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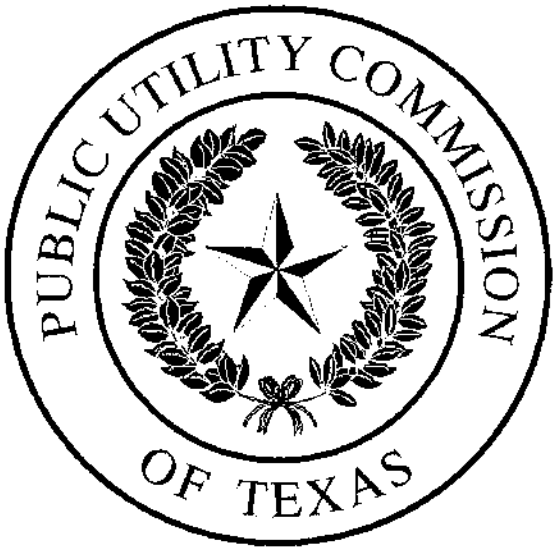
Filing Date - 2024-08-08 04:10:39 PM

Control Number - 26310

Item Number - 25

2024 PUCT Report to the Energy Systems Laboratory at Texas A&M University



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Energy Efficiency Division

Public Utility Commission of Texas

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PUCT REPORT TO THE ENERGY SYSTEMS LABORATORY AT TEXAS A&M UNIVERSITY

The Public Utility Commission of Texas (PUCT) provides this report in accordance with Texas Health and Safety Code (THSC) §386.205, relating to Evaluation of State Energy Efficiency Programs, and 16 Tex. Admin. Code (TAC) §25.183, relating to Reporting and Evaluation of Energy Efficiency Program.

This report presents the demand reductions and energy savings achieved in program year (PY) 2023 by electric utility energy efficiency programs implemented under Public Utility Regulatory Act (PURA) §39.905 and explores the costs associated with achieving those savings.

Following this report, these program savings will be utilized by the Energy Systems Laboratory at Texas A&M University (ESL) to estimate the associated nitrogen oxide (NO_x) emissions reductions in Texas.

INTRODUCTION

The energy efficiency programs administered by the eight investor-owned utilities in Texas offer a broad range of measures designed to reduce the electric demand and energy consumption of residential and commercial consumers during peak periods of energy consumption—namely, June through September, and December through February[1].

As peak energy consumption periods generally correspond with the ozone-forecast season in Texas[2], these reductions in energy consumption result in reduced electric production that may contribute to lower emissions in non-attainment areas and affected counties.[3]

[1] "Peak period" is defined in 16 TAC §25.181(c)(46).
[2] The Texas Commission on Environmental Quality considers the "ozone-forecast season" in Texas to be March through November. https://www.tceq.texas.gov/airquality/monops/ozonefacts.html
[3] Areas are designated as non-attainment by the Environmental Protection Agency when they do not meet the quality standards for certain pollutants.

REGULATORY FRAMEWORK

Relevant Statute

PURA §39.905, relating to Goal for Energy Efficiency, establishes the requirement for electric utilities in Texas to administer energy efficiency programs. This provision was created by legislation in 1999 (Senate Bill (SB) 7) and amended by subsequent legislation in 2001 (SB 5), 2007 (HB 3693), and 2011 (SB 1125).

THSC §386.205, relating to Evaluation of State Energy Efficiency Programs, establishes the requirement for the PUCT to provide an annual report to the TCEQ that quantifies the reductions of emissions of air contaminants achieved from the utility energy efficiency programs under PURA §39.905.

Relevant PUCT Rules

In order to meet the statutory requirements of PURA §39.905 and THSC §386.205, the PUCT adopted 16 TAC §§25.181, relating to Energy Efficiency Goal; and 25.183, relating to Reporting and Evaluation of Energy Efficiency Programs.

PROGRAM YEAR 2023 UTILITY ACHIEVEMENTS

In PY2023, eight utilities administered energy efficiency programs in Texas under PURA §39.905. Four of the utilities operate within the ERCOT power region—AEP Texas Inc. (AEP Texas), CenterPoint Energy Houston Electric, LLC (CenterPoint), Oncor Electric Delivery Company LLC (Oncor), and Texas-New Mexico Power Company (TNMP)—while the other four utilities operate outside the ERCOT power region—El Paso Electric Company (El Paso), Entergy Texas, Inc. (Entergy), Southwestern Electric Power Company (SWEPCO), and Southwestern Public Service Company (SPS).

Demand Reduction and Energy Savings Goals

Under 16 TAC §25.181, utilities are required to meet an annual demand reduction goal that is equal to either 30 percent of the utility's annual growth in demand for residential and commercial

customers, or four tenths of one percent of the utility's summer weather-adjusted peak demand for residential and commercial customers in the previous calendar year, whichever is greater.

16 TAC §25.181 also requires utilities to meet an additional energy savings goal that is calculated from the demand reduction goal using a 20% conservation load factor.

Each utility's demand reduction and energy savings goals are disclosed in their annual Energy Efficiency Plan and Report (EEPR) in the calendar year prior to the program year the goals are calculated for. Thus, the calculated demand reduction and energy savings goals for PY2023 were reported in the utilities' EEPRs in 2022[4], and the PY2023 achieved demand reductions and energy savings were reported in the utilities' EEPRs in 2024[5].

Achieved Demand Reductions

In PY2023, the utilities' combined demand reduction goal was 227.09 MW, and the total achieved demand reductions were 583.03 MW. Thus, the utilities achieved 256.74 percent of their combined demand reduction goals.

Utility	Demand Reduction Goal (MW)	Achieved Demand Reduction (MW)
AEP Texas	21.08	62.92
CenterPoint	65.09	253.36
Oncor	97.00	187.70
TNMP	5.44	16.15
ERCOT	**188.61**	**520.13**
Entergy	15.70	24.54
El Paso	11.16	20.41
SPS	6.03	8.67
SWEPCO	5.60	9.28
Outside-of-ERCOT	**38.49**	**62.90**
Total	**227.10**	**583.03**

[4] Project No. 52949, CY 2022 Electric Utility Energy Efficiency Plan and Report Under 16 TAC § 25.181.
[5] Project No. 56003, CY 2023 Electric Utility Energy Efficiency Plan and Report Under 16 TAC § 25.181.

Achieved Energy Savings

In PY2023, the utilities' combined energy savings goal was 397,868.25 MWh, and the total achieved energy savings were 607,943.33 MWh. Thus, the utilities achieved 152.80% of their combined energy savings goal.

Utility	Energy Savings Goal (MWh)	Achieved Energy Savings (MWh)
AEP Texas	36,932.00	70,899.00
CenterPoint	114,038.00	186,110.16
Oncor	169,944.00	232,967.00
TNMP	9,531.00	16,580.00
ERCOT	**330,445.00**	**506,556.16**
Entergy	27,500.60	46,093.59
El Paso	19,552.32	21,121.06
SPS	10,559.33	20,722.53
SWEPCO	9,811.00	13,450.00
Outside-of-ERCOT	**67,423.25**	**101,387.18**
Total	**397,868.25**	**607,943.34**

Energy Efficiency Program Expenditures

In PY2023, the utilities spent a total of $136,278,627 on energy efficiency programs. These expenditures include all incentives paid to energy efficiency service providers for the installation of energy efficiency measures and verification of results, incentives paid directly to residential or commercial customers[6], shareholder bonus awarded to the utility, and research and development, administration, or evaluation, measurement, and verification contractor costs.

[6] Under 16 TAC §25.181(e), incentives may be paid directly to residential or commercial customers under two circumstances: 1) a utility in an area without customer choice is offering a self-delivered program, or 2) a utility in an area with customer choice has been approved by the commission through contested case hearing to offer rebates or incentives directly to rural residential or commercial customers.

Utility	Total Program Expenditures*
AEP Texas	$17,183,063.00
CenterPoint	$39,539,578.00
Oncor	$53,014,140.00
TNMP	$5,194,321.00
ERCOT	**$ 114,931,102.00**
Entergy	$7,583,311.00
El Paso	$4,817,596.00
SPS	$4,834,832.00
SWEPCO	$4,111,786.00
Outside-of-ERCOT	**$ 21,347,525.00**
Total	**$ 136,278,627.00**
*Includes evaluation, measurement, and verification contractor expenses	

The demand reductions, energy savings, and program expenditures for each utility in PY2023 are compiled in the table below.

PY2023 Achieved Savings by Utility					
Utility	Achieved Savings Total		Goals Total		Total Program Expenditures*
	MW	MWh	MW	MWh	
AEP Texas	62.92	70,899.00	21.08	36,932.00	$17,183,063.00
CenterPoint	253.36	186,110.16	65.09	114,038.00	$39,539,578.00
Oncor	187.70	232,967.00	97.00	169,944.00	$53,014,140.00
TNMP	16.15	16,580.00	5.44	9,531.00	$5,194,321.00
ERCOT	**520.13**	**506,556.16**	**188.61**	**330,445.00**	**$114,931,102.00**
Entergy	24.54	46,093.59	15.70	27,500.60	$7,583,311.00
El Paso	20.41	21,121.06	11.16	19,552.32	$4,817,596.00
SPS	8.67	20,722.53	6.03	10,559.33	$4,834,832.00
SWEPCO	9.28	13,450.00	5.60	9,811.00	$4,111,786.00
Outside-of-ERCOT	**62.90**	**101,387.18**	**38.49**	**67,423.25**	**$ 21,347,525.00**
Total	**583.03**	**607,943.34**	**227.10**	**397,868.25**	**$ 136,278,627.00**
*Includes evaluation, measurement, and verification contractor expenses					

NEXT STEPS

Following this report, the ESL will utilize the reported program savings to estimate the associated annual and peak ozone day NO_x emissions reductions resulting from the utility energy efficiency programs administered in PY2023.[7]

These emission reduction estimates will be included in the ESL's annual report to the TCEQ, entitled *Energy Efficiency/Renewable Energy Impact in the Texas Emissions Reduction Plan (TERP): Integrated NOx Emissions Savings from EE/RE Programs Statewide*. This report will be available on the ESL website at https://esl.tamu.edu/terp/documents/terp-reports/.

Calculation of Emission Reductions[8]

To estimate NO_x emissions reductions resulting from utility energy efficiency program savings, the ESL will utilize the Emissions & Generation Resource Integrated Database (eGRID), a national database of air emissions that is maintained by the Office of Atmospheric Programs (OAP) of the Environmental Protection Agency (EPA). For the state of Texas, the eGRID relies on the fact that the Electric Reliability Council of Texas (ERCOT) power region is completely within state borders and that most of the electricity in Texas is both generated and consumed in the ERCOT power region.[9]

In order to calculate the estimated emissions reductions in ERCOT, the ESL will:

1. apply emission factors from the eGRID to the energy efficiency program savings provided in this report; and
2. employ an assumption that production from a set of ERCOT power plants would be reduced in response to reduced energy consumption because of energy efficiency activities.

The ESL's methodology relies on:

[7] While utility energy efficiency measures may result in the reduction of emissions from multiple air pollutants, including sulfur-dioxide and carbon-dioxide, the savings presented in this report will be specifically used to estimate NOx emissions reductions.

[8] This methodology was developed through a collaborative process between the Climate Protection Partnership Division of the EPA's OAP, ESL, PUCT, and Texas Commission on Environmental Quality (TCEQ).

[9] ERCOT serves approximately ninety percent of the demand for electricity in Texas. https://www.ercot.com/files/docs/2022/02/08/ERCOT_Fact_Sheet.pdf.

1. the eGRID's measured power plant emission rates;
2. historical relationships between the areas in which power is produced and the areas in which it is consumed; and
3. the operating characteristics of the power plants in the region.

For example, their methodology assumes that coal and nuclear power plants meet base load requirements for consumers and, therefore, do not change their operation because of reductions in energy consumption. In other words, the methodology assumes—based on historical experience of efficient plant dispatch—that gas-fired plants are the marginal units that respond to changes in energy consumption.