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May 1, 2026

Arkansas Public Service
Commission 1000 Center Street
PO Box 400
Little Rock, AR 72203-0400

Re: Docket No. 07-076-TF
Annual SARP Filing

The Empire District Electric Company hereby submits its Standardized Annual Report Packet for 2025 for filing in the above-referenced docket.

If you have any questions about the filing, please do not hesitate to contact the undersigned.

Thank you for your assistance with this matter.

Sincerely,

Kimberly Dragoo

Kimberly Dragoo
Director Key Accounts and Energy Programs

THE EMPIRE DISTRICT ELECTRIC COMPANY ENERGY EFFICIENCY ANNUAL REPORT Filed May 1, 2026

1.0 EXECUTIVE SUMMARY

1.1 Brief historical background of the EE portfolio

The Empire District Electric Company ("Liberty" or "Company") began its Quick Start Energy Efficiency ("EE") portfolio in 2007 as directed by the Arkansas Public Service Commission's ("Commission" or "APSC") Rules for Conservation and Energy Efficiency Programs approved in Order No. 18 of Docket No. 06-004-R. This initial portfolio consisted of participation in the two state-wide programs, Energy Efficiency Arkansas ("EEA") and the Arkansas Weatherization Program ("AWP"). Liberty also implemented a Central Air Conditioner ("CAC") Tune-up rebate program and Commercial & Industrial ("C&I") Prescriptive rebate program.

In 2010, the Commission approved the addition of a high-efficiency central air conditioner replacement component to the existing CAC tune-up rebate program, along with a rebate for a programmable thermostat. The Commission also approved the Interruptible Program, a voluntary curtailment program for large commercial and industrial customers.

In the spring of 2011, Liberty filed for approval of a High-efficiency Residential Lighting Program and a Home Energy Comparison Program to supplement its portfolio. However, in July 2011 the Commission requested Liberty re-file its portfolio to incorporate data for the 2012 and 2013 program years. During this time, Liberty, with the help of its demand-side consultant Applied Energy Group (AEG), decided to completely overhaul the existing portfolio to increase customer participation and overall savings levels. As a result of the Commission's order and Liberty's new portfolio expansion, the primary focus was dedicated to the new portfolio and the September 2011 filing deadline. The new portfolio was filed in September 2011. The new portfolio became active on January 1, 2012. It excluded the AC tune-up program and added a Residential Lighting Program, C&I Custom program, Energy Star® Appliance Program, and Small Business Lighting Program.

On December 28, 2012, Liberty filed with the APSC to add two new programs: Residential AC Tune-up and Duct Repair and an independent, contractor-driven Residential Weatherization. These programs leverage the design and contractors of a similar program designed and successfully implemented by Oklahoma Gas & Electric ("OG&E"). These programs were funded using re-appropriated budgets from underperforming programs in Liberty's Arkansas EE portfolio.

In 2016, Liberty filed a new energy efficiency portfolio for 2017-2019. This new portfolio sought to streamline the inefficiencies and alleviate the program's shortcomings. The new portfolio focused on eliminating underperforming programs and focusing on programs with proven success. In doing so, it also set budgets at a reasonably achievable level, which helped abate Liberty's potential for over-recovering the costs associated with these programs.

In 2019, Liberty filed a new energy efficiency portfolio for 2020-2022. The new portfolio initially featured the reluctant discontinuation of the Weatherization Program, which was not found to be cost-effective in the initial analysis. The portfolio without the Weatherization Program was approved for 2020; alongside a request that Liberty sought through Independent Evaluation Monitor ("IEM") and

Parties Working Collaboratively (“PWC”) to integrate new variables for cost-effectiveness within its analysis of the Weatherization program. This modification pushed the Weatherization program into cost-effectiveness, and the addition of this program was approved to be reintroduced for 2021 and 2022. In 2022, this portfolio was extended through 2023.

Liberty submitted a new energy efficiency portfolio for 2024 – 2026 approved by the commission on November 9, 2023, in in Docket 07-076 Order No. 96. This portfolio consists of four programs including, Residential Products, School-Based Energy Education, Residential Weatherization and the C&I Rebate program. This annual report provides the portfolio results for the year 2025 program.

Table 1.1

2025 Portfolio Summary							
Net Energy Savings		Costs			Cost-Effectiveness		
Demand MW	Energy MWh	Actual Expenditures	LCFC	Performance Incentives	TRC Net Benefits (NPV)	TRC Ratio	PAC Ratio
0	61	\$ 34,883	\$ 7,810	N/A	\$ 88	16.40	1.28

1.2 2025 Portfolio Overview

For the 2025 energy efficiency portfolio, Liberty planned for annual estimated energy savings of 218 MWh and for annual estimated demand savings of 44 kW. In 2025, Liberty’s portfolio captured 61 MWh of energy savings and demand savings of less than 1 MWh which is rounded down in the SARP workbook to 0. This is a significant increase over 2024 residential savings primarily attributable to the distribution of school kits in both the winter and fall of 2025.

Table 1.2

EE Portfolio Expenditures by Program					
Program Name	Target Sector	Program Type	2025		% of Budget
			Budget (\$)	Actual (\$)	
Residential Products	Residential	Consumer Product Rebate	34,885	690	2%
School-Based Energy Education	Residential	Consumer Product Rebate	16,250	29,582	182%
Weatherization	Residential	Whole Home	24,454	-	0%
Commercial and Industrial (Custom)	Commercial & Industrial	Custom	5,812	-	0%
Commercial and Industrial (Prescriptive)	Commercial & Industrial	Prescriptive/Standard Offer	5,000	-	0%
Administration	All Classes	Other	10,000	1,000	10%
Marketing	All Classes	Other	1,200	-	0%
Regulatory	-	-	3,000	923	31%
Total			107,101	34,883	33%

1.3 2025 Goals and Objectives

For the 2025 energy efficiency portfolio, Liberty planned for annual estimated energy savings of 218 MWh and for annual estimated demand savings of 44 kW.

Table 1.3

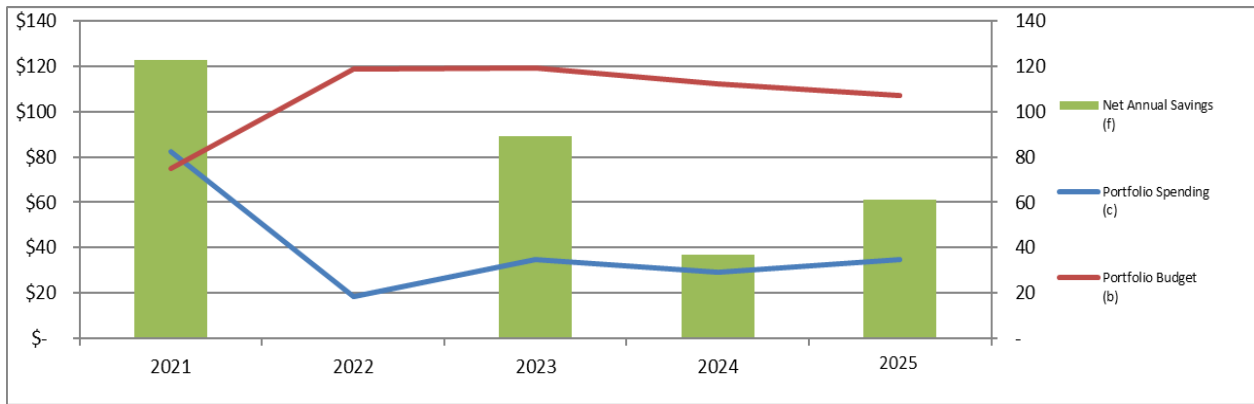
EE Portfolio Expenditure Summary by Cost Type				
Cost Type	2025 Total Expenditures			
	% of Total	Budget (\$)	Actual (\$)	% of Total
Planning / Design	0%	-	-	0%
Marketing & Delivery	5%	5,200	-	0%
Incentives / Direct Install Costs	81%	86,401	30,272	87%
EM&V	2%	2,500	2,688	8%
Administration	9%	10,000	1,000	3%
Regulatory	3%	3,000	923	3%
	100%	107,101	34,883	100%

1.4 Progress achieved versus goals and objectives

Liberty has continued to struggle to gain participation in the programs. In 2024, we saw participation in the residential rebate program that included HVAC equipment. It was anticipated that we would see a small number of HVAC rebates each year but there was no participation in 2025. Based on the previous pattern of engagement across commercial customers, we would expect to see a very limited number of projects over the course of a three-year plan. There was no participation in the commercial and industrial program in 2025. For 2025, the overall portfolio budget was \$107,101 plus a \$3,000 allocation for regulatory expenses. Liberty spent 33% of the overall budget which is an 11% improvement over 2024. A majority of the spending and savings for 2025 came from the school-based education program.

Table 1.4

Company Statistics										
Program Year	Revenue and Expenditures					Energy				
	Total Revenue (a) (\$000's)	Budget		Actual		Total Annual Energy Sales (d) (MWh)	Plan		Evaluated	
		Portfolio Budget (b) (\$000's)	% of Revenue (%=b/a)	Portfolio Spending (c) (\$000's)	% of Revenue (%=c/a)		Net Annual Savings (e) (MWh)	% of Energy Sales (%=e/d)	Net Annual Savings (f) (MWh)	% of Energy Sales (%=f/d)
2021	\$ 15,846	\$ 75	0.5%	\$ 82	0.5%	164,927	419	0.25%	123	0.07%
2022	\$ 17,798	\$ 119	0.7%	\$ 18	0.1%	169,635	419	0.25%	-	0.00%
2023	\$ 22,288	\$ 119	0.5%	\$ 35	0.2%	172,735	311	0.18%	89	0.05%
2024	\$ 17,828	\$ 112	0.6%	\$ 29	0.2%	178,053	218	0.12%	37	0.02%
2025	\$ 17,104	\$ 107	0.6%	\$ 35	0.2%	180,875	218	0.12%	61	0.03%

Chart 1.4

1.5 Discussion of Program Performance

The current portfolio includes shifts to the program design that attempted to address under performance in both the residential and C&I sectors. In the residential sector, Liberty shifted away from lighting programs for and focused the residential program on HVAC upgrades and thermostat promotion through an online marketplace. In 2025, we again saw very limited participation despite program manager outreach to contractors and promotional activities for the residential programs.

Liberty continued with the distribution of school kits in the winter of 2025 and again in the fall of 2025. These distributions captured sixth graders across two academic years. The Program Manager coordinated the kit content and outreach plans for teachers and school superintendents throughout Liberty's service territory. The winter 2025 distribution replaced the distribution originally planned for the fall of 2024. The program has a well-established cycle for outreach to the schools to engage them and identify accurate number of student enrollments. Distributions are planned for the fall only in future years.

Liberty continues to struggle to gain participation in the weatherization and C&I program. Liberty conducts regular outreach to contractors and to commercial and industrial customers.

1.6 What's Working and What's Not

According to the comments of the IEM, "it is unlikely that Liberty's program portfolio will ever reach its participation goals due to the challenges it faces in its service territory¹." A summary of these were filed in support of Liberty's 2013 Energy Efficiency Cost Recovery Rider re-determination filing. The barriers described below have been presented in previous annual reports and remain in place today.

Liberty serves a very small number of customers in Arkansas (about 4,300) in a predominately rural and relatively remote area with a few small towns ranging in size of roughly 100 to 3,158 residents. The Commission has recognized that due to the size and other demographics that Liberty faces a challenge unique among the public utilities subject to the required EE achievement targets. As outlined in Liberty's other energy efficiency filings, some of these hurdles include:

- *Energy efficiency overhead costs - administrative/regulatory costs must be recovered over a*

small customer base

- *Size of operations - by customer count Liberty is less than one-tenth the size of the next smallest IOU in Arkansas*
- *Rural service territory - Liberty's service territory includes no urban population centers that can offer economic activity and diversity*
- *Scope of operations - by population, Liberty serves only about 3.7% of the only Arkansas County that it provides service*
- *Composition of customer base - Liberty's Arkansas service territory is comprised of about 82% residential customers*
- *Service territory demographics - based on 2010 U.S. Census Data about 42% of the citizens in Liberty's Arkansas service territory live in renter-occupied housing*
- *Industrial/Commercial customer base - nearly half of Liberty's electric sales in Arkansas come from two large commercial/industrial customers³*
- *Service territory economy - nationwide franchises and big box stores that may fill the landscape of high commerce areas are virtually nonexistent in Liberty's Arkansas service territory*
- *Service territory media - limited cost-effective media outlets for this specific rural area are available to promote Liberty's energy efficiency programs⁴*

¹ APSC Docket 07-076-TF, Doc. 192. Filed June 3, 2013.

² APSC Docket No. 07-076-TF, Doc. 169. Filed September 14, 2012.

³ Liberty's two-largest industrial customers—which comprise nearly half of its Arkansas sales—are cited above as hard-to-reach customers upon whom the portfolio's success will inevitably depend. Both customers are now exempt as Self-Direct Opt Out customers, which is still a large barrier to Liberty's energy efficiency success, but in a different way.

⁴ APSC Docket No. 13-002-U, Doc. 40. Filed May 15, 2013.

Liberty's 2017-2019 and 2020-2023 energy efficiency portfolios were configured to address these issues, and 2024-2026 portfolio expanded that reach. The effort is supported by the variances granted to Liberty by Order No. 62⁵. Order No. 62 granted Liberty the following variances.

- Liberty shall set realistically achievable program plans and budget levels;
- Current mechanisms for collecting LCFC and any utility performance incentive shall remain in place, as described in Section 7 of the C&EE Rules;
- Liberty is granted the flexibility listed above from specific items in the Comprehensiveness Checklist described in Order No. 17 in Docket No. 08-144-U to streamline program offerings and best serve its customers with programs primarily aimed at cost-effectiveness;
- Pursuant to Section 4.B of the C&EE Rules and Rule 2.05 of the Commission's Rules of Practice and Procedure, the Commission finds that it is in the public interest and good cause has been shown to grant Liberty an exemption from Section 9 of the C&EE rules concerning annual reporting and it is instead required to file this information during each program design cycle, which is anticipated to be a three-year cycle;
- Liberty is required to continue to market its EE programs to the best of its ability and resources.

1.7.1 Comprehensiveness Checklist Factors

Per Order No. 62, Liberty is exempt from strict compliance with the Comprehensiveness Checklist, established by Order No. 17 in APSC Docket No. 08-144-U. In its report on 2018 EM&V, the IEM recommends, "Liberty should start tracking its progress in meeting the Commission Comprehensiveness Checklist Factors to the extent possible⁶." Liberty agrees that these recommendations are appropriate as best practice and a benchmark, and in the following section, in compliance with the IEM's recommendation. This section is a summary of the checklist responses, detailed in the Company's 2025 EM&V report.

Whether the programs and/or portfolio provide, either directly or through identification and coordination, the education, training, marketing, or outreach needed to address market barriers to the adoption of cost-effective energy efficiency measures;

Liberty has used a limited set of outreach channels that included social media, customer email and newsletter communications. The outreach and education activity emphasizes comfort and energy benefits. Given the small scale of the service territory and size of the marketing budget the available marketing resources are limited relative to what might be present for a larger utility.

In the EM&V conducted for 2025, the evaluators could not easily find the descriptions of the programs and the associated rebate applications on the Company website. It is recommended that Liberty review the existing infrastructure and make modifications to increase access to the program information.

Whether the programs and/or portfolio have adequate budgetary, management, and program delivery resources to plan, design, implement, oversee, and evaluate energy efficiency programs;

The portfolio's implementation approach reflects the operational realities of a small and geographically dispersed service territory. Program staff emphasized that contractor availability is a primary constraint and that the portfolio relies on straightforward processes to encourage

repeat participation when contractors do engage. The school-based program uses an implementation contractor to organize kit distribution through schools and support the education component, indicating at least some dedicated delivery resources for the portfolio's main savings source. For residential weatherization, customer-facing materials describe an auditor and contractor "approved by Liberty" who conduct audits and install measures selected under program guidelines and per-home financial limits. At this time, the program has struggled to develop a base of contractors to deliver this program but is engaging with other utilities on this issue.

Given the size of the program, staffing appears limited to a program manager with support from an implementation contractor for the school kit program. The budgets shown are consistent with a small-scale portfolio. For example, the \$2,000 C&I non-incentive budget would support review of a small number of projects. Whether this level of activity supports the portfolio's savings targets would depend on the number and size of completed submitted projects. Table 2 5 summarizes the program goals, PY2025 net kWh savings, goal attainment, budget, and expenditures.

Whether the programs and/or portfolio, reasonably address all major end-uses of electricity or natural gas, or electricity and natural gas, as appropriate;

Within a small portfolio, Empire's offerings cover several major electric end-uses across customer classes. On the residential side, the portfolio includes HVAC rebates for central AC, ductless mini-splits, ASHP, and GSHP with incentive tiers by efficiency ratings. The program plan includes other measures such as ENERGY STAR appliances.

The residential weatherization offering supports envelope improvements such as attic insulation, air sealing, and duct sealing, and also includes devices such as advanced thermostats (free or reduced), smart power strips, and low-flow water devices, based on auditor selection and per-home limits.

For C&I, the prescriptive program covers lighting, HVAC, and selected food service/refrigeration measures, and the custom track supports site-specific and multi-measure projects (including energy management systems and compressed air) with project-by-project incentive determination.

In practice, the Evaluator believes the programs as designed provide sufficient end-use coverage for a small territory. However, we would recommend establishing application forms for processing of ENERGY STAR appliances through the Residential Products Program.

Whether the programs and/or portfolio, to the maximum extent reasonable, comprehensively address the needs of customers at one time, in order to avoid cream-skimming and lost opportunities;

The portfolio includes at least two delivery pathways that can support more comprehensive treatment at a customer site. First, the residential weatherization program begins with an energy audit and installs upgrades selected by an approved auditor under program guidelines, which supports bundling multiple measures in a single participation pathway (for example, envelope measures plus thermostats and other low-cost devices). Second, the C&I custom

track is explicitly positioned for site-specific and multi-measure projects and requires pre-approval before purchase or installation, which can support coordinated project planning and reduce the risk of partial upgrades. The Evaluator finds this mix of offerings to be reasonable given the scope of the portfolio.

Whether such programs take advantage of opportunities to address the comprehensive needs of targeted customer sectors (for example, schools, large retail stores, agricultural users, or restaurants) or to leverage non-utility program resources (for example, state or federal tax incentives, rebate, or lending programs);

Liberty treats schools as a central focus of the program. The school base kit program is a primary source of savings, and C&I outreach prioritizes school districts as a key commercial segment where facilities work may occur during the summer (per interview notes). This targeted-sector approach aligns with the small-territory context, where a limited number of customer types may drive participation. Liberty also serves residential and C&I sectors. Given the size of the portfolio, evaluators did not find additional market subdivision warranted.

Whether the programs and/or portfolio enable the delivery of all achievable, cost-effective energy efficiency within a reasonable period of time and maximizes net benefits to customers and to the utility system; and

Liberty believes it has complied with this item through the following actions:

- Placing emphasis on direct install measures, meaning savings begin immediately,
- Incentivizing customers to perform as many energy efficiency measures as can cost-effectively be done through its Weatherization Program and School-based Energy Education Programs,
- Incentivizing customers to change energy usage habits through its School-based Energy Education program and Weatherization Program, meaning savings are both instantaneous and long-term,
- Offering both no cost and incentive based programs to residential customers.

Whether the programs and/or portfolio have evaluation, measurement, and verification ("EM&V") procedures adequate to support program management and improvement, calculation of energy, demand and revenue impacts, and resource planning decisions.

Liberty now includes EM&V as part of the annual review process. For 2205, the Evaluators applied AR TRM 10.0 for all applicable measures and found the program data sufficient to complete the analysis. The evaluators did make some recommendations for data collection improvements.

1.7 Planned changes to programs or budgets

Liberty made no modifications to the budgets as approved for 2025.

1.8 Estimation of EE Resource Potential

Liberty has not conducted an independent potential study solely for its Arkansas service territory, as less than three percent of Liberty's Central Region electric customers reside in Arkansas. Liberty took part in the Statewide Potential Study that will be used in subsequent planning cycles.

1.9 Training Achievements

Liberty did not offer any trade ally training sessions in 2025.

2.0 Program Portfolio

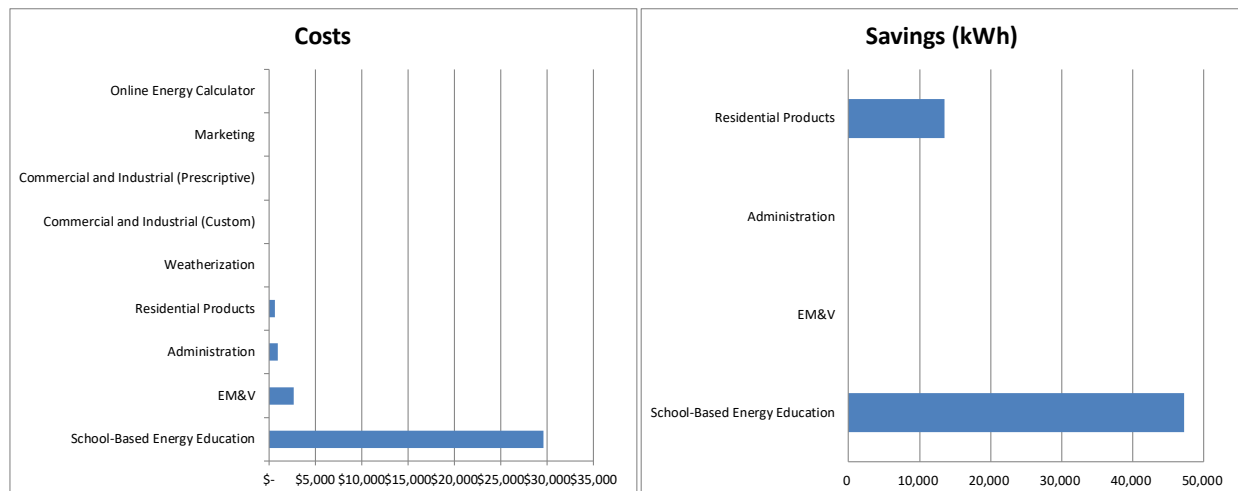
Table 2.0 outlines the spending, savings and participation for each program outlined in Sections 2.1 through 2.6.

Table 2.0

2025 Portfolio Results Detail by Target Sector

Target Sector	Costs			Savings (kWh)			Participants			TRC Ratio
	Budget	Actual	%	Plan	Evaluated	%	Plan	Actual	%	
Residential	\$ 75,589	\$ 30,272	40%	64,059	60,720	95%	805	809	100%	30.85
Small Business	\$ -	\$ -	-	0	0	-	0	0	-	n/a
Commercial & Industrial	\$ 10,812	\$ -	0%	0	0	-	4	0	0%	n/a
Municipalities/Schools	\$ -	\$ -	-	0	0	-	0	0	-	n/a
Agriculture	\$ -	\$ -	-	0	0	-	0	0	-	n/a
Other	\$ -	\$ -	-	0	0	-	0	0	-	n/a
Res/Small Business	\$ -	\$ -	-	0	0	-	0	0	-	n/a
Res/C&I	\$ -	\$ -	-	0	0	-	0	0	-	n/a
Small Business/C&I	\$ -	\$ -	-	0	0	-	0	0	-	n/a
All Classes	\$ 17,700	\$ 3,688	21%	0	0	-	0	0	-	0.00
	-	-	-	-	-	-	-	-	-	-
TOTAL	\$ 104,101	\$ 33,959	33%	64,059	60,720	95%	809	809	100%	16.40

Chart 2.0



2.1 Residential Products Program

2.1.1 Program Description

Customers are eligible for incentives for high efficiency HVAC equipment including thermostats.

2.1.2 Program Results

This program did not meet the expected performance for 2025.

2.1.3 Programming Budget, Savings & Participants

The residential products program spent just 2% of the budget. All of the participation from the program came from the installation of thermostats.

2.1.4 Description of Participants

Liberty defines a participant for this program as customer who receives an incentive for a qualifying measure.

2.1.5 Challenges & Opportunities

Liberty has seen challenges in delivery of programs in Arkansas. The challenges and opportunities for the program include:

- Limited amount of HVAC system replacement in the service territory each year. Liberty will work to increase outreach to contractors and may conduct limited contractor training to try to increase awareness.
- The smart thermostat offering has been limited to a pop-up marketplace offering twice in 2025. The Company continues to seek cost effective opportunities to promote and deliver the program.

2.1.6 Planned or Proposed Changes to Program & Budget

Liberty made no modifications to the program's budget in 2025 and has no proposed program changes. School-Based Energy Education

2.1.7 Program Description

Liberty provides educational kits with low-cost energy-saving items and information to middle school children⁷.

2.1.8 Program Highlights

Liberty distributed 793 school kits in 2025 and will continue to distribute school kits in future program years.

2.1.9 Program Budget, Savings & Participants

Liberty distributed 793 school kits in 2025 and spent 182% of the budget and achieved 100% of the savings. This overspending is attributable to fact that kits slated to be sent in the fall of 2024 were delayed until early 2025. The participation in the program is entirely dependent on school enrollment numbers and Liberty expects this to vary each year.

2.1.10 Description of Participants

A participant in this program is defined as a sixth-grade student receiving an EnergyWise® kit.

2.1.11 Challenges & Opportunities

The number of customers reached by this program is limited by the number of school districts in Liberty's service territory. Liberty seeks to educate young customers in new ways of energy conservation.

2.1.12 Planned or Proposed Changes to Program & Budget

Liberty made no modifications to the program's budget in 2025. Liberty will revisit the savings produced by the kits and look for opportunities to increase the savings delivered by the kits to better align with targets.

⁷ APSC Docket 07-076-TF, Doc. 121. Filed September 30, 2011.

⁸ *Direct Testimony of Christina L. Baker*, APSC Docket 07-076-TF, Doc. 396. Filed July 17, 2020

2.2 Weatherization Program

2.2.1 Program Description

Liberty's Weatherization Program utilizes contractors to perform energy audits and subsequently perform energy efficiency upgrades to qualifying homes.

2.2.2 Program Highlights

There was no participation in the program in 2025.

2.2.3 Program Budget, Savings & Participants

There was no participation in the program in 2025.

2.2.4 Description of Participants

A participant for this program is defined as a single home.

2.2.5 Challenges & Opportunities

There are inherent challenges in creating the right amount of demand for a program with small participation goals. Traditional marketing campaigns for our Arkansas customers have yielded response rates of around ten percent. Even the most conservative response rate of five percent (roughly 4,300 customers) could create unmanageable demand for the program based on its current budget. Moreover, Liberty does not mass market this program. Participating customers come to us directly through the application on the Liberty website, through word-of-mouth, or by participation in one of Liberty's other energy efficiency programs. Due to the underperformance of this program in 2023, Liberty recruited contractors who can serve our customers in partnership with the natural gas service provider within Liberty's Service Area.

2.2.6 Planned or Proposed Changes to Program & Budget

Liberty did not make any changes to the approved budget for 2025.

2.3 Commercial and Industrial (Custom)

2.3.1 Program Description

C&I customers receive rebates for the installation or replacement of cost-effective, efficient measures not included in the C&I prescriptive program.

2.3.2 Program Highlights

- This program had no participation in 2025.

2.3.3 Program Budget, Savings & Participants

There was no participation, spending or saving attributable to this program in 2025.

2.3.4 Description of Participants

Liberty defines a “participant” for this program as a qualifying customer receiving a rebate. A single customer can receive a rebate for more than one measure.

2.3.5 Challenges & Opportunities

As Liberty described at length in its response to Commission Order No. 40 in APSC Docket No. 07-076-TF⁹, there are various challenges to successful implementation of energy efficiency programs in its Arkansas service territory. These are expressed again in the 2025 EM&V report.

2.3.6 Planned or Proposed Changes to Program & Budget

Liberty did not make any changes to the approved budget for 2025.

2.4 Commercial and Industrial (Prescriptive)

2.4.1 Program Description

C&I customers receive rebates for the installation, replacement, or retrofit of qualifying electric savings measures.

2.4.2 Program Highlights

This program saw no participation in 2025.

2.4.3 Program Budget, Savings & Participants

There was no participation, spending or saving attributable to this program in 2025.

2.4.4 Description of Participants

Liberty defines a “participant” for this program as a qualifying customer receiving a rebate. A single customer can receive incentives for more than one measure.

2.4.5 Challenges & Opportunities

The program counts on contractors from nearby metropolitan areas because few commercial energy efficiency vendors have offices in Liberty’s service territory. Finding vendors remains a challenge since there are few commercial customers in this area.

2.4.6 Planned or Proposed Changes to Program & Budget

Liberty did not make any changes to this program’s approved budget for the 2025 program year.

⁹APSC Docket No. 07-076-TF, Doc. 169. Filed September 14, 2012.

¹⁰APSC Docket 07-076-TF, Doc. 192. Filed June 3, 2013

2.5 Online Energy Calculator

2.5.1 Program Description

Liberty customers can conduct an online energy assessment, use the online energy calculator, and sign up for regular energy efficiency tips and information regarding reducing their bills through Liberty's partnership with Apogee.

2.5.2 Program Highlights

This program is informational but does not provide measurable energy savings.

2.5.3 Program Budget, Savings & Participants

There was no spending assigned to Arkansas in 2025, but the tool was available to participants. Participation is currently not tracked at the state level.

2.5.4 Description of Participants

Liberty does not measure specific participants at a level attributable to its Arkansas jurisdiction.

2.5.5 Challenges & Opportunities

While Liberty is confident in the spillover effects of this program, which would lead participants to other programs and energy efficiency upgrades, there is no way to calculate this at its current level of evaluation. Liberty is continually evaluating ways to better utilize this program.

2.5.6 Planned or Proposed Changes to Program & Budget

Liberty did not make any changes to this program's approved budget for the 2025 program year.

3.0 Supplemental Requirements

3.1 Staffing

Liberty has additional staff that support energy efficiency. This includes management, marketing, regulatory, customer service, and analysts. As of the time of this report, the energy efficiency team in the central region is currently fully staffed.

3.2 Stakeholder Activities

Liberty participates in frequent meetings of the Parties Working Collaboratively ("PWC"). This includes discussions of the TRM, Statewide Potential Studies, Weatherization Collaboratives, and other collectives. Liberty takes part via phone and/or webinars to minimize administrative and travel costs.

3.3 Information Provided to Consumers to Promote EE

Because Liberty operates within a dramatically smaller and more rural customer base than any of its peers—described at length in its response to Commission Order No. 40 in APSC Docket No. 07-076-TF¹² and other subsequent filings—program delivery has considerable challenges. Liberty has shifted to online promotion and delivery of information to customers. Liberty intends to revisit the promotion of the programs to increase the use of other channels to promote the programs in the future.

¹¹ APSC Docket 07-076-TF, Doc. 121. Filed September 30, 2011.

4.0 EM&V

Pursuant to the recommendation of the IEM Liberty is conducting EM&V on an annual basis. Attached as Appendix A to this report is Liberty's 2025 EM&V Report, prepared by ADM Associates.

QUALUS

The Empire District Electric Company

Program Year 2025

**Energy Efficiency Portfolio Evaluation EM&V
Report**

MAY 1, 2026

Prepared by:

Qualus, LLC

Prepared for:

Empire District Electric Company

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Terminology Reference

- **Deemed Savings** – An estimate of an energy savings or energy demand savings outcome (gross savings) for a single unit of an installed energy efficiency measure. This estimate (a) has been developed from data sources and analytical methods that are widely accepted for the measure and purpose and (b) is applicable to the situation being evaluated.
- **Ex Ante Gross Savings** – Forecasted savings used for program and portfolio planning purposes (from the Latin for “beforehand”).¹ These savings are also referred to as Expected or Claimed savings.
- **Ex Post Gross Savings** – Savings estimates reported by an evaluator after the energy impact evaluation has been completed (from the Latin for “from something done afterward”).² These savings are sometimes also referred to as Realized or Evaluated savings.
- **Ex Post Net Savings** – When Ex Post Evaluation Estimated Savings are multiplied by the Net-to-Gross Ratio.
- **Free rider** – A program participant who would have implemented the program measure or practice in the absence of the program. Free riders can be total, partial, or deferred.
- **Gross Realization Rate** – The ratio of Ex Post Gross Savings and Ex Ante Gross Savings.
- **Participant** – A consumer who received a service offered through the subject efficiency program in a given program year.
- **Net-to-Gross (NTG)** – A factor representing net program savings divided by Ex Post gross program savings that is applied to Ex Post Evaluated gross program impacts, converting them into net program load impacts after adjustments for free ridership and spillover. $(1 - \text{Free ridership \%} + \text{Spillover \%})$.
- **Spillover** – Reductions in energy consumption and/or demand caused by the presence of the energy efficiency program that exceed the program-related gross savings of the participants. There can be participant and/or non-participant spillover rates depending on the rate at which participants (and non-participants) adopt energy efficiency measures or take other types of efficiency actions on their own (i.e., without an incentive being offered).
- **Non-Energy Benefits** – the savings associated with other fuel savings, such as electricity, propane and natural gas, which are estimated based on dual fuel savings that are not directly incentivized by the utility or utilities that participated in the project.

¹ Definition provided in the Glossary of the AR TRM v10.0 for ‘Ex ante Savings Estimate’.

² Definition provided in the Glossary of the AR TRM v10.0 for ‘Ex post Evaluation Estimated Savings’.

1 SUMMARY

The following sections outline the portfolio background and programs, evaluation methods and results of the program year 2025 (PY2025) portfolio evaluation.

1.1 Introduction and Overview

In accordance with APSC Rules for Conservation and Energy Efficiency Programs (CE&E Rules), Empire engaged Qualus, LLC, (Qualus) to conduct an evaluation, measurement, and verification (EM&V) of its portfolio. The Qualus staff, collectively referred to as “the Evaluators” or “Qualus”, evaluated the Empire portfolio. Empire offered a portfolio of energy efficiency programs, which provided a comprehensive range of customer options focused on energy efficiency and educational options. During PY2025, four programs were offered:

Table 2-1 PY2025 Empire Energy Efficiency Program Summary

Program	Description
Residential Products	Provides financial incentives to residential electric customers who install qualifying high-efficiency heating and cooling equipment. Online offer promoting smart thermostats. Prices were discounted so that the cost was typically \$50 or less.
School-Based Energy Education Program	Educational materials and energy efficiency kits distributed to students within the service territory. The kit includes LED lamps, a toilet leak repair kit and a kitchen aerator. AM Conservation Group implements this program.
Commercial and Industrial Rebates	The Commercial and Industrial Rebate (C&I) Program is designed to encourage the installation of energy efficient equipment by providing incentives to lower the cost of energy efficient equipment for commercial and industrial facilities
Arkansas Residential Weatherization Program	The Residential Weatherization Program is designed to reduce household energy use and improve comfort through cost-effective upgrades to the home’s thermal envelope and equipment.

1.2 Evaluation Objectives and Methodology

Due to Empire’s small service area and associated small program budgets, the program evaluation takes an abbreviated approach compared to what is executed for other electric utilities in Arkansas. The general approach to validation of savings for Empire is to:

- Validate use of appropriate deemed savings estimates by measure and by program, producing ex post gross kWh savings and kW reductions.
- Cite applicable net-to-gross ratios (NTGs) as-developed for other utilities in Arkansas (SWEPCO, OG&E, EAI), producing ex post net kWh and kW savings.
- Estimate applicable non-energy benefits (NEBs) by measure and by program.

- Complete a limited process evaluation.

To accomplish the evaluation objectives, the Evaluators used the following approaches:

- Project data from the was reviewed to ensure that tracking systems follow are consistent with Arkansas TRM v10.0 Volume 1, Protocol A.
- Validate gross kWh savings and kW reductions using the stipulated savings listed in the Arkansas TRM 10.0 for determining savings with deemed savings values. This is consistent with the Arkansas TRM v10.0 Volume 1, Protocol B2 and B3.
- Estimate Net-to-Gross (NTG) ratios and ex post net savings. NTG ratios used in this evaluation were sourced from similar evaluations of other Arkansas programs. This method is consistent with Protocol A of the Arkansas TRM v10.0 Volume 1, Protocol B3.
- Estimate non-energy benefits (NEBs) for each of the measures offered in the portfolio. NEB estimations adhered to Protocol L of the Arkansas TRM v10.0 Volume 1, and include natural gas therm savings, gallons of water savings, propane savings, and avoided replacement costs (ARCs).
- Review marketing materials provided by the utility and the program website, and interviewed the utility program manager.

1.3 Summary of Findings and Recommendations

Across the portfolio, the utility continued to offer multiple residential and non-residential energy efficiency programs, although participation levels varied by program. Participation during the evaluation period included customer purchases of discounted smart thermostats through the Residential Products Program and the distribution of school energy efficiency kits through the School-Based Education Program. Because kits were not distributed in 2024, the program distributed kits in two waves during the 2025 program year to students associated with both the 2024-2025 and 2025-2026 academic years.

No participation was reported during the evaluation period for the Commercial and Industrial Energy Efficiency Rebate Program or the Arkansas Residential Weatherization Program. Program staff attributed limited participation and implementation challenges in several programs to the small size and geographic dispersion of the service territory, which limits contractor availability and engagement. In response, the Empire has taken steps to improve program delivery by increasing contractor recruitment efforts and exploring coordination with neighboring utilities to leverage existing contractor networks and outreach channels.

The Residential Products program includes HVAC equipment and ENERGY STAR appliances (e.g., ENERGY STAR Air Purifiers, ENERGY STAR Dehumidifiers, ENERGY STAR Freezers, and ENERGY STAR Refrigerators) and other measures in the program design. While the program includes an application form for HVAC equipment rebates, the Evaluators did not find evidence of a comparable

customer-facing web presence or rebate application forms for the other appliances included in the program filing. Instead, these appliances are promoted periodically through limited-time offers offered via an online marketplace, as was done for smart thermostats in 2025.

- **Recommendation 1:** Develop and publish a basic Residential Products web page and rebate application form for ENERGY STAR appliances and other planned measures or increase limited time offers in 2026 to better position the program to meet its savings goals.

Savings for smart thermostats were successfully evaluated using available tracking data and default TRM assumptions. However, the tracking data could be improved by including home square footage and existing thermostat type, which would strengthen savings estimation.

- **Recommendation 2:** Add square footage and existing thermostat type to smart thermostat tracking records. Including these fields would improve data quality and reduce reliance on default assumptions while maintaining the current evaluation approach.

The following tables summarize the results of the gross impacts, net impacts, gross NEBs, and net NEBs, respectively.

Table 1-1 PY2025 Portfolio Evaluation Gross Savings Results

Program	Ex Ante kWh	Ex Post Gross kWh	kWh Realization Rate	Ex Ante kW	Ex Post Gross kW	kW Realization Rate
Residential Products	16,803	16,803	100.0%	0.00	0.00	NA
School Based Energy Education	47,256	47,256	100.0%	5.11	5.11	100.0%
Total	64,059	64,059	100.0%	5.11	5.11	100.0%
Sums may differ due to rounding.						

Table 1-2 PY2025 Portfolio Evaluation Net Savings Results

Program	Ex Post Gross kWh	kWh NTGR	Ex Post Net kWh	Ex Post Gross kW	kW NTGR	Ex Post Net kW
Residential Products	16,803	80.1%	13,464	0.00	NA	0.00
School Based Energy Education	47,256	100.0%	47,256	5.11	100.0%	5.11
Total	64,059	94.8%	60,720	5.11	100.0%	5.11
Sums may differ due to rounding.						

NTG ratios were assigned at the measure-level, with program-level NTG ratios reflecting the aggregate impact of measure-level values.

Table 1-3 PY2025 Portfolio Evaluation Gross Non-Energy Benefits

Program	Ex Post Gross Therms	Ex Post Gross Water (gal)	Ex Post Gross Propane (gal)	Ex Post Gross ARCs (\$)
Residential Products	361	0	0	\$0
School Based Energy Education	-75	63,706	-6	\$5,588
Total	286	63,706	-6	\$5,588

Table 1-4 PY2025 Portfolio Evaluation Net Non-Energy Benefits

Program	Ex Post Net Therms	Ex Post Net Water	Ex Post Net Propane	Ex Post Net ARCs
Residential Products	289	0	0	\$0
School Based Energy Education	-75	63,706	-6	\$5,588
Total	214	63,706	-6	\$5,588

No recommendations were made in prior years; therefore, no updates are presented in this report.

1.4 Commission Checklist

The following summarizes the assessment of the commission checklist factors

1.4.1 Education, training, marketing, or outreach to address market barriers

Empire's portfolio used a limited set of outreach channels that program staff characterized as "typical utility promotional" efforts and digital communications (social media and periodic customer emails). The marketing materials provided to the Evaluator for review included examples of social media promotions and an excerpt from a customer newsletter. Program staff also described coordinating with internal marketing to time messaging around periods when customers are more likely to replace HVAC equipment, and noted that C&I outreach has focused on school districts to generate commercial activity. In addition, the school-based kit program includes an education component delivered through participating schools, with teacher materials and student worksheets about kit use.

Overall, the portfolio demonstrates outreach and education activity, and the marketing materials emphasize home comfort and energy benefits. Given the small scale of the service territory and size of the marketing budget, marketing resources are limited relative to what might be present for a larger utility.

The Evaluators note that based on the materials provided and a review of the program website, the program does not appear to have developed customer rebate forms or website presence for ENERGY STAR appliances and other measures described under the Residential Products program. Program staff noted that these products are promoted periodically through an online marketplace as a limited time offer, such as was done with the residential thermostats in 2025.

1.4.2 Adequate budgetary, management, and program delivery resources

The portfolio's implementation approach reflects the operational realities of a small and geographically dispersed service territory. Program staff emphasized that contractor availability is a primary constraint and that the portfolio relies on straightforward processes to encourage repeat participation when contractors do engage. The school-based program uses an implementation contractor to organize kit distribution through schools and support the education component, indicating at least some dedicated delivery resources for the portfolio's main savings source. For residential weatherization, customer-facing materials describe an auditor and contractor "approved by Liberty" who conduct audits and install measures selected under program guidelines and per-home financial limits. At this time, the program has struggled to develop a base of contractors to deliver this program but is engaging with other utilities on this issue.

Given the size of the program, staffing appears limited to a program manager with support from an implementation contractor for the school kit program. The budgets shown are consistent with a small-scale portfolio. For example, the \$2,000 C&I non-incentive budget would support review of a small number of projects. Whether this level of activity supports the portfolio's savings targets would depend on the number and size of completed submitted.

Table 1-5 summarizes the program goals, PY2025 net kWh savings, goal attainment, budget, and expenditures.

Table 1-5 Summary of Program Goals, Budget and Expenditures

Program	Goal (kWh)	Ex post Net kWh	Goal Attainment	Budget	Incentive Budget	Expenditures	Expenditures as Share of Budget
Residential Products	79,927	13,464	16.8%	\$34,885		\$690	2.0%
School Based Education	47,924	47,256	98.6%	\$32,500	\$0	\$29,582	91.0%
Residential Weatherization	62,390	0	0.0%	\$24,454	\$16,204	\$0	0.0%
Commercial and Industrial	51,677	0	0.0%	\$10,812	\$8,812	\$0	0.0%

Note: School based education includes goals, budgets, and savings for PY2024 and PY2025.

1.4.3 Addressing major end-uses of electricity (as appropriate)

Within a small portfolio, Empire's offerings cover several major electric end-uses across customer classes. On the residential side, the portfolio includes HVAC rebates for central AC, ductless mini-splits, ASHP, and GSHP with incentive tiers by efficiency ratings. The program plan includes other measures such as ENERGY STAR appliances.

The residential weatherization offering supports envelope improvements such as attic insulation, air sealing, and duct sealing, and also includes devices such as advanced thermostats (free or reduced), smart power strips, and low-flow water devices, based on auditor selection and per-home limits.

For C&I, the prescriptive program covers lighting, HVAC, and selected food service/refrigeration measures, and the custom track supports site-specific and multi-measure projects (including energy management systems and compressed air) with project-by-project incentive determination.

In practice, the Evaluator believes the programs as designed provide sufficient end-use coverage for a small territory. However, we would recommend establishing application forms for processing of ENERGY STAR appliances through the Residential Products Program or more frequent online promotions of additional appliances to help the program meet its savings goals.

1.4.4 Addressing customer needs comprehensively to avoid lost opportunities

The portfolio includes at least two delivery pathways that can support more comprehensive treatment at a customer site. First, the residential weatherization program begins with an energy audit and installs upgrades selected by an approved auditor under program guidelines, which supports bundling multiple measures in a single participation pathway (for example, envelope measures plus thermostats and other low-cost devices). Second, the C&I custom track is explicitly positioned for site-specific and multi-measure projects and requires pre-approval before purchase or installation, which can support coordinated project planning and reduce the risk of partial upgrades. The Evaluator finds this mix of offerings to be reasonable given the scope of the portfolio.

1.4.5 Targeted sectors and leveraging non-utility resources

Program staff described schools as a central focus: the school-based kit program is the primary source of savings, and C&I outreach prioritizes school districts as a key commercial segment where facilities work may occur during the summer (per interview notes). This targeted-sector approach aligns with the small-territory context, where a limited number of customer types may drive participation.

Additionally, Empire programs serve the residential and C&I sectors. Given the size of the portfolio, the Evaluators do not find additional market subdivision warranted.

Staff described efforts to leverage non-utility resources to address delivery constraints. This included discussions with another utility to align efforts or use existing contractor relationships. Staff also used professional networks to identify contractors operating in neighboring areas. These efforts are ongoing.

1.4.6 Cost-effectiveness

According to the filed plan, the planned portfolio is cost-effective. The Evaluator did not conduct an independent cost-effectiveness analysis for the portfolio or individual programs. Several programs fell short of planned goals, which may have prevented the portfolio from achieving cost-effectiveness in PY2025.

1.4.7 EM&V procedures adequate to support management, impacts, and planning

The Evaluators applied AR TRM 10.0 for all applicable measures. Program data were sufficient to complete the analysis. For smart thermostats, the data would have been improved by including home square footage and existing thermostat type; default TRM assumptions were applied in place of these fields. The school kit program includes a survey to verify installation of kit items and water heater type, and the Evaluators used these responses to calculate energy savings.

2 PROGRAM DESIGN AND OPERATIONS

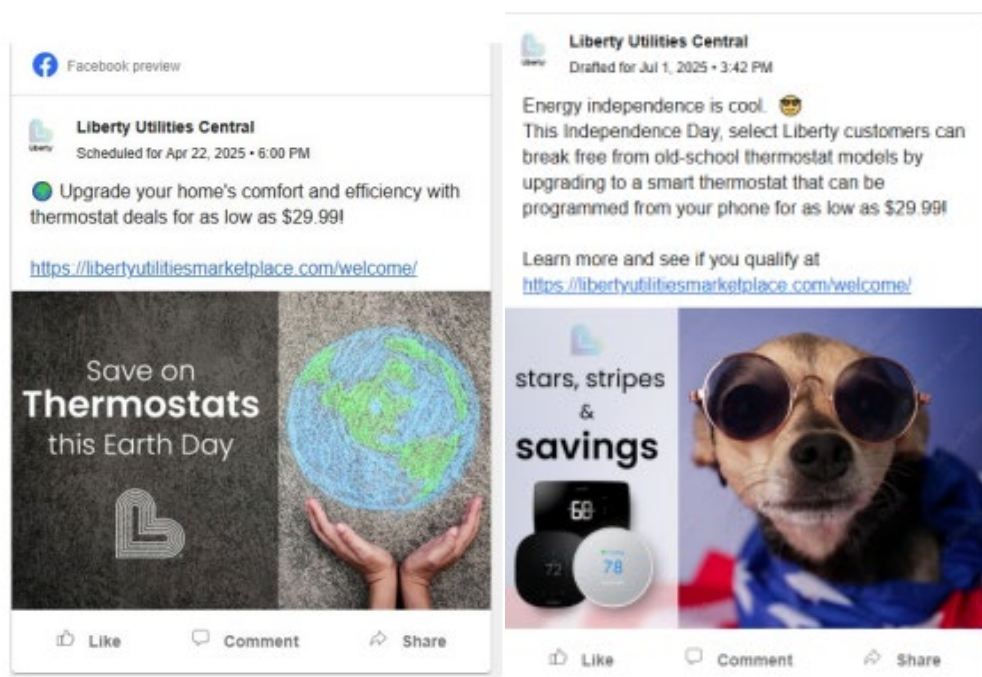
This section summarizes the programs offered by Empire and the program processes. It is based on an interview with the program manager, marketing and application materials provided by the utility, and a review of the program website.

Program staff described the Arkansas electric portfolio as operating in a small service territory, with implementation shaped by the limited size and dispersion of customers and by the availability of local contractors. The portfolio includes a school-based kit and education offering, residential rebates (HVAC), a residential weatherization offering, and commercial and industrial (C&I) rebates with prescriptive and custom paths. The school-based program was described as the primary source of energy savings within the portfolio.

2.1 Marketing and Outreach Approaches

Program staff characterized marketing for the Arkansas offerings as consistent with “typical utility promotional” activities, with a primary emphasis on digital channels. In particular, staff referenced social media as a routine communications vehicle and indicated the utility periodically conducts email outreach to customers. Staff also noted that they do not typically use physical mailers for program promotion, describing communications as largely digital.

Figure 2-1 Examples of Social Media Promotion from Earth Day and July 4th Campaigns



Staff described coordinating periodically with the internal marketing function to place program reminders or seasonal messages. For example, they discussed timing outreach to align with periods when customers are more likely to undertake HVAC equipment replacements.

The program manager noted that for the C&I programs the focus has been on outreach to schools as a way of generating activity in those programs.

Below, three outreach efforts are discussed.

- **Online thermostat promotion (residential measure promotion):** Although not listed as a standalone program, program staff discussed a thermostat promotion delivered through an online portal, implemented by a third party. Customers could access the portal and purchase discounted thermostats (with customer prices described as generally under \$50), and the effort was promoted through direct email and social media. Staff described the promotion as coordinated across multiple service areas at once (including Arkansas), with outreach to eligible customers supported by collaboration with the local marketing team.
- **C&I outreach focused on school districts:** For commercial participation, staff described proactive outreach to school districts as a key near-term strategy, based on the view that school districts may be among the largest or most prevalent commercial customers in small towns. Staff indicated outreach timing is influenced by the school calendar, with an emphasis on making contact before the end of the school year and anticipating that much facilities work occurs during the summer.
- **School-based education program recruitment approach:** For the school-based kit program, staff indicated participation tends to involve the same schools year after year, with implementers obtaining a headcount of sixth graders to plan kit quantities. Staff also recalled the possibility of adding an additional school when budget allowed, suggesting some flexibility to expand distribution when opportunities arise.

2.2 Role of Trade Allies and Contractors

Across the portfolio, program staff described contractor availability as an important operational factor in this small territory. Staff noted that in smaller communities, contractors may cover multiple market segments (e.g., residential and small commercial) rather than specializing, and staff viewed contractor engagement as a pathway to increasing participation across both commercial and residential offerings.

Staff indicated that, because these are primarily rebate-based offerings, there is not necessarily a formalized participating contractor network comparable to larger programs (e.g., a dedicated participating contractor webpage), and that low participation levels have limited the development of a formal trade ally structure for Arkansas. Instead, staff described focusing on keeping processes “easy for contractors to work with,” with the goal of enabling repeat participation when contractors do engage.

2.3 Portfolio Programs

The following provide additional program-specific information.

2.3.1 School-Based Education Program

The School-Based Education Program delivers energy savings kits to sixth-grade students through participating school districts. This program relies on an implementation contractor to support delivery. The implementation contractor's role includes organizing distribution through schools/classrooms and supporting associated educational components.

This program accounts for a substantial share of portfolio savings. Kits are distributed through classrooms, and students take them home to install the included measures. The program also incorporates an educational component that provides energy efficiency information to students, along with supporting instructional materials for teachers. Students complete an activity worksheet that includes questions on whether the kit items were used.

Program staff noted that kits were not distributed in the fall of 2024. As a result, distribution occurred in two waves in the 2025 program year and the kits were provided to students in the sixth grade in the 2024-2025 and 20245 -2026 school years. Staff indicated that this two-wave distribution contributed to program expenditures exceeding the 2025 budget and stated that the commission had been informed of this circumstance and that this was noted in Empire's 2024 Annual report.

2.3.2 Residential Products / HVAC Rebates

The Residential Products program provides financial incentives to residential electric customers who install qualifying high-efficiency heating and cooling equipment. Additionally, the filed program plans list additional ENERGY STAR appliances, low flow devices, and smart power strip. As of date, there does not appear to be a web-presence for these measures or application forms.

Eligible HVAC equipment must be AHRI-rated, and rebate amounts vary by equipment type and efficiency level, as defined by applicable SEER, EER, and HSPF thresholds. The program includes rebates for central air conditioners, ductless mini-split heat pumps, air-source heat pumps, and ground-source heat pumps.

The program is structured as a customer rebate offering in which customers install qualifying equipment and submit an application to receive the associated incentive. Program staff noted that participation has been limited in recent years and attributed this, in part, to the small size and geographic dispersion of the service territory. Staff also indicated interest in renewed outreach efforts, including increased engagement with HVAC contractors, to improve awareness of the program among installers who influence customer equipment decisions.

2.3.3 Arkansas Residential Weatherization Program

The Residential Weatherization Program is designed to reduce household energy use and improve comfort through cost-effective upgrades to the home's thermal envelope and equipment.

Participation begins with an energy audit to identify appropriate measures. For eligible homes, upgrades are installed by a Empire-approved contractor in accordance with program guidelines and per-home financial limits. Eligible measures may include attic insulation, air sealing, duct sealing, advanced thermostats (provided at no cost or reduced cost), water heater wraps, smart power strips, and low-flow water devices. Eligibility is limited to individually metered, single-family residences.

Program staff reported very limited participation in recent years and identified contractor availability as a key operational challenge affecting consistent program delivery within the small service territory.

Staff reported efforts to explore coordination with Black Hills Energy as a potential strategy to address implementation challenges associated with the small size and geographic dispersion of the service territory. Specifically, staff described outreach to Black Hills to assess whether there may be opportunities to align efforts or leverage existing contractor relationships.

In addition to coordination discussions with Black Hills Energy, staff described drawing on professional relationships with other regional program administrators to identify contractors who may already be performing similar work in neighboring service areas. These efforts were characterized as exploratory and ongoing, with the intent of identifying contractors willing to expand their service area to support program delivery.

2.3.4 Arkansas Commercial and Industrial Energy Efficiency Rebate Program (Prescriptive and Custom)

The Commercial and Industrial (C&I) Energy Efficiency Rebate Program provides financial incentives to eligible commercial and industrial customers to support energy efficiency improvements and reduce operating costs. The program offers incentives for a range of electricity-using equipment, including high-efficiency lighting, HVAC and heating systems, motors, refrigeration equipment, energy management systems, and other qualifying measures. Incentives are available up to \$20,000 per facility per program year.

The program is delivered through two primary participation pathways: a Prescriptive Rebate Program for predefined measures and a Custom Rebate Retrofit Program for projects not covered under the prescriptive offerings.

Program staff described current outreach efforts for the C&I program as focusing on school districts, which staff identified as a key commercial customer segment within the service territory.

Staff indicated that this outreach approach reflects the expectation that facility upgrades in schools often occur during the summer months, creating opportunities for lighting and HVAC projects. Staff also described efforts to identify and engage contractors through school district contacts and, when necessary, through targeted searches for HVAC and electrical contractors operating in specific communities.

The Prescriptive Rebate Program provides incentives for predefined energy efficiency measures with established rebate values. To participate, customers submit required application materials, including a lighting inventory for lighting measures. Applications are reviewed for eligibility, and customers receive notification of pre-approval prior to proceeding with installation.

The Custom Rebate Retrofit Program supports energy efficiency measures in existing facilities that are not addressed under the prescriptive pathway. Customers may apply for single or multiple measures within the same facility. Participation requires pre-approval prior to equipment purchase and installation. Custom projects are individually evaluated to confirm cost-effectiveness, including verification that measures pass the Total Resource Cost (TRC) test with a TRC value of at least 1.0 and an incremental payback exceeding two years. Incentives under the custom pathway are capped at \$20,000 per facility per program year.

3 GROSS AND NET SAVINGS

3.1 Residential Products

Empire provided discounted smart thermostats to its customers. The Evaluators reviewed the provided program participation tracking data to calculate energy savings on a per-project basis. Ex ante savings were not included in the tracking data, therefore the Evaluators assume ex ante savings are the same as ex post savings.

3.1.1 Gross Impact Evaluation

In PY2025, a total of 12 smart thermostats were delivered through the program. Ex post savings were sourced from the AR TRM v10.0, Section 2.2.11 Smart Thermostats. The Evaluators note that the conditioned square footage and the existing thermostat type were missing within the provided tracking data. The Evaluators assumed a ‘Default’ thermostat type and researched applicable square footages through online home records. Below, Table 3-1 presents a summary of ex ante and ex post savings for this program.

Table 3-1 PY2025 Smart Thermostat Gross Savings

Measure	Ex Ante Energy Savings (kWh)	Ex Post Energy Savings (kWh)	Realization Rate (kWh)	Ex Ante Demand Reductions (kW)	Ex Post Demand Reductions (kW)	Realization Rate (kW)
Smart Thermostat	16,803	16,803	100.0%	0.00	0.00	NA
Sums may differ due to rounding.						

3.1.2 Net Impact Evaluation

The net-to-gross ratio for the smart thermostats was based on a literature review of similar programs administered in other states. The table below summarizes the findings.

Table 3-2 Literature Review Results for Smart Thermostats

Reference Number	FR	SP	NTG	PY	State
1	14.0%	6.0%	92.0%	2023	IL
2	14.0%	0.0%	86.0%	2021	WI
3	31.0%	0.0%	69.0%	2022	OK
4	29.3%	2.8%	73.5%	2021	MO
Average	22.1%	2.2%	80.1%	-	-

1. <https://www.ilsag.info/wp-content/uploads/ComEd-Retail-Online-Program-Appliance-Rebate-Component-NTG-Memo-2023-09-01-Final.pdf>

2. https://assets.focusonenergy.com/production/inline-files/Evaluation_CY_2022-Vol-II.pdf

3. <https://oklahoma.gov/content/dam/ok/en/occ/documents/pu/energyefficiency/demand-program-annual-reports/pso-2022-demand-report.pdf>

4. <https://efis.psc.mo.gov/Document/Display/9243>

Based on this research, the Evaluators applied NTGR of 80.1% to program gross savings estimates. Resulting net savings are presented below in Table 3-3.

Table 3-3 PY2025 Residential Products Program Net Savings Summary

Measure	Ex Post Gross Energy Savings (kWh)	Ex Post Net Energy Savings (kWh)	Net-to-Gross (%)	Ex Post Gross Demand Reductions (kW)	Ex Post Net Demand Reductions (kW)
Smart Thermostat	16,803	13,464	80.1%	0.00	0.00
Sums may differ due to rounding.					

3.1.3 Non-Energy Benefits

Protocol L of the AR TRM v10.0 states that EM&V of demand-side management (DSM) programs in Arkansas must account for non-energy benefits (NEBs) resulting from each program. Specifically, the categories of NEBs that are to be calculated for each DSM program are as follows:

- Benefits of electricity, natural gas, and liquid propane energy savings (i.e., other fuels);
- Benefits of public water and wastewater savings; and
- Benefits of avoided and deferred equipment replacement costs.

As discussed below, the NEBs applicable to the Residential Products Program are natural gas (therms) savings. The following tables summarize the gross and net NEBs for the Residential Products Program, respectively.

Table 3-4 PY2025 Residential Products Program Gross NEBs Summary

Measure	Ex Post Gross Therms	Ex Post Gross Water	Ex Post Gross Propane	Ex Post Gross ARCs
Smart Thermostat	361	0	0	\$0
Sums may differ due to rounding.				

Table 3-5 PY2025 Residential Products Program Net NEBs Summary

Measure	Ex Post Net Therms	Ex Post Net Water	Ex Post Net Propane	Ex Post Net ARCs
Smart Thermostat	289	0	0	\$0
Sums may differ due to rounding.				

3.1.4 Protocol A Database Review

The Evaluators reviewed the provided tracking data, project documentation, and supplemental files associated with the Residential Products Program participation for PY2025. The following table summarizes how well the tracking systems meet the component of the protocol.

Table 3-6 Residential Products Protocol A Summary

Category	Field	Status	Description of Issue(s)
Participating Customer Information	Unique customer identifier, such as account number	x	Participant account numbers were not provided in the program tracking data. The rebates are processed in house and the account numbers are confirmed during the processing but not provided to the Evaluators.
	Customer contact information – name, mailing address, telephone number	✓	
	Date(s) of major customer milestones such as rebate application date, approval date, rebate processing date, etc.	✓	A “Ship Date” and a project completion date were included in the program tracking data.
Measure-Specific Information	Measure Group (Equipment Type)	N/A	
	Equipment Fuel/Energy Source	✓	
	Equipment Quantity	✓	
	Efficiency Level	✓	Although not explicitly included in program tracking data, a field in the

Category	Field	Status	Description of Issue(s)
			tracking data called “ST25U” is a model number for a smart thermostat. Smart thermostats are assumed to be offered.
	Estimated Savings	✗	This was not provided in the program tracking data.
	Estimated incremental measure cost	✗	This was not provided in the program tracking data.
	Equipment Useful Life	✗	This was not provided in the program tracking data.
	Measure Name – Text Description	✓	
	Measure Name – Numerical Code	N/A	This is not needed for impact evaluation tasks.
	Serial Number	N/A	This is not needed for impact evaluation tasks.
	Reported age of equipment replaced	N/A	This does not apply for measures offered in PY2025 Residential Products.
	Reported measure type of equipment replaced	✗	Existing thermostat types were not provided in the program tracking data.
	Other inputs necessary for the use and compliance with the TRM	✗	Square footages were not provided in the program tracking data.
Vendor-Specific Information	Name and Contact Information for Contractor	N/A	This information is not included in the program tracking data as the delivery mechanism (online marketplace) does not require a trade ally.
	Contractor Type	N/A	
	Date of Installation	N/A	“Ship Date” is assumed to be the date of installation.
	Cost of the installed equipment	✓	
	Efficiency level of the installed equipment	✓	
Program Tracking Information	Date of the initial program contact/rebate information	N/A	
	Date of rebate/incentive paid	✓	
	Incentive amount paid to-date	✓	
	Incentive amounts remaining	N/A	There are no fields outlining the outstanding incentives remaining to be paid out.
	Application Status (i.e., number of applications approved, pending, or denied)	N/A	

Category	Field	Status	Description of Issue(s)
	Reason and reason code for application denial	N/A	
Program Costs	Overall program budgets	✓	This was provided to the Evaluators as a portfolio summary. This, however, was not included in the tracking data.
	Program expenditures to-date	✓	
	Incentive Costs	✓	
	Administrative Costs	✓	
	Marketing/Outreach Costs	✓	
	Evaluation Costs	✓	
Marketing and Outreach Activities	Advertising and marketing spending levels	N/A	
	Media schedules	N/A	
	Summary of number of community events/outreach activities	N/A	
	Other media activities – estimated impressions via mailings, television/radio; print ads	N/A	

3.2 School Based Energy Efficiency Program

Through the School Based Energy Education Program, Empire provides energy efficiency kits containing low-cost measures to sixth grade students in its service territory to install in their homes. These kits include the following:

- (1) 1.5 GPM Kitchen Faucet Aerator;
- (2) 9W A19 Omni-Directional LEDs;
- (1) 7W Nightlight LED; and
- (1) Toilet Leak Repair.

3.2.1 Gross Impact Evaluation

In PY2025, a total of 793 school kits were delivered through the program. Ex post savings were sourced from the AR TRM v10.0, 2.5.2 Omni-Directional LEDs and 2.3.4 Faucet Aerators. For the nightlights, the Evaluators referenced the IL TRM v14.0, 5.5.11 LED Nightlights. Additionally, the Evaluators referenced the student survey responses to calculate appropriate in-service rates (ISRs) and applicable space and water heating fuel mix ratios for the measures.

Table 3-7 PY2025 School Based Energy Efficiency Program Gross Savings

Measure	Ex Ante Energy Savings (kWh)	Ex Post Energy Savings (kWh)	Realization Rate (kWh)	Ex Ante Demand Reductions (kW)	Ex Post Demand Reductions (kW)	Realization Rate (kW)
1.5 GPM Faucet Aerator	4,338	4,338	100.0%	0.45	0.45	100.0%
9W A19 LED Lamp	28,198	28,198	100.0%	4.66	4.66	100.0%
7W Nightlight LED	14,720	14,720	100.0%	0.00	0.00	NA
Total	47,256	47,256	100.0%	5.11	5.11	100.0%
Sums may differ due to rounding.						

3.2.2 Net Impact Evaluation

The IEM Memo addressing free-ridership and baseline for LEDs in income-qualified areas outlined that school kit distributions receive 100% NTG. Though the LivingWise Schools Outreach kits did not include LEDs in PY2025, the Evaluators concluded that the assignment of 100% NTG for LEDs should also be applicable to the PY2025 school kit measures (aerators, showerheads, advanced power strips) as the NTG estimate is a function of the delivery channel providing equipment free-of-charge to qualifying customers.

Table 3-8 Literature Review Results for School Kits

Reference Number	FR	SP	NTG	PY	State
1	0.0%	0.0%	100.0%	2023	AR
Average	0.0%	0.0%	100.0%	-	-

1. IEM Memo addressing 'low-to-moderate income areas'

The Evaluators concluded that the NTG of 100.0% based on the IEM memo regarding 'low-to-moderate income areas' in which typical lighting kits were distributed in other residential programs within Arkansas. Based on this research, the Evaluators assigned and applied NTG of 100.0% to program gross savings estimates. Resulting net savings are presented below in Table 3-9.

Table 3-9 PY2025 School Based Energy Efficiency Program Net Savings Summary

Measure	Ex Post Gross Energy Savings (kWh)	Ex Post Net Energy Savings (kWh)	Net-to-Gross (%)	Ex Post Gross Demand Reductions (kW)	Ex Post Net Demand Reductions (kW)
1.5 GPM Faucet Aerator	4,338	4,338	100.0%	0.45	0.45
9W LED Lamp	28,198	28,198	100.0%	4.66	4.66
7W Nightlight LED	14,720	14,720	100.0%	0.00	0.00
Total	47,256	47,256	100.0%	5.11	5.11
Sums may differ due to rounding.					

3.2.3 Non-Energy Benefits

Protocol L of the AR TRM v10.0 states that EM&V of demand-side management (DSM) programs in Arkansas must account for non-energy benefits (NEBs) resulting from each program. Specifically, the categories of NEBs that are to be calculated for each DSM program are as follows:

- Benefits of electricity, natural gas, and liquid propane energy savings (i.e., other fuels);
- Benefits of public water and wastewater savings; and
- Benefits of avoided and deferred equipment replacement costs.

As discussed below, the NEBs applicable to the School Based Energy Education Program are natural gas (therms) savings, water savings, liquid propane savings, and avoided replacement costs (ARCs). The following tables summarize the gross and net NEBs for the School Based Energy Education Products Program, respectively. Negative therms for lighting measures are due to heating interaction effects.

Table 3-10 PY2025 School Based Energy Education Program Gross NEBs Summary

Measure	Ex Post Gross Therms	Ex Post Gross Water (gal)	Ex Post Gross Propane (gal)	Ex Post Gross ARCs (\$)
1.5 GPM Faucet Aerator	42	63,706	6	\$0
9W LED Lamp	-77	0	-8	\$3,889
7W Nightlight LED	-40	0	-4	\$1,699
Total	-75	63,706	-6	\$5,588
Sums may differ due to rounding.				

Table 3-11 PY2025 School Based Energy Education Program Net NEBs Summary

Measure	Ex Post Net Therms	Ex Post Net Water (gal)	Ex Post Net Propane (gal)	Ex Post Net ARCs (\$)
1.5 GPM Faucet Aerator	42	63,706	6	\$0
9W LED Lamp	-77	0	-8	\$3,889
7W Nightlight LED	-40	0	-4	\$1,699
Total	-75	63,706	-6	\$5,588
Sums may differ due to rounding.				

3.2.4 Protocol A Database Review

The Evaluators reviewed the provided tracking data, project documentation, and supplemental files associated with the School Based Energy Education Program participation for PY2025. The following table summarizes how well the tracking systems meet the component of the protocol.

Table 3-12 School Based Energy Education Program Protocol A Summary

Category	Field	Status	Description of Issue(s)
Participating Customer Information	Unique customer identifier, such as account number	N/A	Not applicable to the program type
	Customer contact information – name, mailing address, telephone number	N/A	Not applicable to the program type
	Date(s) of major customer milestones such as rebate application date, approval date, rebate processing date, etc.	✓	The school semester was the only timing milestone that was included in the program project documentation.
Measure-Specific Information	Measure Group (Equipment Type)	N/A	
	Equipment Fuel/Energy Source	✓	Student survey responses included the share of space / water heating in homes.
	Equipment Quantity	✓	
	Efficiency Level	✓	
	Estimated Savings	✓	kWh estimates were provided, however, kW estimations were not. The Evaluators opted for consistency and assumed ex ante estimations equaled ex post savings
	Estimated incremental measure cost	×	This was not provided in the program tracking data.
	Equipment Useful Life	×	This was not provided in the program tracking data.
	Measure Name – Text Description	✓	

Category	Field	Status	Description of Issue(s)
	Measure Name – Numerical Code	N/A	This is not needed for impact evaluation tasks.
	Serial Number	N/A	This is not needed for impact evaluation tasks.
	Reported age of equipment replaced	N/A	This does not apply for measures offered in PY2025 Residential Products.
	Reported measure type of equipment replaced	✓	Provided through student survey responses.
	Other inputs necessary for the use and compliance with the TRM	✓	Provided through student survey responses.
Vendor-Specific Information	Name and Contact Information for Contractor	N/A	This information is not included in the program tracking data as the delivery mechanism (school kits) does not require a trade ally.
	Contractor Type	N/A	
	Date of Installation	N/A	
	Cost of the installed equipment	✗	This was not provided in the program tracking data. The program delivery costs are provided separately.
	Efficiency level of the installed equipment	✓	
Program Tracking Information	Date of the initial program contact/rebate information	N/A	
	Date of rebate/incentive paid	✓	This was not provided in the program tracking data.
	Incentive amount paid to-date	✓	Not applicable to program type, but shipment date is available upon request.
	Incentive amounts remaining	N/A	There are no fields outlining the outstanding incentives remaining to be paid out.
	Application Status (i.e., number of applications approved, pending, or denied)	N/A	
	Reason and reason code for application denial	N/A	
Program Costs	Overall program budgets	✓	This was provided to the Evaluators as a portfolio summary. This, however, was not included in the tracking data.
	Program expenditures to-date	✓	
	Incentive Costs	✓	

Category	Field	Status	Description of Issue(s)
	Administrative Costs	✓	
	Marketing/Outreach Costs	✓	
	Evaluation Costs	✓	
Marketing and Outreach Activities	Advertising and marketing spending levels	N/A	
	Media schedules	N/A	
	Summary of number of community events/outreach activities	N/A	
	Other media activities – estimated impressions via mailings, television/radio; print ads	N/A	

CERTIFICATE OF SERVICE

This is to certify that the undersigned has served a copy of the foregoing instrument via email, to all parties of record on this 1st day of May, 2026.

/s/ *Angela Cloven*

Angela Cloven