	*7 0*
Residential	2 3 8	Res Cool Roofs	15 0	*7 0*
Residential	2 4 1	Res Faucet Aerators	10 0	*7 0*
Residential	2 4 2	Res Low-Flow Showerheads	10 0	*7 0*
Residential	2 4 3	Res DHW Pipe Insulation	13 0	*7 0*
Residential	2 4 4	Res DHW Tank Insulation	7 0	*7 0*
Residential	2 4 5	Res DHW Installation Electric Tankless	20 0	*7 0*
Residential	2 4 5	Res DHW Installation Gas (Fuel Substitution)	11 0	*7 0*
Residential	2 4 6	Res Heat Pump Water Heater	13 0	*7 0*
Residential	2 4 7	Res DHW Replacement Solar	15 0	*7 0*
Residential	2 4 8	Res Showerhead TSRVs	10 0	*7 0*
Residential	2 4 9	Res Tub Spout/Showerhead TSRVs	10 0	*7 0*
Residential	2 5 1	Res Ceiling Fans	10 0	*7 0*
Residential	2 5 2	Res Clothes Washer	11 0	*7 0*
Residential	2 5 3	Res Clothes Dryers	16 0	*7 0*
Residential	2 5 4	Res Dishwashers	15 0	*7 0*
Residential	2 5 5	Res Refrigerators	16 0	*7 0*
Residential	2 5 6	Res Freezers	22 0	*7 0*
Residential	2 5 7	Res Pool Pumps	10 0	*7 0*
Residential	2 5 8	Res Air Purifiers	9 0	*7 0*
Residential	2 5 9	Res Advanced Power Strips	10 0	*7 0*
Residential	2 5 10	Res Electric Vehicle Supply Equipment	10 0	*7 0*
Residential	2 5 11	Res Solar Attic Fans	15 0	*7 0*
Residential	2 6 1	Res Refrigerator/Freezer Recycling	8 0	*7 0*
Commercial	2 1 1	Com Lamps and Fixtures Halogen Lamps	1 5	*7 0*
Commercial	2 1 1	Com Lamps and Fixtures High Intensity Discharge Lamps	15 5	*7 0*
Commercial	2 1 1	Com Lamps and Fixtures Integrated-ballast CCFL Lamps	4 5	*7 0*
Commercial	2 1 1	Com Lamps and Fixtures Integrated-ballast CFL Lamps	2 5	*7 0*
Commercial	2 1 1	Com Lamps and Fixtures Integral LED Lamps	9 0	*7 0*
Commercial	2 1 1	Com Lamps and Fixtures LED Fixtures	15 0	*7 0*

AEP Texas
2021 Energy Efficiency Cost Recovery Factor

SCHEDULE M

Residential & Commercial EULs

Commercial	2 1 1	Com Lamps and Fixtures LED Corn Cobs	15 0	7 0
Commercial	2 1 1	Com Lamps and Fixtures LED Tubes	15 0	7 0
Commercial	2 1 1	Com Lamps and Fixtures Modular CFL/CCFL Fixtures	16 0	7 0
Commercial	2 1 1	Com Lamps and Fixtures T8/T5 Linear Fluorescents	15 5	7 0
Commercial	2 1 2	Com Lighting Controls	10 0	7 0
Commercial	2 1 3	Com LED Traffic Signals 8" and 12" Red, Green, and Yellow Bal	6 0	7 0
Commercial	2 1 3	Com LED Traffic Signals 8" and 12" Red, Green, and Yellow Arrow	6 0	7 0
Commercial	2 1 3	Com LED Traffic Signals Large (16"x18") Pedestrian Signal	5 0	7 0
Commercial	2 1 3	Com LED Traffic Signals Small (12"x12") Pedestrian Signal	5 0	7 0
Commercial	2 2 1	Com AC/HP Tune-Up	5 0	7 0
Commercial	2 2 2	Com Split/Packaged ACs and HPs	15 0	7 0
Commercial	2 2 3	Com HVAC Chillers Screw/Scroll/Reciprocating	20 0	7 0
Commercial	2 2 3	Com HVAC Chillers Centrifugal	25 0	7 0
Commercial	2 2 4	Com PTAC/PTHPs	15 0	7 0
Commercial	2 2 4	Com Room Air Conditioners	11 0	7 0
Commercial	2 2 5	Com HVAC VFDs	15 0	7 0
Commercial	2 2 6	Com Condenser Air Evaporative Pre-Cooling	15 0	7 0
Commercial	2 2 7	Computer Room Air Conditioners	15 0	7 0
Commercial	2 2 8	Com High-Volume Low-Speed Fans	9 0	7 0
Commercial	2 3 1	Com Cool Roofs	15 0	7 0
Commercial	2 3 2	Com Window Film	10 0	7 0
Commercial	2 3 3	Com Entrance/Exit Door Air Infiltration	11 0	7 0
Commercial	2 4 1	Com Combination Ovens	12 0	7 0
Commercial	2 4 2	Com Electric Convention Ovens	12 0	7 0
Commercial	2 4 3	Com Dishwashers	11 0	7 0
Commercial	2 4 4	Com Hot Food Holding Cabinets	12 0	7 0
Commercial	2 4 5	Com Electric Fryers	12 0	7 0
Commercial	2 4 6	Com Pre-Rinse Spray Valves	5 0	7 0
Commercial	2 4 7	Com Electric Steam Cookers	12 0	7 0
Commercial	2 4 8	Com Demand Controlled Kitchen Ventilation	15 0	7 0
Commercial	2 4 9	Com Ice Makers	8 5	7 0
Commercial	2 5 1	Com Door Heater Controls	12 0	7 0
Commercial	2 5 2	Com ECM Evaporator Fan Motors	15 0	7 0
Commercial	2 5 3	Com Electronic Defrost Controls	10 0	7 0
Commercial	2 5 4	Com Evaporator Fan Controls	16 0	7 0
Commercial	2 5 5	Com Night Covers	5 0	7 0
Commercial	2 5 6	Com Solid/Glass Door Reach-Ins	12 0	7 0
Commercial	2 5 7	Com Strip Curtains	4 0	7 0
Commercial	2 5 8	Com Zero-Energy Doors	12 0	7 0
Commercial	2 5 9	Com Door Gaskets	4 0	7 0
Commercial	2 6 1	Com Vending Machine Controls	5 0	7 0
Commercial	2 6 2	Com Lodging Guest Room Occupancy Sensors	10 0	7 0
Commercial	2 6 3	Com Pump-Off Controllers	15 0	7 0
Commercial	2 6 4	Com Pool Pumps	10 0	7 0
Commercial	2 6 5	Com PC Power Management	3 0	7 0
Commercial	2 6 6	Com Premium Efficiency Motors	15 0	7 0
Commercial	2 6 7	Com Central DHW Controls	15 0	7 0
Measurement and V	2 1 1	M&V AC Tune-Ups	5 0	7 0
Measurement and V	2 1 2	M&V Ground Source Heat Pumps	15 0	7 0
Measurement and V	2 1 3	M&V Variable Refrigerant Flow Systems	15 0	7 0
Measurement and V	2 2 1	M&V Res New Construction	23 0	7 0
Measurement and V	2 3 1	M&V Non-Res Solar PV	30 0	7 0
Measurement and V	2 3 2	M&V Res Solar PV	30 0	7 0
Measurement and V	2 3 3	M&V Solar Shingles	N/A	7 0
Measurement and V	2 4 1	M&V Behavioral	1 0	7 0
Measurement and V	2 4 2	M&V Air Compressors	10 0	7 0
Measurement and V	2 4 3	M&V Com Retro-Comissioning	5 0	7 0
Measurement and V	2 4 4	M&V Thermal Energy Storage	15 0	7 0
Measurement and V	2 5 1	M&V Res Load Curtailment	1 0	7 0
Measurement and V	2 5 2	M&V Non-Res Load Curtailment	1 0	7 0

AEP Texas
2022 Energy Efficiency Cost Recovery Factor

Schedule N

Average Peak Demand at Meter (MW)	Goal Metric: 0.4% Peak Demand (MW)	Peak Demand Goal (MW)[1]	Energy Goal (MWh)[2]	Projected Demand Reduction (MW)[3]	Projected Energy Savings (MWh)[3]
5,207	20.83	20.83	36,494	43.71	61,616

Sponsored by: Pamela D Osterloh

AEP Texas
2022 Energy Efficiency Cost Recovery Factor

Schedule O

2022 Projected Energy Efficiency Program Savings

	2022	
Customer Class and Program	**Demand Reduction Target (MW)**	**Energy Savings Target (MWh)**
Commercial		
Commercial Solutions MTP	1.66	7,458
Commercial SOP	2.79	12,392
CoolSaver© A/C Tune-Up MTP	4.05	8,048
Load Management SOP	22.26	22
Open MTP	1.22	5,234
SCORE/CitySmart MTP	2.46	8,259
SMART Source^{SM} Solar PV MTP	0.28	902
Residential		
CoolSaver© A/C Tune-Up MTP	1.85	6,250
High-Performance New Homes MTP	2.05	2,872
Residential Pool Pumps Pilot MTP	0.17	1,204
Residential SOP	1.78	2,937
SMART Source^{SM} Solar PV MTP	0.62	2,101
Hard-to-Reach		
Hard-to-Reach SOP	1.55	2,419
Targeted Low-Income Energy Efficiency Program	0.97	1,518
Total Annual Projected Savings	**43.71**	**61,616**

AEP Texas
2022 Energy Efficiency Cost Recovery Factor

SCHEDULE P-1 Central Division

2020 Energy Efficiency Programs' Cost - Net Benefit Ratio

Program Cost-effectiveness Summary								
Year	**Savings**		**Costs**	**Benefits**				**Benefit-Cost**
Customer Class and Program	**kW**	**kWh**	**Total Program Costs**	**Avoided Capacity Costs**	**Avoided Energy Costs**	**Total Avoided Cost**	**Net Benefits**	**Ben-Cost Ratio**
Commercial	**37,307.7**	**34,343,826.0**	**6,883,691.0**	**8,860,631.4**	**37,492,317.9**	**46,352,949.3**	**39,469,258.3**	**6.73**
Commercial Solutions MTP	1,008	4,400,927	$ 676,043	$ 899,690	$ 5,504,721	$ 6,404,411	$ 5,728,368	9 47
Commercial SOP	2,570	12,638,393	$ 1,987,211	$ 2,209,868	$ 15,507,229	$ 17,717,097	$ 15,729,887	8 92
CoolSaver MTP - Commercial	3,025	6,017,714	$ 770,433	$ 1,066,281	$ 3,014,146	$ 4,080,427	$ 3,309,995	5 30
Load Management SOP	27,720	27,720	$ 964,160	$ 2,124,896	$ 3,019	$ 2,127,915	$ 1,163,755	2 21
Open MTP	848	3,628,149	$ 1,022,048	$ 704,445	$ 4,261,476	$ 4,965,921	$ 3,943,873	4 86
SCORE/CitySmart MTP	1,839	6,605,627	$ 1,190,494	$ 1,459,757	$ 7,272,462	$ 8,732,219	$ 7,541,725	7 33
Solar PV MTP - Commercial	299	1,025,296	$ 273,302	$ 395,694	$ 1,929,264	$ 2,324,958	$ 2,051,656	8 51
Residential	**9,931**	**19,681,006**	**6,141,624**	**8,449,676**	**22,143,849**	**30,593,524**	**24,451,901**	**4.98**
CoolSaver MTP - Residential	1,511	5,082,376	$ 866,934	$ 598,584	$ 2,810,465	$ 3,409,049	$ 2,542,116	3 93
High Performance New Homes MTP	1,936	2,706,448	$ 1,169,602	$ 2,220,143	$ 4,325,061	$ 6,545,204	$ 5,375,601	5.60
Residential Pool Pump Pilot MTP	22	162,577	$ 97,819	$ 13,722	$ 147,207	$ 160,929	$ 63,110	1 65
Residential SOP	6,273	11,083,793	$ 3,744,990	$ 5,365,892	$ 13,645,914	$ 19,011,805	$ 15,266,815	5 08
Solar PV MTP - Residential	190	645,812	$ 262,279	$ 251,335	$ 1,215,203	$ 1,466,537	$ 1,204,259	5 59
Hard-to-Reach	**3,181**	**5,239,699**	**3,412,397**	**2,737,298**	**6,511,831**	**9,249,128**	**5,836,732**	**2.71**
Hard-to-Reach SOP	2,352	3,918,443	$ 1,597,915	$ 1,982,124	$ 4,819,449	$ 6,801,574	$ 5,203,658	4 26
Targeted Low-Income Program	829	1,321,256	$ 1,814,482	$ 755,173	$ 1,692,381	$ 2,447,555	$ 633,073	1 35
Portfolio Total	**50,420**	**59,264,531**	**$ 16,437,711**	**$ 20,047,605**	**$ 66,147,997**	**$ 86,195,602**	**$ 69,757,891**	**5.24**

AEP Texas
2022 Energy Efficiency Cost Recovery Factor

SCHEDULE P-2 North Division

2020 Energy Efficiency Programs' Cost - Net Benefit Ratio

Program Cost-effectiveness Summary								
2020	Savings		Costs	Benefits				Benefit-Cost
Customer Class and Program	kW	kWh	Total Program Costs	Avoided Capacity Costs	Avoided Energy Costs	Total Avoided Cost	Net Benefits	Ben-Cost Ratio
Commercial	**4,005 0**	**9,244,239.3**	**1,927,111.9**	**1,920,750.0**	**11,177,756.9**	**13,098,506.9**	**11,171,395.0**	**6.80**
Commercial Solutions MTP	598	2,759,079	$ 490,357	$ 490,380	$ 3,227,594	$ 3,717,973	$ 3,227,616	7 58
Commercial SOP	606	2,594,781	$ 422,612	$ 513,598	$ 3,120,939	$ 3,634,536	$ 3,211,924	8 60
Load Management SOP	1,931	1,931	$ 93,613	$ 148,022	$ 210	$ 148,232	$ 54,620	1 58
Open MTP	359	1,568,086	$ 561,502	$ 297,532	$ 1,845,313	$ 2,142,845	$ 1,581,343	3 82
SCORE/CitySmart MTP	449	2,120,000	$ 288,620	$ 388,419	$ 2,606,687	$ 2,995,106	$ 2,706,485	10 38
Solar PV MTP Commercial	63	200,362	$ 70,408	$ 82,800	$ 377,014	$ 459,814	$ 389,406	6 53
Residential	**1,081**	**2,189,702**	**857,409**	**1,242,528**	**3,579,840**	**4,822,368**	**3,964,960**	**5.62**
Residential SOP	972	1,841,374	$ 727,300	$ 1,098,112	$ 2,924,403	$ 4,022,515	$ 3,295,216	5 53
Solar PV MTP Residential	109	348,328	$ 130,109	$ 144,416	$ 655,437	$ 799,853	$ 669,744	6 15
Hard-to-Reach	**718**	**1,351,331**	**979,548**	**763,522**	**2,065,842**	**2,829,364**	**1,849,817**	**2.89**
Hard-to-Reach SOP	574	1,067,923	$ 537,682	$ 631,525	$ 1,699,376	$ 2,330,901	$ 1,793,219	4 34
Targeted Low-Income Program	143	283,409	$ 441,865	$ 131,997	$ 366,466	$ 498,463	$ 56,598	1 13
Portfolio Total	**5,804**	**12,785,273**	**$ 3,764,068**	**$ 3,926,800**	**$ 16,823,439**	**$ 20,750,240**	**$ 16,986,171**	**5.51**

Sponsored by Pamela D Osterloh and Robert Cavazos

Schedule Q
System and Line Losses

The AEP Texas kWh sales forecast for 2022 is based on energy delivered at the meter so it was not necessary to adjust the EECRF factors for system and line losses.

AEP Texas

2022 Energy Efficiency Cost Recovery Factor

Schedule R

2022 Energy Efficiency Programs

Program	Customer Class	Description
Commercial Solutions MTP	Commercial	Provides energy efficiency and demand reduction solutions for commercial customers identified as having a need for energy efficiency improvements and needing support from an outside source Facilitates the identification of demand and energy savings opportunities, operating characteristics, program design, long-range energy efficiency planning and overall measure and program acceptance by the targeted customers Incentives are paid to participating customers for eligible measures installed in new or retrofit applications, which provide verifiable demand and energy savings
Commercial SOP	Commercial	Provides incentives for the installation of a wide range of measures that reduce customer energy costs and reduce peak demand and/or save energy in non-residential facilities Customer sites may include hotels, schools, manufacturing facilities, restaurants, and larger grocery stores Eligible measures as lighting, new or replacement chiller systems, high efficiency pumping systems, and other similar technologies Incentives are paid to project sponsors based on deemed savings or on verified peak demand and/or energy savings using the International Performance Measurement and Verification Protocol
CoolSaver A/C Tune-up MTP	Commercial & Residential	Offers assistance to contractors in obtaining the tools and expertise that will allow them to develop quantitative savings information for comprehensive tune-ups This program targets contractors that provide air conditioning system tune-up services to residential and commercial customers The program also provides incentives for residential high efficiency air conditioner/heat pump replacements The program implementer targets various air conditioning equipment distributor networks and organizations by phone and site visits to gauge their interest in the program
Hard-to-Reach SOP	Hard-to-Reach	Targets a specific subset of residential customers defined by 16 TAC § 25 181(c)(27) as customers with a total household income that is less than 200% of the federal poverty guidelines The program provides incentives for the installation of a wide range of measures that reduce residential customer energy costs and peak demand It is designed to cost-effectively provide energy efficiency improvements to individual households at no or very low cost Eligible measures include replacement air conditioners, wall and ceiling insulation and air distribution duct improvements in existing homes Incentives are paid to Energy Efficiency Service Providers (EESPs) for eligible measures on the basis of deemed savings.
High Performance New Homes MTP	Residential	Targets homebuilders and residential consumers The program's goal is to create conditions where consumers are demand ENERGY STAR qualified homes Incentives are paid to homebuilders who construct homes to strict energy efficient building guidelines that are at least 10% above the local building code
Load Management SOP	Commercial	Targets commercial customers that have a minimum demand of 500 kW or more Incentives are paid to project sponsors that can identify and interrupt electric load on short notice These payments are based on the verified demand savings methodology identified in the Texas TRM
Open MTP	Commercial	Targets small commercial customers (peak demands not exceeding 100 kW in the previous 12 consecutive billings months) with limited ability to implement energy efficiency measures or to actively seek the help of a professional EESP Available incentives are paid directly to the contractor, thereby reducing a portion of the project cost for the customer
Residential Pool Pumps Pilot MTP	Residential	Provides incentives to pool pump distributors for the installation of high-efficiency ENERGY STAR certified variable speed pool pumps in new and existing single-family properties
Residential SOP	Residential	Provides incentives for the installation of a wide range of measures that reduce residential customer energy costs and cost-effectively reduce peak demand It is also designed to encourage private sector delivery of energy efficient products and services Eligible measures include replacement air conditioners, wall and ceiling insulation and air distribution duct improvements Incentives are paid to Project Sponsors for eligible measures installed in retrofit applications on the basis of deemed savings
SCORE/CitySmart MTP	Commercial	Provides energy efficiency and demand reduction solutions for governmental and educational customers SCORE/CitySmart will facilitate the identification of demand and energy savings opportunities, operating characteristics, long-range energy efficiency planning and overall measure and program acceptance by the targeted customers Incentives are paid to governmental and educational customers for certain measures installed in new or retrofit applications, which provide verifiable demand and energy savings
SMART Source℠ Solar PV MTP	Commercial & Residential	Provides incentives for residential and commercial customers that install solar electric (photovoltaic) systems interconnected on the customer's side of the electric service meter
Targeted Low-Income Energy Efficiency Program	Low-Income Residential	Designed to cost-effectively reduce the energy consumption and energy costs of participating low-income customers The program provides eligible residential customers with appropriate weatherization measures and basic on-site energy education This program enhances and supplements the federally funded Weatherization Assistance Program

AEP Texas Inc.

2021 Energy Efficiency Plan and Report

16 Tex. Admin. Code §§ 25.181, 28.182 and 25.183

Amended June 1, 2021

Project No. 51672

An AEP Company

BOUNDLESS ENERGY™

TABLE OF CONTENTS