

ARKANSAS PUBLIC SERVICE COMMISSION

IN THE MATTER OF THE CONTINUATION,)
EXPANSION, AND ENHANCEMENT OF)
PUBLIC UTILITY ENERGY EFFICIENCY)
PROGRAMS IN ARKANSAS)

DOCKET NO. 13-002-U
ORDER NO. 31

ORDER

On June 1, 2015, the General Staff (Staff) of the Arkansas Public Service Commission (Commission) submitted a preliminary Arkansas Energy Efficiency Potential Study (Preliminary Study) completed by Navigant Consulting, Inc., along with the Supporting Testimony of Matthew S. Klucher. Also on June 1, 2015, Staff filed the Direct Testimony of Mr. Scott Dimetrosky, and the testimony of Katherine Johnson, the Commission's Independent Evaluation, Measurement, and Verification Monitor (IEM), along with her annual report on energy efficiency (EE) program performance.

On June 19, 2015, by Order No. 28 in this docket, the Commission directed the Parties Working Collaboratively (the PWC, a group of stakeholders and parties who were involved in the development of the study) to review the study, seek incorporation of any warranted updates or revisions, comment on the results of the study, and address certain questions. On July 2, 2015, Staff submitted the final Potential Study and the supporting testimony of Matthew S. Klucher. On July 31, 2015, Staff, the Attorney General of Arkansas (the AG), the Arkansas Advanced Energy Association, Inc. (AAEA), the National Audubon Society, Inc. (Audubon), the Sierra Club, Arkansas Oklahoma Gas Corporation (AOG), SourceGas Arkansas, Inc. (SGA), CenterPoint Energy Resources d/b/a CenterPoint Energy Arkansas Gas (CenterPoint), the Empire District Electric Company (Empire), Oklahoma Gas & Electric Company (OG&E), Southwestern Electric

Power Company (SWEPCO), and Entergy Arkansas, Inc. (EAI) (collectively, the PWC) submitted *Joint Comments and Recommendations in Response to Order No. 28* (Joint Comments).

Positions of the Parties

In Order 28 in this Docket, the Commission asked the PWC whether the Potential Study's "high spending level scenario indicate[s] the maximum achievable EE potential, considering all cost-effective measures and programs, and, without spending constraints[.]" The PWC respond that it does, with the limitation that contractor and customer incentives were limited to 90% of EE measure installation costs. Joint Comments at 3.

Order No. 28 also noted that the Preliminary Study characterized its estimates of energy savings potential as "gross energy savings, as opposed to net energy savings."¹ Because utilities must report net—rather than gross—energy savings to meet the Commission's energy savings goals, and because net savings are often (but not always) smaller than gross savings, this indication raised the question of whether the Preliminary Study projections were comparable to past reported achievement results and to the energy savings targets set by the Commission. The Commission therefore posed a question in Order 28 to gain information on this issue. Order No. 28 at 4-5.

The PWC state however, that the Final Potential Study's achievable savings scenarios represent net energy savings rather than gross energy savings. *Id.* at 4. Navigant, which performed the Potential Study, further clarifies that the "savings in the

¹ More fully, the Preliminary Study indicated that "All savings reported in this Potential Study are gross, rather than net, meaning that the effect of possible free ridership is not included in the reported savings. Gross savings, rather than net, are included in this report for a number of reasons . . ." Preliminary Study at xi.

Potential Study are considered to be net of free riders, rather than gross, meaning that the effect of possible free ridership is included in reported savings.”² Navigant also explains that the utility forecasts used to establish sales baselines include naturally-occurring conservation (i.e., savings in response to normal marketplace conditions in the absence of utility EE programs). *Id.*, Attachment A at 32-33. The Final Study thus appears to estimate potential energy savings in terms similar to those in which energy savings are reported and evaluated in Arkansas.

The PWC note that the Potential Study estimates EE potential for each individual investor-owned utility (IOU), and thus could be used to set utility-specific targets, but also that the Potential Study provides combined statewide potentials that are a reasonable proxy for establishing a statewide energy savings target. *Id.* at 5 and 7. The Potential Study includes scenarios representing low, medium, and high spending, and a scenario that adds an avoided carbon cost to the medium spending case. *Id.* at 5.

The PWC derive an “Average Achievable 2017-2019” savings for each utility and each scenario by averaging the estimated achievable potential savings across the three years, using 2016 retail sales as a baseline. *Id.* For individual electric IOUs, this annual achievable EE savings potential ranges between 0.79% of annual retail electricity sales (for the EAI middle case) to 1.28% (for the SWEPCO high case). *Id.* at 6, Table 1.

Looking only at the middle spending case, estimated average achievable targets during the 2017-2019 period for EAI, SWEPCO, OG&E, and Empire, respectively, are 0.79%, 1.08%, 0.83%, and 0.88% of annual retail electricity sales. Averaging across all

² A “free rider” is “a program participant who would have implemented the program measure or practice in the absence of the program.” Arkansas Technical Reference Manual Version 4.0 at 90. Adjustment of for free riders will tend to produce reduced reported program achievement.

electric utilities and years, statewide achievable savings in the middle-case is 0.82% of baseline sales (or 210 GWh). *Id.* By the same method, the average estimated statewide achievable savings in the high spending case is 0.98% of baseline sales (or 250 GWh), and for the mid-funding carbon case it is 0.93% of baseline sales (or 236 GWh). *Id.*

The PWC report that actual achievement during 2014 was 1.07% of baseline sales, with total net energy savings of 250 GWh. *Id.* The IEM, however, notes that, while achievement during 2014 for EAI was 1.14% of baseline sales, had lighting measures been required to meet the new federal efficiency standards that will be fully implemented from 2016 forward, EAI would have been credited with achievement of between 0.84% and 0.94% of baseline sales. *Id.*, Attachment A at 29-30.

The PWC note that the potential estimated for SWEPCO is higher than the other electric IOUs primarily because its estimate of avoided capacity cost was based on a levelized carrying charge rather than on the Real Economic Carry Charge (RECC) adopted by the Commission in Order No. 7 in this docket. *Id.* at Table 1. The PWC state that the RECC method reduces the cost-effectiveness of many EE measures by “back-end loading” avoided capacity costs. *Id.* at 6-7.³ The PWC also note that, as the largest utility, EAI significantly drives these statewide percentage targets. *Id.* at 7.

With regard to natural gas IOUs, estimated EE potential ranges between 0.26% of retail sales (for the AOG middle case) to 0.76% of retail sales (for the SGA high case). *Id.* at 6, Table 2. The middle, carbon, and high cases average 0.48%, 0.52%, and 0.60% of baseline sales, respectively. The PWC report that actual average achievement during

³ The IEM also reports that avoided costs are a key parameter input and that the RECC method and lower natural gas price forecasts are among the reasons that avoided costs have declined. The IEM notes that decreasing avoided costs generally mean that fewer measures will pass the TRC test. IEM Report at 31-32.

2014 was 0.51% of retail sales, with savings of 4.5 million therms (as compared to the 4.0 million therms and 5.0 million therms projected for the middle and high future cases). *Id.*

The PWC recommend that, for both natural gas and electric IOUs, the Commission establish a flat (*i.e.*, not increasing) net savings goal for Program Years (PY) 2017-2019. *Id.* at 8. For natural gas IOUs, the PWC recommend a 0.50% net savings goal. *Id.*

The PWC do not agree regarding the magnitude of recommended electric IOU targets. Staff, the AG, EAI, SWEPCO, OG&E, Empire, CenterPoint, SGA, and AOG (Group I) recommend that the Commission retain the current 0.90% annual electric IOU target for 2017-2019. AAEEA, Audubon, and the Sierra Club (Group II) recommend that the Commission adopt a higher, 1.00% target. *Id.* at 9 and 17.

Group I raises the concern that the Potential Study estimates that the cost to save energy in future years will be higher than indicated by current and recent program costs, and will escalate over time. EAI states that first year acquisition costs presented within the Final Potential Study are around 38% to 40% higher than the first year acquisition costs assumed in EAI's EE plans for PY 2015 and 2016. *Id.* Group I states that, in PY 2014, first-year acquisition costs for electric IOUs ranged from \$0.25/kWh to \$0.33/kWh, but that the Final Potential Study recommends budgets equating to first year acquisition costs in excess of \$0.33/kWh. *Id.* For the medium-spending case, the Potential Study estimates that first-year acquisition costs will be \$0.34/kWh, \$0.33/kWh, \$0.33/kWh, and \$0.37/kWh, respectively, in years 2017, 2018, 2019, and

2020. *Id.* at 11, Table 4. For the high-spending case, these figures are \$0.41/kWh, \$0.40/kWh, \$0.40, and \$0.44/kWh and 2020. *Id.*

While EAI and SWEPCO achieved in excess of 1% net savings during PY 2014, Group I notes that program cost-effectiveness at the time was based on a different avoided cost policy (levelized avoided cost rather than RECC; the PWC state that the RECC method results in fewer measures passing cost-effectiveness screening). *Id.* at 11-12 and 6-7. Group I adds that the Consistent Weatherization Approach (CWA) will require higher incentive levels for some measures, resulting in higher first-year acquisition costs. *Id.* at 12. Group I notes that the similar AOG-OG&E weatherization program during PY 2014 had a first year acquisition cost of approximately \$0.50/kWh and that EAI and SWEPCO project CWA first-year acquisition costs of \$0.50-\$0.60/kWh for PY 2016. Group I emphasizes that achieving increased energy savings during PY 2017-2019 will come at higher costs. *Id.*

The Memorandum from the Independent Evaluation, Measurement and Verification team attached to the Joint Comments provides more detail regarding the higher future costs to save energy emphasized by Group I. It indicates, for instance, that the eventual full implementation of federal lighting standards will raise EM&V baselines, thereby significantly reducing energy savings attributable to lighting (which comprised over half of EAI's EE program electricity savings in PY 2014). Attachment A at 2.

Group I notes that the Commission has focused on program comprehensiveness but that programs could be re-designed in the future to maximize cost-effectiveness and minimize costs if the Commission should so decide. *Id.* at 13. Group I indicates that

Energy Efficiency Cost Recovery Riders (EECRs), which include program cost, lost contribution to fixed cost (LCFC), and utility performance incentives, have steadily increased to over \$5.00 per 1,000 kWh for both EAI and SWEPCO residential customers. Group I argues that these are substantial costs which should be taken into account in setting future program goals, particularly since approximately 19% of Arkansans live below the poverty level. *Id.* at 14. Group I estimates that under the high funding scenario presented in the Final Potential Study the cost of EE programs could exceed \$7.00 per 1,000 kWh. *Id.* at 14.

Group I therefore recommends that the Commission retain the current 0.90% annual electric IOU EE target (using 2015 as the baseline year, as adjusted for Self-Direct customers) and the current PY 2016 annual budgets for both gas and electric IOUs for PY 2017-2019. *Id.* at 15-16. Group I indicates that the Potential Study supports a 0.90% target because (with the exception of SWEPCO) it falls between the middle and high cases and reasonably balances controlled growth with ratepayer impact. *Id.* at 15. The AG also recommends that Empire be excluded from any goal and reports that the PWC will present a recommendation to the Commission regarding Empire in early 2016. *Id.* at 15.

Group I also suggests that the revised utility performance incentive (rewarding achievement between 80% and 120% of goal, rather than between 80% and 110% of goal) will incentivize utilities to plan for and potentially achieve energy savings much greater than 0.90%. *Id.* at 15. Group I also states that, while the currently-approved PY 2016 budgets are higher than the Potential Study's PY 2017-2019 middle-case budgets, the 0.90% targets are slightly higher than the middle case and continuing these budgets

would allow utilities to “swing for the fence” and possibly achieve 120% of the established goal. *Id.* at 16.

Group II urges the Commission to establish an electric savings goal of 1% during PY 2017-2019. *Id.* at 17. Group II states that this will continue to improve and expand EE program activity so that all customers have the opportunity to realize the economic benefits of EE. *Id.* Group II notes that electric IOUs achieved savings equivalent to the high scenario of 250 GWh (0.98% of estimated 2016 sales) in PY 2014, and asserts that this demonstrates the achievability of the high scenario at current levels of funding. *Id.* at 18.

Group II notes that the Potential Study’s carbon scenario includes an avoided cost for carbon, but otherwise assumes mid-case EE program budgets. *Id.* Since this scenario produces energy savings between the middle and high case, Group II asserts that adding a carbon price into the high-budget scenario would produce energy savings that well exceed 1% of net sales. *Id.* at 18-19.

Group II also argues that comprehensive programs that meet the Total Resource Cost (TRC) Test maximize the opportunity to achieve cost-effective energy savings and deliver a net economic benefit over their lifetimes. *Id.* at 19. Group II states that any EE spending that meets the TRC test by definition saves ratepayers more money than the marginal increase in the EECR, and that such cost savings should not be constrained by an arbitrary “business as usual” funding limit. *Id.* at 20. Group II estimates that a 10% reduction in the achieved 250 GWh level of electricity savings translates into a forgone cost savings in excess of \$50 million, not counting benefits of EE programs such as

economic development, increased employment, improved air and water quality, greenhouse gas reduction and customer bill reductions. *Id.* at 20-21.

Group II states that a 2014 economic survey commissioned by AAEA found that the expansion in utility EE programs from 2011 through 2013 added 2,300 Arkansas jobs, increasing sales for participating Arkansas EE contractors by 44%. *Id.* at 21. Group II also states that a 1% electric IOU EE target will significantly affect integrated resource planning currently underway by electric IOUs by reducing system costs and risks and improving reliability. *Id.* Group II further argues that setting a target below the actual performance in 2014 and that is static over the next four years would be a step backwards from the recent program growth that has gained national recognition for Arkansas as a most-improved EE state and as a leader in the Southeast. *Id.* at 22.

Findings and Rulings

Acknowledging valid observations by Group I and Group II, the Commission adopts targets for PY 2017 and PY 2018 of 0.90% of 2015 retail sales for electric IOUs and 0.50% of retail sales for natural gas IOUs, and for PY 2019, targets of 1.00% and 0.50%, respectively, on the basis explained below.

The Commission, in choosing Group I's recommendation for the first two years of the next EE cycle gives credence to the findings in the Potential Study that federal efficiency mandates for lighting and appliances will raise the bar for savings among specific measures that have been a significant source of savings in recent years. Not only might these specific savings be harder to obtain, but it will take time for EE program administrators to fully develop and implement programs to implement alternative measures. For these reasons, the Commission establishes a continuing

period of static targets (totaling four years in a row at 0.90%, from PY 2015 through PY 2018), with the knowledge that underlying program activity will not be static and that the utility performance incentive structure itself is changing to better reward achievement that exceeds the targets.

Further, as Group I suggests, under the revised shared savings mechanism, electric utilities will likely seek to achieve above the 0.90% level during PY 2017-PY 2018. It is appropriate to reward achievement exceeding 0.90% (and significantly exceeding the middle case in the Potential Study) during a period in which rising efficiency baselines will make savings for certain important measures more scarce.

In choosing Group II's recommendation for the third year of the EE cycle, the Commission relies on Group II's reasoning that achievable potential represents cost savings for ratepayers that should not be left on the table. The High scenario estimates this potential at 1.01% in 2019, during a period of lower avoided costs, under a RECC method of calculating avoided costs that appears to reduce forecast savings potential, and without including carbon pricing. Given time to respond to changing technology and federal efficiency standards, program administrators and the broader market of EE vendors should be able, four years hence, to develop an efficient plan to capture that value.

As emphasized by Group I in its comments regarding the RECC method of estimating avoided costs, the level of EE achievement considered to be cost effective is sensitive to the estimated magnitude of avoided costs. The carbon case in the Potential Study shows not only that energy savings are more valuable if there is a price on carbon, but also that they are more valuable in general if projected avoided utility costs are

higher. The Commission also seeks to carefully consider Group I's comments regarding the RECC method, which was adopted in order to properly value the avoidance of capacity particularly for EE measures with longer lives. In this regard, the Commission invites comment below in order to understand whether implementation of the RECC method has had the impact that was expected at its adoption.

The Commission also considers Group I's concerns about the cost of first-year saved energy and impacts on rates. Pursuant to the Commission's *Rules for Conservation and Energy Efficiency* (C&EE Rules) the Commission relies on standard cost benefit tests to evaluate EE plans (before implementation) and performance (after implementation). C&EE Rule 6.A requires that program administrators present cost benefit results for the Total Resource Cost Test (TRC), Participant Test (PT), Ratepayer Impact Measure (RIM) test, and Program Administrator Cost (PAC) test (formerly called the Utility Cost Test, or UCT).

The Commission has primarily relied upon the TRC to gauge portfolio and program cost effectiveness because it considers the total costs and benefits to utilities and ratepayers as a whole. As Group I points out, the TRC test treats the subset of EECR Rider costs related to customer incentives as a transfer payment between ratepayers rather than as a program cost. Taken alone, a focus on TRC thus might be said not to consider the short-term rate impacts on non-participating customers of the cost of EE program customer incentives.

The Commission, however, balances the focus on TRC with consideration of the other tests. Customer incentives are a cost, and not a transfer payment, under the PAC Test (which considers costs from the perspective of the utility) and also are reflected in

the RIM Test (which estimates rate impacts, counting lost revenue as a cost). In all cases, a score above 1.0 indicates overall ratepayer benefit. For instance, in the most recent year, EAI's portfolio had the following evaluated results: TRC 1.88; PAC 3.43; RIM 1.40.⁴ A dollar of program expenditure in 2014 thus saved ratepayers as a whole \$1.88, lowered utility costs by \$3.43, and lowered rates, over the life of the portfolio, by an amount corresponding to \$1.40 in costs. While not the case for every utility in every year, this example suggests that program and portfolio design can result simultaneously in significant energy savings, overall ratepayer and utility cost savings, and lower rates.

Group I's metric—the cost, per kWh or therm, of a program's first-year of energy savings—is also a common metric in the industry which is used for comparisons across states and utilities, and which falls naturally out of a regulatory emphasis on energy savings targets expressed in terms of annual energy savings. The C&EE Rules allow consideration of this metric, as “[a]dministrators may submit additional economic analyses and benefit/cost test information in support of a proposed program.” C&EE Rule 6.A.

This metric, however, provides a more limited measure of the value of EE programs than the standard cost-benefit tests. By its emphasis on TRC results, the Commission has thus focused more on establishing EE programs that provide quality services to customers (*i.e.*, not stranding opportunities, as urged originally by the AG) and that provide the maximum value over the life of the measures implemented, rather than minimizing first-year program costs. The Commission, however, acknowledges Group I concerns that a predicted rise in first-year program costs could signal increased

⁴ EAI Annual Report Workbook at Cost-Benefits and Other CB Test tabs.

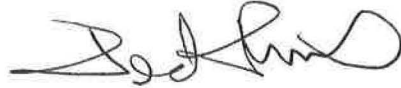
short-term rate impacts associated with the EECR Rider and in response has largely agreed to Group I's recommended solution of establishing less aggressive targets.

The Commission therefore orders and directs as follows:

1. For PY 2017-2018, utility energy savings targets shall be 0.90% of 2015 retail sales for electric IOUs and shall be 0.50% of 2015 retail sales for natural gas IOUs.
2. For PY 2019, utility energy savings targets shall be 1.00% of 2015 retail sales for electric IOUs and shall be 0.50% of 2015 retail sales for natural gas IOUs;
3. Any party is invited to comment as part of the annual submission of EE program tariff adjustments on whether, and the degree to which, application of the RECC method of calculating avoided costs has eliminated specific measures or programs on the basis of cost effectiveness, and on whether it is having the intended effect of properly valuing EE measures with longer lives. Parties also are invited to comment in the same filings on the suggestion that greater cost-effectiveness can be had by de-emphasizing program comprehensiveness.

BY ORDER OF THE COMMISSION,

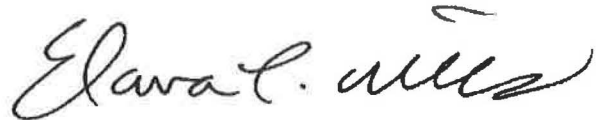
This 17th day of December, 2015.



Ted J. Thomas, Chairman

I hereby certify that this order, issued by the Arkansas Public Service Commission, has been served on all parties of record on this date by the following method:

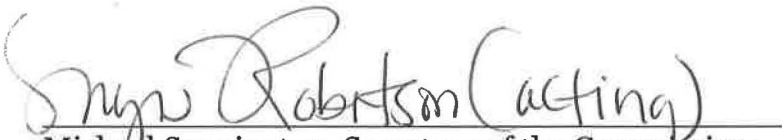
☐ U.S. mail with postage prepaid using the mailing address of each party as indicated in the official docket file, or
☒ Electronic mail using the email address of each party as indicated in the official docket file.



Elana C. Wills, Commissioner



Lamar B. Davis, Commissioner



Michael Sappington, Secretary of the Commission