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Case No.: EO-2023-0136

SURREBUTTAL TESTIMONY

OF

GEOFF MARKE

Submitted on Behalf of the Office of the Public Counsel

UNION ELECTRIC COMPANY
D/B/A AMEREN MISSOURI

CASE NO. EO-2023-0136

May 30, 2024

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UNION ELECTRIC COMPANY

D/B/A AMEREN MISSOURI

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I. INTRODUCTION

Q. Please state your name, title and business address.

A. Geoff Marke, PhD, Chief Economist, Office of the Public Counsel (OPC or Public Counsel), P.O. Box 2230, Jefferson City, Missouri 65102.

Q. Are you the same Dr. Marke that filed direct and rebuttal testimony in Case No. EO-2023-0136?

A. I am.

Q. What is the purpose of your surrebuttal testimony?

A. My purpose is three-fold. First, I will provide an overall summary of the various obstacles, challenges and changes that currently impact the likelihood that Ameren Missouri's MEEIA portfolio will accomplish what it claims it will accomplish. This list includes the challenges that I identified in my rebuttal testimony.

Second, I will be responding to the rebuttal testimony of Renew Missouri, NRDC and Ameren Missouri witnesses.

In the third and final section, I discuss an alternative path forward that meets the statutory requirements set out by the MEEIA statute, § 393.1075 RSMo. This recommendation provides for a reasonable earnings opportunity for Ameren Missouri and outlines a path forward that can be applied to the rest of our investor-owned utilities. It is an attempt to evolve MEEIA to be more cost-effective and aligned with the goal of supporting only cost-effective measures for all customers regardless of participation.[1] Though it is similar to the

[1] § 393.1075.4 RSMo.

plan that I presented in my rebuttal testimony, there is one notable difference: the appropriate earnings opportunity.

My silence in regard to any issue should not be construed as an endorsement of Ameren Missouri or any other party's positions.

II. Challenges and Obstacles to MEEIA Cycle IV

Q. Can you please summarize the many challenges and obstacles that currently plague Ameren Missouri's MEEIA Cycle IV portfolio?

A. Yes. I will briefly restate the challenges I raised in my direct and rebuttal testimony as well as those I encountered while reviewing the rebuttal testimony filed in this case. They are as follows:

Challenge 1: Naturally occurring energy efficiency adoption is rapidly increasing due to decades of marketing, increased federal appliance standards, and municipal building code requirements.

Challenge 2: Ex Post evaluations of energy efficiency programs do not account for operational failures or obstructions; thus overstating "deemed" energy savings.

Challenge 3: Empirical evidence suggests that pricing electricity to more align with the true cost of service will produce energy and demand savings that dwarf any energy and demand savings achieved from a portfolio of MEEIA programs.

Challenge 4: Ex Post evaluations do not take into account any "rebound effect" that occurs following the installation of energy efficiency measures; thus overstating the savings achieved and leading to higher bills for customers.

Challenge 5: The principal-agent problem inherent with energy efficiency contractors leads to overstated energy and demand savings assumptions and thus higher bills for customers.

Challenge 6: Free market alternatives exist that do not require ratepayer subsidies for business demand response programs. Failing to acknowledge this results in blatant market failure and wasted money.

Challenge 7: Non-profit alternatives whose overhead administrative costs are capped at 20% or lower exist for most of the income-eligible programs. This stands in stark contrast with the historical performance of Ameren Missouri's income-eligible programs.

Challenge 8: Federal funding for weatherization represents a more cost-effective alternative than Ameren Missouri's single-family income-eligible program.

Challenge 9: If Ameren Missouri's Cycle IV application is approved, both Ameren Missouri and the Missouri Division of Energy ("DE") will be simultaneously rolling out subsidized energy efficiency programs (supported by ratepayer funding for Ameren Missouri and taxpayer funding for the Division of Energy). Both entities will effectively cut checks from other people's money to hire third-party contractors and evaluators to implement their programs.

One major difference is that Ameren Missouri demands a 19% return for itself on its ratepayers' investment and lost revenues associated with those measures. The DE does not.

The second major difference is that DE's administrative costs are capped at 20%. Ameren Missouri has no cap on its administrative costs. For reference, in the last prudence review period for Ameren Missouri's MEEIA (Oct. 1, 2020 through Sep. 30, 2022) 45% of total program costs were spent on administrative overhead as seen in Table 1. Table 2 provides the same information for DE,

Table 1: Ameren Missouri program costs spend breakdown total, administrative and incentives (Oct 1, 2020 through Sep. 30, 2022)[2]

	Total Costs	Administrative Overhead	% of overhead relative to total
Residential	$59,441,040	$26,855,572	45%
Commercial/Industrial	$146,932,079	$65,668,636	45%

Table 2: Division of Energy IRA funding cap breakdown

	Total Costs	Administrative Overhead	% of overhead relative to total
Division of Energy	$150,000,000	$30,000,000	20%

Challenge 10: Ameren Missouri's proposed throughput disincentive mechanism is overly complicated and made inaccurate due to the introduction of time-of-use rates.

Challenge 11: Ameren Missouri cannot identify any deferred investment directly tied to its MEEIA spend. Additionally, enabling statutory language (PISA) incentivizes Ameren Missouri to build which has played out in real time given the volume of applications for new solar and natural gas generation.

Challenge 12: Ameren Missouri's Technical Resource Manual needs to be updated to account for shorter lifespans associated with new energy efficiency equipment and failure of participants to properly maintain their equipment.[3]

[2] Case No. EO-2023-0180 Staff Report, p. 8-9.

[3] Wolfe, R. (2024) The Lifespan of Large Appliances is Shrinking. *The Wall Street Journal*. https://www.wsj.com/personal-finance/the-lifespan-of-large-appliances-is-shrinking-e5fb205b

Challenge 13: Risk and reward for MEEIA does not follow the traditional supply-side risk-reward framework. With a traditional supply-side investment a utility needs to attract capital from outside investors (with an expectation that their investment will result in profit comparable with the risk) and then ensure that those costs are prudently invested and the investment is deemed used and useful.

Under the MEEIA framework, ratepayers put up the capital with no expectations of profit and considerable uncertainty in the outcome due to the counterfactual nature of the exercise. The utility reaps excessive reward for no (or effectively no) risk.

Q. Is this an exhaustive list of the challenges associated with Ameren Missouri's MEEIA Cycle IV Application?

A. No. More challenges are articulated at the program level in this surrebuttal testimony and my rebuttal testimony addressed specific challenges at the program level. Additionally, Staff has raised issues in its direct and rebuttal testimony that I have not covered.

It should be noted that my silence in regard to any issue raised in rebuttal testimony should not be construed as an endorsement of Ameren Missouri or other party's positions.

II. RESPONSE TO RENEW MISSOURI

Response to Renew Missouri witness Emily Piontek

Q. What issues does Renew Missouri raise in rebuttal testimony that you will address?

A. Renew Missouri witness Emily Piontek raises the following issues:

1. Claims the Company's application is aligned with the MEEIA statute;
2. Claims MEEIA fills a gap left by the lack of a binding State-Wide Energy Efficiency Resource Standard ("EERS");
3. Raises a concern over a hypothetical scenario where Missouri rejects the federally funded IRA program, and the Commission rejects ratepayer funded MEEIA;
4. Suggests stacking (also phrased as "braiding" or "combining") PAYS with IRA funding;
5. Agrees with OPC's position to not raise the customer charge but believes TOU rates are not politically feasible (therefore the Commission should approve a MEEIA); and
6. Supports a MEEIA portfolio despite no supply-side deferral under the pretense that energy demand will still increase and the assumed savings will offset some amount of energy that would otherwise have to be produced.

Additionally, Renew Missouri witness Dana Grays raises the following issues.

7. Recommends that Ameren Missouri be given "full attribution" for its portfolio as a default position; that braiding federal funds should be encouraged to maximize the benefits for customers; and that such actions are consistent with what other states do (or will do);[4]
8. Predicts that a failure to stack all available subsidies will effectively end MEEIA moving forward; and

[4] Ms. Piontek's testimony also supports the stacking of federal funds with MEEIA funds.

9. Makes a final plea that if the Commission does not allow for stacking of funds due to concerns over free ridership than an exception should be made for income eligible programs.

I will respond to these nine arguments in turn.

Q. What is your response to Renew Missouri's claim that Ameren Missouri's amended application conforms to the MEEIA statute?

A. It does not. I would direct readers back to my overall executive summary on why this reasonably cannot be claimed and why Ameren Missouri's amended application is not in the public interest.

Q. Ms. Piontek speaks at length on energy efficiency resource standard ("EERS") states in her testimony. What is an EERS state?

A. There are currently twenty-seven states that have energy efficiency resource standards which mandate that regulated utilities achieve MWh energy and demand savings targets at or beyond a set percentage of retail sales. The number of states with EERSs in place has remained largely the same for the past decade even if the participating members have changed. For example, recently Virginia and New Jersey adopted energy efficiency resource standards, but Ohio and New Hampshire either rolled back their standards or dropped them.[5]

Q. Do you agree that MEEIA functions as proxy for an EERS?

A. Only in so far as both have targets. EERS targets are imposed through law. MEEIA targets, however, are self-selected by the utility. MEEIA is also a voluntary option for utilities.[6]

[5] Brooks, D. (2023) NH Saves energy efficiency program returns, because the PUC had no choice. *Concord Monitor*. https://www.concordmonitor.com/energy-efficiency-nh-PUC-53222425

Kowalski, K.M. (2023) Ohio utilities could resume energy efficiency programs under bipartisan bill. *Energy News Network*. https://energynews.us/2023/06/28/ohio-utilities-could-resume-energy-efficiency-programs-under-bipartisan-bill/

[6] Technically, the Commission has energy and demand saving targets as aspirational goals in 20 CSR 4240-20.094(2). In practice these aspirational goals have never been followed. There are a number of reasons for that including but not limited to: timing, moving baselines, accounting for load changes due to weather, customer

Ratepayer funded energy efficiency programs are not mandated in Missouri. Comparing Missouri to an EERS state is really an apples to oranges exercise because the outcome (credited savings) is dependent on the incentives of the actors involved in how savings are counted.

Q. Please explain.

A. Perspective and incentives matter. My position on MEEIA programs from the inception has been to attempt to induce benefits for customers in all customer classes regardless of participation.[7] This has been a challenge that I believe we (collectively) have fallen short of to date. However, there was a brief period where it was in the ratepayer advocate's best interest to not ask uncomfortable questions about assumed savings and seek out the broadest categorization for attribution as possible. For example, I worked with stakeholders for well over a year on potential Missouri compliance for the Obama administration's Clean Power Plan. At the time, the least cost method towards ensuring compliance included heavily investing in demand-side management across Missouri. Under the federal framework, Missouri would have had to set energy and demand saving targets that were categorically larger than what Ameren Missouri is proposing in this docket. However, the verification of those savings was dependent on an agreed-to methodology from in-state stakeholders submitted for approval to the EPA. That is, we largely determined how we counted counterfactual "savings" for federal compliance purposes. If Missouri had fallen short of its targets then financial repercussions, cost prohibitive remediations, and financial penalties would have been leveled at the State.

loss/gain, the economy, COVID-19, blackbox settlements, and changes to the MEEIA programs emphasis (i.e., focus on demand savings as opposed to energy savings).

[7] 393.1075.4 RSMo.

Q. What position did you take at the time regarding energy efficiency verification for Clean Power Plan compliance purposes?

A. I took the position of emphasizing claimed savings in everything and minimizing any questions or scrutiny on challenging those assumptions.

Q. Why did you take that position then and are seemingly taking the opposite position now?

A. The position I took then and the position I take now are both intellectually consistent from the perspective of minimizing costs and maximizing benefits for ratepayers. I do not believe savings have materialized anywhere near what has been historically claimed (and certainly not what has been projected to incur over the life of the measures moving forward) by Ameren Missouri, as such I oppose their application and generally view the MEEIA application as a profit windfall for the utility with zero risk for management or shareholders. It is both too generous in profit (for shareholders) and one-sided in risk exposure (for ratepayers).

However, when the federal government said states could claim DSM savings as a way to reach cost-prohibitive environmental compliance I had every reason to not ask "tough" questions about attribution or operation assumptions because the answer would have necessarily negated Missouri's ability to be in compliance and thus resulted in ratepayers paying more money.

Q. Is this an example of a principal-agent problem?

A. Yes, multiple examples of it in fact.

Q. Please explain.

A. In direct and rebuttal testimony I raised the concern that HVAC contractors have a perverse incentive to upsell HVACs without any (or little) recourse. This is an unfortunate reality for many consumers, but it does not become an issue for the Commission's concern until we look at it through the perspective of ratepayer-sponsored demand-side management. If a utility is claiming savings that A) cannot be accurately credited to the utility's efforts; B.)

did not actually occur as expected; and/or C.) actually increased energy usage (rebound) then ratepayers are overpaying for demand-side management and improperly rewarding the utility with profit.

The roles of principal-agent can change when the problem you are trying to solve for changes. In the Clean Power Plan example, a rational actor looking out for the best (at least short-term financial) interest of Missouri would want to claim savings in the most generous way possible *and* not ask questions that we don't want to know the answer to (e.g., is there a rebound effect?). Because if the savings cannot be credited to the utility's actions, then financial penalties would be leveled and Missourians would be worse off. Restated, roles and perspective matter depending on the answer you are trying to solve for as seen in table 3.

Table 3: Different principal-agent problems at different scales

	Principal	**Agent**	**Problem (asymmetric information)**
Appliance-level	Homeowner	Contractor	• Contractor has incentive to upsell • Utility has incentive to not ask questions
Utility Program Level (MEEIA)	Commission / Ratepayers	Utility and Evaluators	• Utility & utility 3rd party evaluators have incentive to overstate savings
Federal Compliance (Clean Power Plan Example)	U.S. EPA	State of Missouri	• Missouri has incentive to overstate savings

This very same exercise occurs in EERS states that don't level a financial penalty on the utility if targets are not met. I would also argue this occurs in Missouri via interveners who

are more concerned with the optics of having a program or a large target and less concerned with the realized outcome and impact on customers' bills.

The Commission would be well served to not look to EERS mandated states as the North Star for how to approach the reasonableness of Ameren Missouri's MEEIA application. Rather, the Commission should dismiss as inappropriate any attempt to hold Missouri to that standard. Clearly our General Assembly, when given the choice, elected not to impose this requirement on captive ratepayers.

Q. Is there a plausible scenario where Missouri's elected officials reject federal IRA funding?

A. It seems improbable that Missouri would refuse federal funding for energy efficiency investments at this stage, but I don't think I could rule it out entirely either.

Q. Then should the Commission approve Ameren's MEEIA application out of an abundance of caution that such a scenario could materialize as implied by Renew Missouri?

A. No. Attempting to predict the political machinations of what could happen is largely a futile exercise at the end of the day that should have no bearing on an independent, fact-finding economic regulator. But let's explore how this might play out in the market.

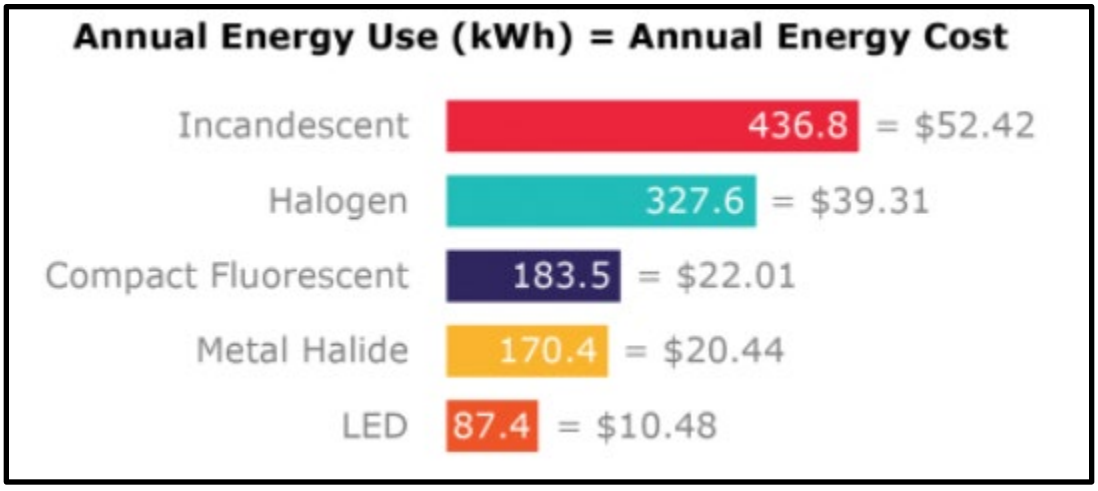
Let's assume Missouri rejects the federal funds, and the Commission rejects Ameren Missouri's application as not in the public interest.

If that happens, life will still go on and energy efficiency measures will still be adopted just like they were before MEEIA or IRA funding existed. Moreover, because of the elimination of the MEEIA surcharge everyone's bills will be immediately lower than they otherwise would have been.

Further, energy efficiency adoption will still occur because energy efficient options are effectively the only options available in the market. Moreover, customers will still have access to generous tax breaks (from the IRA), LIWAP will still be funded by utilities and

the federal government, and the market will continue to be inundated with energy efficient appliances. The incremental savings obtained in appliance measures are also hitting a point of diminishing returns in terms of savings. Restated, in the past it was an inefficient measure being replaced by an efficient measure. We are now entering the stage of efficient measures being replaced by slightly better efficient measures. This is because inefficient measures are being phased out left and right due to the constant march of increased federal appliance energy efficiency standards and customer preferences. One might be able to argue with a straight face that the term "energy efficiency" was not ubiquitous in 2009 in Missouri. I do not believe you could say that today. Look no further than figure 1 for engineering savings estimates across different lightbulbs that have been rebated at various points in different MEEIA cycles to see how we have progressed.

Figure 1: Annual energy use savings estimates across various lighting fixtures



Good luck trying to find an incandescent, halogen, or CFL lightbulb on the market today.

Q. Is the $150M in federal IRA funding for energy efficiency to Missouri the only concern you have with the IRA's interplay with the Ameren Missouri application?

A. No. On this point I believe intervening parties have grossly misunderstood my concerns regarding Ameren Missouri's MEEIA proposal and the incoming federal funds.

I've raised three direct concerns.

1. That the $150M will necessarily impact the attribution (or net-to-gross ratio) tied to Ameren Missouri's EM&V and ultimately impact the reasonableness of moving forward with the application as designed. This by itself is not a deal breaker or reason to reject Ameren Missouri's MEEIA application.[8]
2. That the increased federal tax incentives (which cannot be voided by the State of Missouri) related to energy efficiency investments are significantly greater than the rebates Ameren Missouri is subsidizing and that this will necessarily impact the attribution (or net-to-gross ratio) tied to Ameren Missouri's EM&V and ultimately impact the reasonableness of moving forward with the application as designed; and
3. The parameters mandated around the Missouri Division of Energy's ("DE") dispersal and administration of federal funding <u>are significantly more cost-effective</u> than what Ameren Missouri is proposing (e.g., DE's overhead is capped at 20%, there is no earnings opportunity and no throughput disincentive). As such, I support adopting the same level of administrative cost caps and customer protections (as it pertains to renters and verification of savings) as what will be in place for federal funding.

   If the Missouri Division of Energy can conform to these standards, I see no reason why we can't hold Ameren Missouri to the same (or higher) standards.

Q. Should IRA funding be used to complement PAYS?

A. Yes. To the extent the Commission approves, or parties agree to something beforehand, I support this recommendation. Again, PAYS is singularly unique in that I have no concerns surrounding free riders.

[8] I provided verbal comments at the public forum hosted by the Missouri Division of Energy and advocated that all of the IRA funding be implemented through the State's existing community action agencies as the most practical and cost-efficient manner to spend down those funds. If implemented in such a manner, I don't believe that the $150M allocated to Missouri for direct rebates will have a material impact on NTG ratios in future MEEIA programs. Whether or not DE supports this proposition is unknown.

Q. What is your response to Renew's objection to dismiss TOU rates because they are not politically feasible?

A. Simply put, if Renew Missouri is serious about reducing carbon emissions and/or serious about making energy affordable for Missouri customers it should lean heavily into TOU rates. The Commission, as an independent economic regulatory body, should also strongly consider hitting the reset button on this issue moving forward in light of the reliability concerns, the sheer size of sunk costs (billions in invested dollars) and obvious uncertainty surrounding the saving assumptions associated with future MEEIA programs.

Customers have paid, are continuing to pay, and will pay well into the future for the hardware AMI meters, the customer portal software licenses, and the private 4G fiber network infrastructure to support TOU rates. Absent more aggressive TOU rates with viable choices for customers I cannot fathom how benefits will ever come close to approaching the costs imposed on ratepayers for this expensive investment.

Multiple studies by different 3rd party analysts have estimated savings that are significantly greater than anything hoped to be obtained through Ameren Missouri's MEEIA application. Price signals matter and I believe they matter a great deal more than the excessive costs and regulatory mental gymnastics that are periodically undertaken to justify MEEIA.

Q. Putting aside "what we could have" for a moment, will the current TOU rates impact Ameren Missouri's MEEIA application?

A. Not at a material level today given the vast majority of customers are on rate design plans with such small differentials, but it should be a viable concern in future EM&V cases assuming Missouri has not abandoned the idea of getting benefits out of those investments.

Q. Should the Commission approve this application even though there is no deferred supply-side investment under the pretense that load is expected to increase?

A. No. That would be an imprudent use of ratepayer funds. The Commission should either let the market work (along with the federal subsidies) and price electricity closer to the cost of

service and focus on building generation. The Commission can then promote DSM by enabling stakeholders to evolve DSM into a state-wide program like other states (Massachusetts, Wisconsin, Northwest Energy Efficiency Alliance, etc…) that have recognized that having multiple individual programs are duplicative and cost prohibitive.

As presently filed, this application would effectively throw good money at actions that either won't produce the expected energy or demand savings, or will occur naturally due to federal subsidies, local enforcement codes, and increased efficiency standards. Collectively, this means that the self-imposed energy savings targets Ameren Missouri has put forward are going to be met regardless of whether or not Ameren Missouri has an approved MEEIA.

Response to Renew Missouri witness Dana Gray

Q. Shifting to Renew Missouri witness, Ms. Gray now, what does she mean when she uses the phrase "full attribution" in regards to Ameren's application?

A. Full attribution means that the adoption of energy efficiency measures by a customer was solely dependent on Ameren Missouri's rebate or actions (e.g., Ameren Missouri's contractor signed up Company X to participate in Ameren Missouri's business demand response program).

Q. Should Ameren Missouri be given full attribution despite the overwhelming evidence that this will not be true?

A. No. I appreciate that Ms. Gray is approaching this from an honorable perspective, but this recommendation is the equivalent of the phrase "the road to hell is paved with good intentions."

Q. Ms. Gray claims that other states are ignoring free ridership concerns to maximize rebates for participating customers. Is this true?

A. No. I am not aware of any State doing this, nor does she provide any examples. Additionally, if such a scenario existed, I would argue it is a result of poorly drafted statutes tied to EERS mandates.

Q. If the Commission doesn't give full attribution for Ameren Missouri's programs will that represent the end of MEEIA?

A. No. MEEIA has never been static. It has constantly evolved and should continue to evolve or go away. MEEIA should not be an entitlement program for the incumbent utilities.

Q. Should the Commission make an exception for full attribution as it pertains to low-income programs?

A. No. If DE adopts my recommendations both low and moderate income customers should receive all or nearly all of their costs covered through federal funding. I will address this issue in greater detail later in this surrebuttal testimony. That being said, I am open to discussions on low-income multi-family domiciles as the split-incentive issue is an infinitely more complex issue that merits consideration if the Commission moves forward with some version of a MEEIA.[9]

III. RESPONSE TO NATIONAL RESOURCE DEFENSE COUNCIL

Response to National Resource Defense Council witness Stacy L. Sherwood

Q. What issues does NRDC raise in rebuttal testimony that you will address?

A. NRDC witness Stacy L. Sherwood takes the six following positions:

1. "Benefits" should be viewed broadly in interpreting statutory intent;
2. Ameren Missouri's IRP claims that savings have offset load growth the last three years;
3. That capacity concerns should be addressed through demand-side investment;
4. The demand for low-income energy efficiency is greater than the available funding;
5. Federal IRA funding will not result in significant amounts of free ridership; and
6. MEEIA funding and IRA funding should be braided to maximize adoption.

[9] The split incentive means that if the renter is paying the utility bills, the landlord has no incentive to invest and pay for the improvements that would save the renter on their utility bills.

Q. What does NRDC witness Ms. Sherwood mean by suggesting the Commission take a broader perspective of "benefits"?

A. Ms. Sherwood (and Ameren Missouri witness Antonio M. Lozano) are attempting to sell the Commission on the value of non-energy, non-financial benefits in the absence of tangible deferrals that result in financial savings for all customers.

Q. Do you agree?

A. I agree that there are non-energy benefits ("NEBs"), but this argument is largely a marketing concern and if adopted in any manner as justification for MEEIA will only result in wasted money, time, and fewer quantifiable savings.

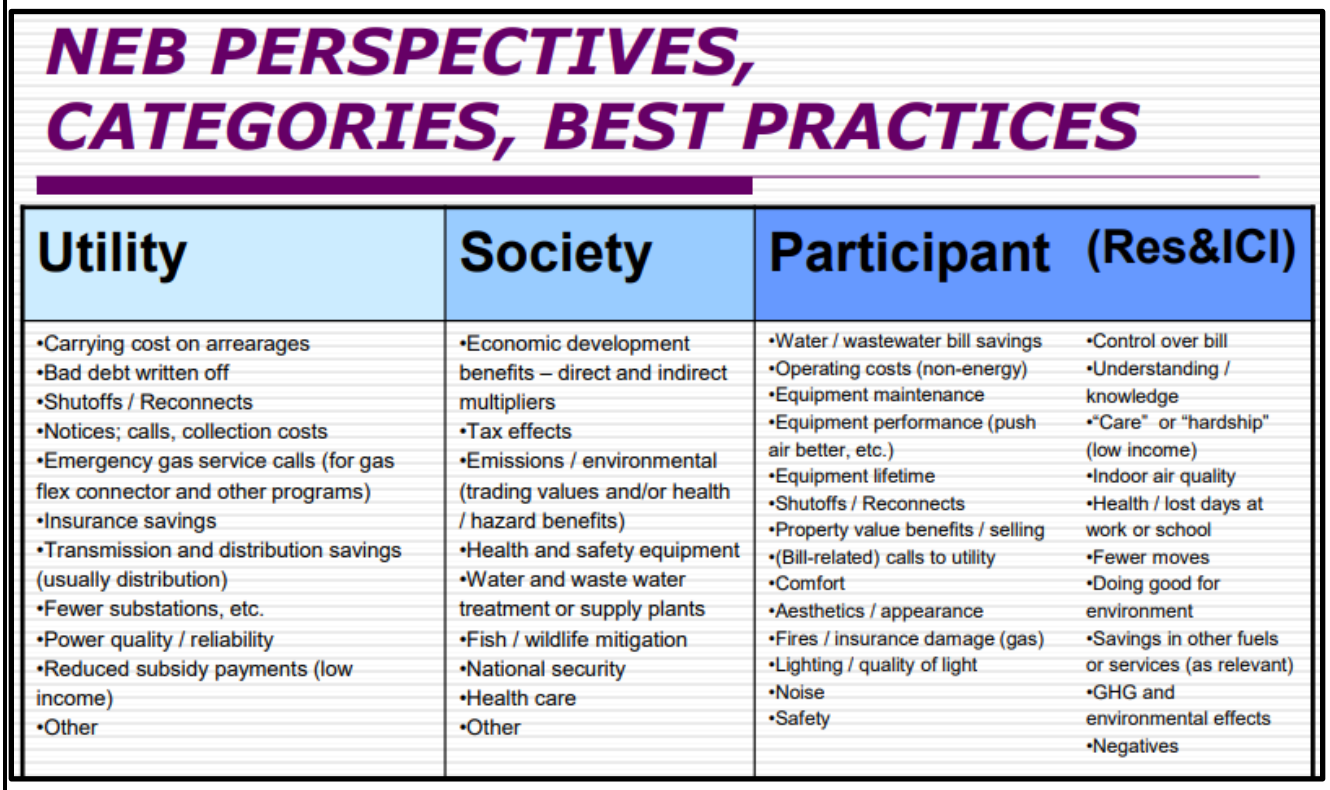
Q. What are non-energy benefits?

A. Non-energy benefits or "NEBs" are effectively a marketing technique that is either deployed at the Commission level (e.g., green job creation) or customer level (e.g., increased aesthetic value) that stresses secondary and/or tertiary benefits above-and-beyond bill savings from reduced energy usage.

Q. Can you provide some examples?

A. Yes. In an energy efficiency Evaluation, Measurement and Verification ("EM&V") webinar hosted by Lawrence Berkeley National Labs on December 14, 2016 a leading expert on NEBs, Lisa A. Skumatz, presented a PowerPoint titled "Non-Energy Benefits 'What have we learned in 20 years? Status/ What's Next?'" Ms. Skumatz has presented this same PowerPoint to stakeholders in Missouri in the past. Figure 2, taken from Ms. Skumatz PowerPoint, lists three categories (utility, society, participant) and provides a running list of "best practices" in NEB categories.

Figure 2: The wide and duplicative range of potential NEB categories [10]



NEB PERSPECTIVES, CATEGORIES, BEST PRACTICES

Utility	Society	Participant (Res&ICI)	
•Carrying cost on arrearages •Bad debt written off •Shutoffs / Reconnects •Notices; calls, collection costs •Emergency gas service calls (for gas flex connector and other programs) •Insurance savings •Transmission and distribution savings (usually distribution) •Fewer substations, etc. •Power quality / reliability •Reduced subsidy payments (low income) •Other	•Economic development benefits – direct and indirect multipliers •Tax effects •Emissions / environmental (trading values and/or health / hazard benefits) •Health and safety equipment •Water and waste water treatment or supply plants •Fish / wildlife mitigation •National security •Health care •Other	•Water / wastewater bill savings •Operating costs (non-energy) •Equipment maintenance •Equipment performance (push air better, etc.) •Equipment lifetime •Shutoffs / Reconnects •Property value benefits / selling •(Bill-related) calls to utility •Comfort •Aesthetics / appearance •Fires / insurance damage (gas) •Lighting / quality of light •Noise •Safety	•Control over bill •Understanding / knowledge •"Care" or "hardship" (low income) •Indoor air quality •Health / lost days at work or school •Fewer moves •Doing good for environment •Savings in other fuels or services (as relevant) •GHG and environmental effects •Negatives

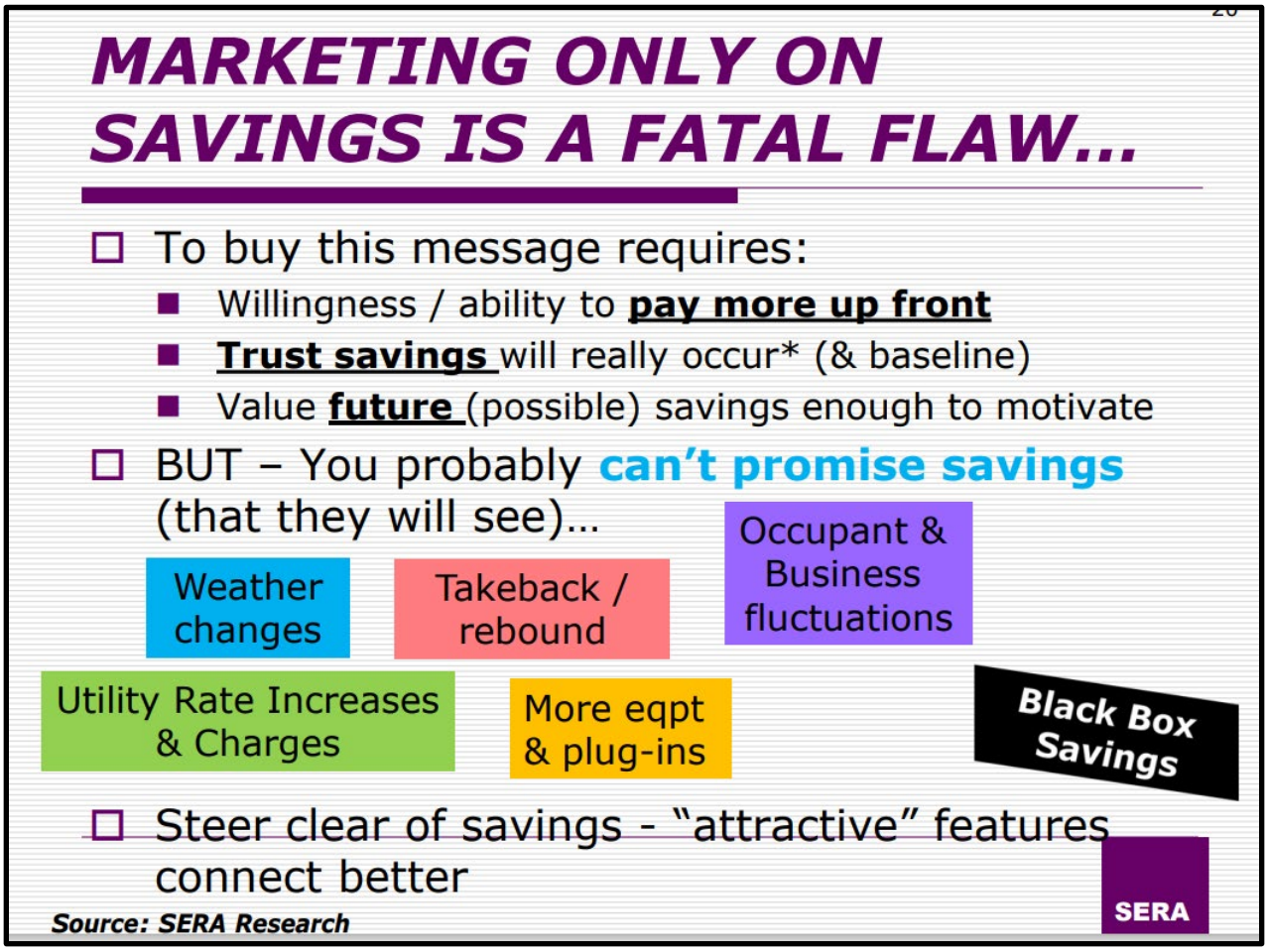
As seen above, examples of NEBs that are commonly cited include job creation, comfort, reduced emissions, reduced asthma, better aesthetics, etc… However this academic exercise can quickly get out-of-hand by including a seemingly endless list of "benefits" that are frequently double-counted (personal health metrics and "job creation"), not controlled for by other confounding variables (power quality), normative in value (e.g., aesthetic traits), do not account for diminishing returns, include no cost offsets (e.g., opportunity cost), misrepresents benefits (economic development) and generally detract from solving the problem at hand (reducing utility bills) by attempting to solve all problems.

[10] Skumatz, L.A. (2016) Non-Energy Benefits 'What have we learned in 20 years? Status/ What's Next? Evaluating and Quantifying the Non-Energy Impact of Energy Efficiency. EM&V Webinars facilitated by Lawrence Berkeley National Laboratory. https://eta-publications.lbl.gov/sites/default/files/emv_webinar_nei_december_2016_final.pdf

Q. Why are parties arguing for MEEIA on the basis of non-energy benefits?

A. That answer appears in another slide in Ms. Skumatz's PowerPoint deck. Figure 3, taken from the same PowerPoint gets to the heart of why NEBs are important.

Figure 3: Marketing of Non-Energy Benefits[11]



As seen in Figure 3 above, savings from energy efficiency programs are not guaranteed. Solving other problems makes the argument to promote these programs easier to stomach when no energy or capacity costs are being avoided—or meaningfully avoided. The

[11]Skumatz, L.A. (2016) Evaluating and Quantifying the Non-Energy Impacts of Energy Efficiency. *Lawrence Berkely National Laboratory.* Speaker from Skumatz Economic Research Associates. https://eta-publications.lbl.gov/sites/default/files/emv_webinar_nei_december_2016_final.pdf

inclusion of NEBs expands the definition of benefits by counting a seemingly endless list of inputs to get measures, programs, and/or portfolios to become cost-effective when they would otherwise not be. Stated differently if there are not enough benefits… reframe the definition of benefits to find more.

Q. What should the Commission take away from this figure?

A. As the title suggests, "marketing only on savings is a fatal flaw" because we can't assume savings will occur. Ms. Skumatz's argument here is directed towards customers, but Ms. Sherwood's (and Mr. Lozano's) argument for NEBs is directed towards the Commission. I implore the Commission to not fall for this trap and keep the focus on the statutory intent:

> Recovery for such programs shall not be permitted unless the programs are approved by the commission, result in energy or demand savings **and are beneficial to all customers in the customer class** in which the programs are proposed, **regardless of whether the programs are utilized by all customers**. (emphasis added)[12]

All customers are not going to benefit by paying more for their electric bill in exchange for having an existing HVAC contractor perform more work.

Instead of looking for ways to repackage MEEIA as an attractive option despite its glaring flaws, interveners would be better pressed in focusing on the task at hand, bill savings through supply-side and/or fuel deferral. This can be accomplished by cutting out "feel good" programs, minimizing overhead spend, reducing the profit margins to account for the absence of any utility risk, working toward market alternatives, pricing electricity based on cost-causation principles, and being better stewards of our captive ratepayers' finite funds.

Q. Do you believe NEBs exist?

A. I do in the most general sense. However, attempting to accurately quantify the impact of NEBs for a MEEIA portfolio is an academic exercise in madness without any clear benefit.

[12] Section 393.1075.4 RSMo http://revisor.mo.gov/main/OneSection.aspx?section=393.1075&bid=34794&hl

Q. What do you mean by the phrase "without any clear benefit"?

A. Cost-effective ratios can be extremely misleading and are rarely agreed-to as a metric. The timing, scale, and inputs matter. Moreover, a cost-effective ratio can be applied at the measure, program, or portfolio level. For example, the Commission has historically justified approving income eligible programs that are not cost-effective because their inclusion does not materially impact the assumed cost-effectiveness of the entire portfolio. A cost-benefit ratio can also be estimated before programs have been implemented (e.g., the current application) or after (through the EM&V process). Moreover, there are multiple cost-benefit tests that claim to view energy efficiency investments from different perspectives which will elicit different ratios. Finally, a cost-benefit ratio may or may not include all relevant inputs (e.g., should the earnings opportunity and throughput disincentive costs be calculated as a specific cost input into the ratio?).

The inclusion of NEBs into the ratio will only result in measures and programs that are currently not cost effective to become cost effective. Importantly, this has no impact on the self-imposed energy and demand savings targets and merely redirects limited funds to less efficient measures.

Q. Can you expand on your opinion regarding NEBs?

A. Yes. For regulatory objectives, they are at best a distraction and at worst an exercise that will grossly undermine efforts to value demand-side management practices on equivalent basis as supply-side investments. At various points throughout the history of MEEIA there has been a strong push from certain parties to quantify and include NEBs in energy efficiency cost-effective tests. The thinking goes, that if NEBs are quantified and monetized there will be more "benefits" and thus a higher overall ratio of benefits to costs which would include measures that are excluded today. This begs a serious question as to what the end-goal is here. Let's assume for a second that the Commission recognizes NEBs and Ameren Missouri spends ratepayer funds hiring "objective" third-party evaluators to quantify and propose a valuation input for these select benefits. Let's further assume that all parties agree

unanimously on the study's findings and how much NEBs are worth (an unlikely outcome, but let's assume this is the case) and then for administrative ease, parties agree that there should be 15% adder to all cost-effective ratios for any end-use measure to account for NEBs. Finally, parties all agree that the decision to include or exclude an end-use measure in the portfolio is dependent on the portfolio's ultimate cost-benefit ratio not the end-use measures' specific ratio. This would mean that even if an efficient measure scored below 1.0 with the 15% NEBs adder it could still be subsidized if other measures in the portfolio are used to offset its score. Such a scenario may play out as follows:

- The utility's MEEIA application has a cost-benefit ratio of 1.75;
- An efficient toaster has a cost-benefit ratio of 0.75;
- A 0.15 NEBs adder is included in this ratio, raising the toaster score to 0.90; but
- The still cost inefficient toaster is included because the new MEEIA application ratio is lowered to 1.60 and still above 1.0 overall even with the inclusion of the toaster.
- The net result is that money will now be redirected from promoting large energy and demand savings items like HVAC's to lower savings items like toasters.

Q. Is this a sound policy?

A. No.

If the goal is to subsidize appliances or anything that requires electricity to function then it might be. But it would come at the expense of other, more relevant goals that have been explicitly expressed by statute. If the NEBs scenario were to play out then the MEEIA budget would deemphasize the promotion of truly "cost-effective" measures at the expense of not very "cost-effective" measures. In short, more of the finite budget would go to toasters than to HVACs. And more investment would need to be made on the supply side in a shorter time frame. But the toaster participant would indeed receive some increased level of utility from the transaction—it would just come at the expense of making more meaningful contributions with other demand-side measures.

Q. Has the Commission rejected NEB arguments in the past?

A. It effectively has. Although the issue of NEBs has never been litigated in a MEEIA application, the Commission did opine on this in the rulemaking process over the revised MEEIA rules with the following comment:

> Response and explanation of change: The commission believes that non-energy benefits may be appropriately considered in the TRC, **but only if they are quantifiable and result in avoided electric utility costs**. An example mentioned at the hearing would be a reduction in the utility's bad debt expenses resulting from an efficiency measure. The commission will modify the definition accordingly. (emphasis added)[13]

The Commission made the right decision in the revised rulemaking process by correctly keeping MEEIA centered on the avoidance of utility costs.

The Commission would be wise to keep its attention on the economics of this case as it pertains to the captive ratepayers it is protecting as opposed to extraneous benefits that have not been quantified and omits both known and unknown costs.

Q. Ms. Sherwood states that Ameren Missouri's IRP claims that savings have offset load growth the last three years. Do you agree?

A. There are many factors that influence load growth or loss, including, but not limited to weather, the economy, COVID-19, changes in codes and standards, increased electric bills, loss of large customers, naturally occurring energy efficiency, etc… Even if all of these factors were rendered irrelevant the issue at hand is not the past tense of MEEIA performance but the future projected performance in the face of alternative options. The change in market structure, the presence of more cost-effective alternatives, the increase in federal subsidies, federal standards, and local codes will all accomplish the original intent

[13] Case No. EX-2016-0334 20.092 final order of rulemaking. Response to Comment #27 p. 13

behind MEEIA, and, as such, MEEIA should evolve or be paused, because the impact of these efforts are clearly overstated.

Q. Ms. Sherwood recommends that capacity concerns should be addressed through demand-side investment. Do you agree?

A. In part. I believe those concerns are more cost effectively addressed through pricing electricity more aligned with the cost of service and encouraging competition and entry from aggregators of retail customers ("ARCs") with respect to business demand response.

Q. Ms. Sherwood also argues that the demand for low-income energy efficiency is greater than the available funding. Do you agree?

A. I agree. However, I again raise the question of what problem are we trying to solve for with MEEIA? Advocates of energy efficiency frequently cite to two broad categories for justifying ratepayer-funded DSM programs beyond energy and demand savings; those are: equitable inclusion of income eligible customers and non-energy benefits. In practice, the equitable inclusion of income eligible customers is often treated as a non-energy benefit. I have already spoken about non-energy benefits. I will now focus my attention on the argument for the equitable inclusion of income eligible participants.

Q. What do you mean by equitable inclusion of income eligible customers?

A. That would be programs designed to target customers living below a pre-determined poverty threshold (e.g., at or below 200% of household poverty income). These are customers whose income limits their ability to participate in MEEIA programs even though they will be charged a surcharge for MEEIA related spend. To minimize this regressive policy predicament, a (comparatively) small set-aside amount of money is typically allocated to income eligible domiciles. However, unlike traditional rebates that cover a portion of the expense, income eligible programs are completely subsidized by ratepayers.

Q. Is that cost-effective?

A. No. However, the MEEIA statute explicitly allows for this transfer in wealth (e.g., income eligible programs need not meet a cost-effective ratio) but the statute doesn't explicitly state how much wealth should be transferred. Parties have historically relied on the MEEIA portfolio containing enough cost-effective measures and/or programs to offset the non-cost-effective income eligible programs.

Q. Are there cost-effective alternatives that accomplish the exact same thing?

A. Yes, the federal low-income weatherization assistance program ("LIWAP") administered by non-profit community action agencies effectively does the same work without the attendant costs (throughput disincentive, earnings opportunity, excess administrative overhead) that are necessarily attached to ratepayer sponsored MEEIA programs.

Q. Is there any justification for weatherizing single-family homes through MEEIA as opposed through traditional non-profit Community Action Agencies?

A. If the problem we are trying to solve for is to give every low-income domicile in Ameren Missouri's service territory free energy efficiency appliances and building shell measures *and* cost is not an issue, then at best, it's a wash compared to its non-profit alternative (LIWAP enabled community action agencies). I also believe one could argue that the existence of the more expensive duplicative program (MEEIA) should allow for more homes to be weatherized over a shorter period *if* money is not an issue.

Q. Is money an issue?

A. It should be. Consider the side-by-side comparison of a ratepayer-funded MEEIA program against a taxpayer-funded LIWAP program in table 4.

Table 4. Income eligible MEEIA single family compared to federal-funded LIWAP

	MEEIA program	**LIWAP program**
What is the primary goal?	Lower participant bills *and* lower non-participant bills	Lower participant bills
Is the primary goal achievable?	Not for non-participants	Decent probability
Who pays?	All Ameren MO. ratepayers (Minus opt-out customers)	Those with taxable income in the United States
Who oversees the program?	Ameren Missouri	The Missouri Division of Energy
Who implements the program?	For-Profit Contractor(s)	Non-Profit Agencies
Administrative cost cap?	No cap 48% of total costs went to admin overhead (Case No. EO-2023-0180)	Capped No more than 15%
Additional profit costs?	Yes Maximum of $11,410,144 in profit	No
Additional lost revenue costs?	Yes	No
Does it need to be cost-effective?	No	Yes
Is this a regressive policy?	Yes Many income eligible customers contribute financially, and all customers contribute at a much greater cost	Much less so Income eligible customers generally don't pay taxes

Q. What should the Commission take away from this table?

A. That Ameren Missouri's income eligible single-family programs do not make financial sense from a non-participant perspective.

Q. If the Commission approves a MEEIA portfolio should the Company not have an income-eligible single-family program?

A. That is correct. It's duplicative, wasteful, and actively undermines the goal of producing benefits for all participants.

Q. If the Commission wants to support single-family income-eligible weatherization, what can it do?

A. It already is based on the 50/50 ratepayer/shareholder sharing of LIWAP costs embedded in utilities' rates today. There is no need to promote this further through a MEEIA application that will necessarily overcharge ratepayers for the same service.

Q. If the Commission still elects to move forward with Ameren Missouri's proposal is there anything it can do to make it more cost-effective?

A. There is no scenario where an Ameren MEEIA single-family income eligible program would ever be more cost-effective than a traditional LIWAP program; however, if the Commission feels compelled to move forward with allocating additional funding for this proposed program, at a minimum, I recommend enforcing a 15% cap on administrative overhead.

Q. Are there any modifications that could be made that could complement existing LIWAP programs as opposed to what it is now—a more cost prohibitive duplicative program?

A. The most recent Evergy MEEIA one-year extension allowed for the modification and continued funding of a program titled "KC Lilac." The KC Lilac program was originally an all-purpose income eligible program that supported energy efficiency measures through active community outreach and marketing. It has since been modified to function as a support service for Community Action Agencies who administer LIWAP by directing funding to eliminate health and safety related obstacles that have historically prevented income eligible homes from being weatherized with federal funding.

Q. Can you provide an example of what you mean?

A. Roof repair and the replacement of knob-and-tube wiring are the primary examples. Elimination of mold and dumpsters for hoarders are other less common examples. All four of these examples (roof repair, replacement of knob-and-tube wiring, mold and trash removal) are common barriers to weatherizing an income eligible home today. More than 30% of all LIWAP eligible homes in Missouri have been "passed over" for one of those four (or closely related) reasons.

Ameren Missouri could mirror Evergy's KC Lilac program and work with its community action agency partners to contract with roofing and knob-and-tube wiring specialist to get homes up-to-date and eligible for LIWAP funding.

If the Commission elects to explore this option, I would recommend administrative costs caps to ensure that administrative costs do not exceed 15%. Additionally, there should be no attempt to claim lost revenue recovery associated with these actions (no such mechanism exists today for federal LIWAP).

Q. If the Commission dismisses your primary recommendation and adopts this modified proposal should the Company still be entitled to an earnings opportunity for income eligible programs?

A. As recommended in my previous testimony, I recommend valuing demand-side on an equivalent basis as our supply-side investments. This valuation is particularly appropriate where the profit motive is considered. As such, I recommend that any earnings opportunity be approximately half of the Company's allowed return on equity applied as a percentage of the overall prudently incurred spend for income eligible programs. For example, if we assume a 9.5 approved ROE for illustrative purposes, and Ameren Missouri incurs $10M in prudently incurred costs it should be rewarded with a profit of $475K (the equivalent of half of the 9.5 ROE or 4.75% of the $10M in costs) for effectively writing the check to ensure its 3rd party contractor does what it is supposed to do. That would conform to the statutory intent but represent a slightly less windfall profit for again, what amounts to writing a check

with other people's money where the risks (that savings will not materialize or be overstated due to the rebound effect) are borne entirely by ratepayers who are footing the bill.

Q. In rebuttal testimony you recommended an alternative MEEIA light proposal that included, in part, an earnings opportunity tied to the Company's approved ROE. Are you changing that now?

A. Yes. I am continuing to recommend it be tied to the Company's approved ROE but I now recommend that it be reduced by half to acknowledge there is literally no risk and only upside for the Company in having a MEEIA. All risk is borne by ratepayers. Again, given the circumstances outlined in three rounds of testimony this is still effectively free money for Ameren Missouri for which they have no compelling reason to refuse.

IV. RESPONSE TO AMEREN MISSOURI

Response to Ameren Missouri witness Antonio M. Lozano

Q. What issues does Ameren Missouri witness Antonio M. Lozano raise in rebuttal testimony that you will address?

A. I will be addressing the following issues raised by Mr. Lozano's rebuttal testimony:

- That NRDC's testimony should be valued over the Commission Staff and OPC's;
- Ameren Missouri's constantly revised IRP is infallible;
- The Commission's previous Report and Order for Evergy MEEIA 3 negates OPC's arguments;
- That OPC is advocating for no earnings opportunity;
- OPC's concerns regarding principal-agent problems have no basis in reality;
- No other state is rolling back DSM programs.

I will not be addressing his arguments centered on non-energy benefits as that issue has already been addressed in my surrebuttal testimony to Ms. Sherwood.

Q. What did Mr. Lozano say regarding the testimony of NRDC?

A. Mr. Lozano made a seemingly random observation about the credibility of NRDC at the expense of OPC and Staff. Mr. Lozano stated:

> I note that out of the three stakeholders who filed direct testimony, NRDC has the most experience appearing in cases across the region and nation, and NRDC supported the Company's Plan, especially with regards to continuity of programs, and size. NRDC did not raise any issues regarding the development of the Plan and its evaluation.[14]

Q. What is your response?

A. First, I would note that Mr. Lozano completely ignores Renew Missouri, a consistently active stakeholder in all MEEIA-related activities who had two witnesses file testimony in this docket. Second, Ms. Sherwood, NRDC's witness, is a consultant to NRDC who is paid to support demand-side management programs with the primary objective to theoretically reduce carbon emissions. Assumed benefits related to realizing lower customer bills and competent programs for income eligible customers, I would argue, are at best secondary concerns for NRDC.

I will not disparage Ms. Sherwood's contributions to this docket or NRDC's primary objectives. The Commission should consider as many perspectives as possible.

I will, however, make the observation that Ms. Sherwood has never filed testimony or contributed to the planning, implementation, or evaluation of any MEEIA activities to date. She has zero context for the history and challenges that are unique to MEEIA. Furthermore, NRDC has not been an active participate in any MEEIA-related activities for at least six years. Even then, when NRDC participated it was almost entirely limited to filing boiler-plate testimony that supported whatever Ameren Missouri offered regardless of the costs imposed.

[14] Case No. EO-2023-0136 Rebuttal Testimony of Antonio M. Lozano p. 14, 1-4.

I look at Mr. Lozano's "notice" of NRDC's value to the case as entirely self-serving and without merit. Effectively, Ameren Missouri praises NRDC when it is convenient in their argument (see Mr. Lozano above) and dismisses their recommendations when it is not convenient to their argument (see Mr. Via's comments later below).

Q. Why should the Commission temper its assessment of NRDC's arguments?

A. Because NRDC does not participate in MEEIA activities beyond filing the occasional "us too" testimony for the Company when it periodically comes up. If NRDC was serious about seeing Ameren Missouri's programs work as claimed and holding the utility up to any sense of accountability, they would be actively participating in the quarterly meetings on program deployment, they would be providing input into the market potential studies, and they would be challenging the assumptions around the EM&V results. They would fill a seat at the table. Unfortunately, that seat has been empty for years.

When MEEIA was first implemented NRDC played an active role, but that hasn't been the case for at least a decade. NRDC has been entirely absent from any regulatory discussions or filings about the integrity of the programs to date.

From an insider (someone who has spent a great deal of time and energy on MEEIA-related activities) looking out I would argue that NRDC is much more concerned about perception (e.g., *We have energy efficiency approved programs in Missouri*) than reality (e.g., *Missouri's energy efficiency programs are littered with free ridership challenges and incorrect operational savings assumptions*). Mr. Lozano would have been better served to praise Renew Missouri who actively participates in MEEIA-related activities and generally supports Ameren Missouri's application—instead, he doesn't even acknowledge them.

As far as NRDC is concerned, if they expect to be taken seriously by stakeholders (outside of the self-serving Company) they are welcomed and encouraged to actively participate beyond the approval process. Their continued absence to date should not go unnoticed by this Commission in weighing the value of their testimony.

Q. Mr. Lozano spends a great deal of testimony citing to the fact that Ameren Missouri's IRP includes MEEIA in their modeling and therefore should be approved. What is your response?

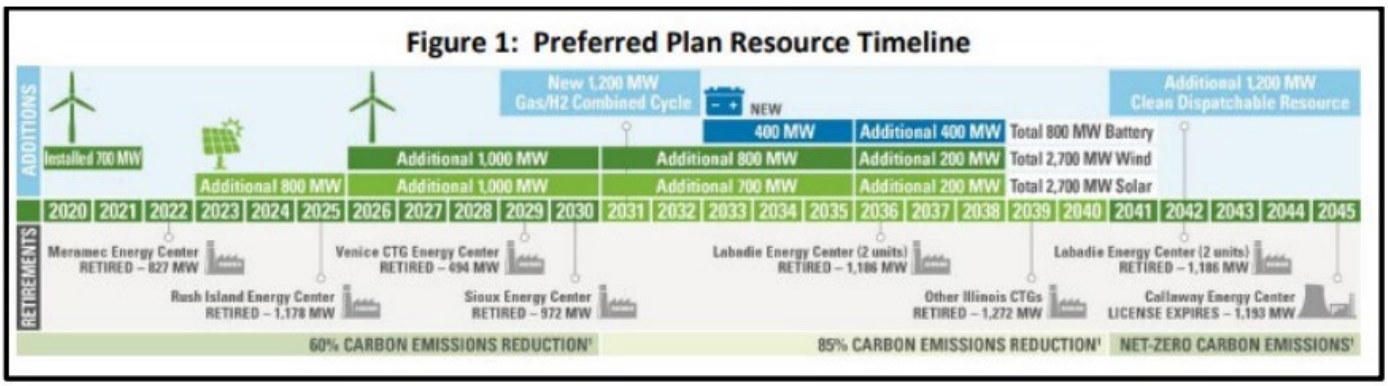
A. Ameren Missouri's IRP is not infallible nor is there anywhere near consensus on what the "correct" answer is. The IRP is a model that can be expanded or contracted to produce any result you want. It is not some magical filing that nullifies all objections.

That being said, I believe Ameren Missouri performs the best IRP analysis in Missouri by modeling reasonable scenarios with reasonable inputs. As such, it serves as a good guide and sanity check for investments, but it is not a foolproof exercise where a singular objective truth can be pointed to. In fact, it is often grossly misleading.

Q. Can you provide an illustrative example?

A. Sure. Look no further than my surrebuttal testimony in the Ameren Missouri Boomtown Solar Case No. EA-2022-0245 which includes Figure 3, the Company's Preferred Plan breakdown of capital investment and retirements from its 2022 Annual Integrated Resource Plan.

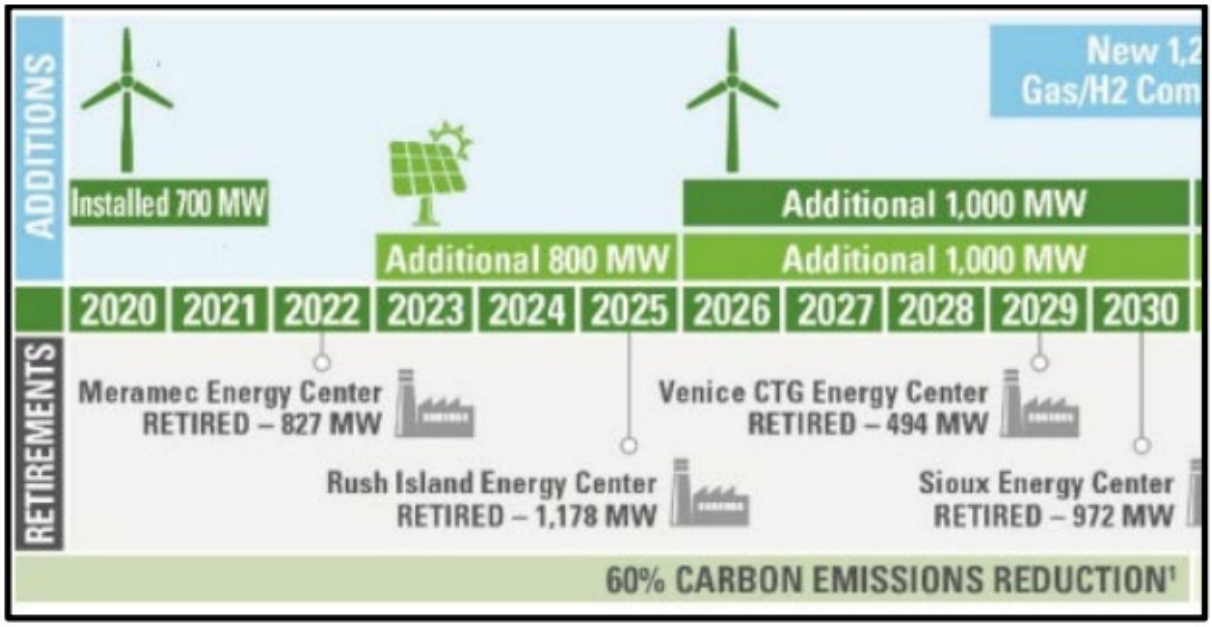
Figure 3: 25-year Ameren Missouri Preferred Plan Resource Timeline[15]



[15] Case No. EO-2022-0336 2022 Change in Preferred Plan: Integrated Resource Plan Report. Ameren Missouri p.2

Figure C provides a timeline of Ameren Missouri's planned generation resource retirements and investments over a twenty-five year period. For illustrative purposes I am going to emphasize years 2020-2030 or a portion of that same timeline as seen in Figure 4.

Figure 4: 10-year Ameren Missouri Preferred Plan Resource Timeline



Readers should note that the following breakdown of retirements and investments over the ten-year period can be seen in Table 5.

Table 5: 2020-2010 Breakdown of retirements and investments based on nameplate capacity

Retirements	Nameplate Capacity	Investments	Nameplate Capacity
Meramec	827 MW	Installed Wind (2021)	700 MW
Rush Island	1,178 MW	Additional Solar #1 (2025)	800 MW
Venice CTG	494 MW	Additional Wind (2030)	1000 MW
Sioux	972 MW	Additional Solar #2 (2030)	1000 MW
Total	3,471 MW		3,500 MW (+29MW)

At first blush, it looks like we have an equivalent amount of retirement being offset by an equivalent amount of investment. This is grossly misleading because nameplate capacity is different from accredited capacity.

Q. What is nameplate capacity?

A. Each power plant (aka, energy center or generating facility) has a "nameplate capacity" which indicates the maximum output that the generator can produce. For example, if Rush Island has a nameplate capacity of 1,178 megawatts, it means the plant is capable of producing 1,178 megawatts operating at continuous full power at ideal conditions.

Q. Does that mean 3,500 MW of renewable generation is equivalent to 3,471 MW of fossil fuel generation for purposes of resource adequacy?

A. No.

Q. Why not?

A. The short answer is the differences in the availability of and control over the energy source from which electricity is generated. Renewable energy is an intermittent resource. That is, the generation does not have the same attributes as traditional fossil fuel generation. Solar only produces energy when it is sunny and wind farms only produce energy when it is windy. A generation's accredited capacity, which is typically expressed as a percent of a resource's nameplate capacity and is a measure of a resource's contribution to grid reliability during periods of heightened risk of load shedding, is much smaller.

Q. What is accredited capacity?

A. Accredited capacity is based on the historical measurement of reliability, availability, and usage to produce a valuation of a given generating resource's contribution to maintaining resource adequacy within a given energy market. It will necessarily always be lower than the nameplate capacity because generation is not operating in ideal scenarios twenty-four hours a day for 365 days a year.

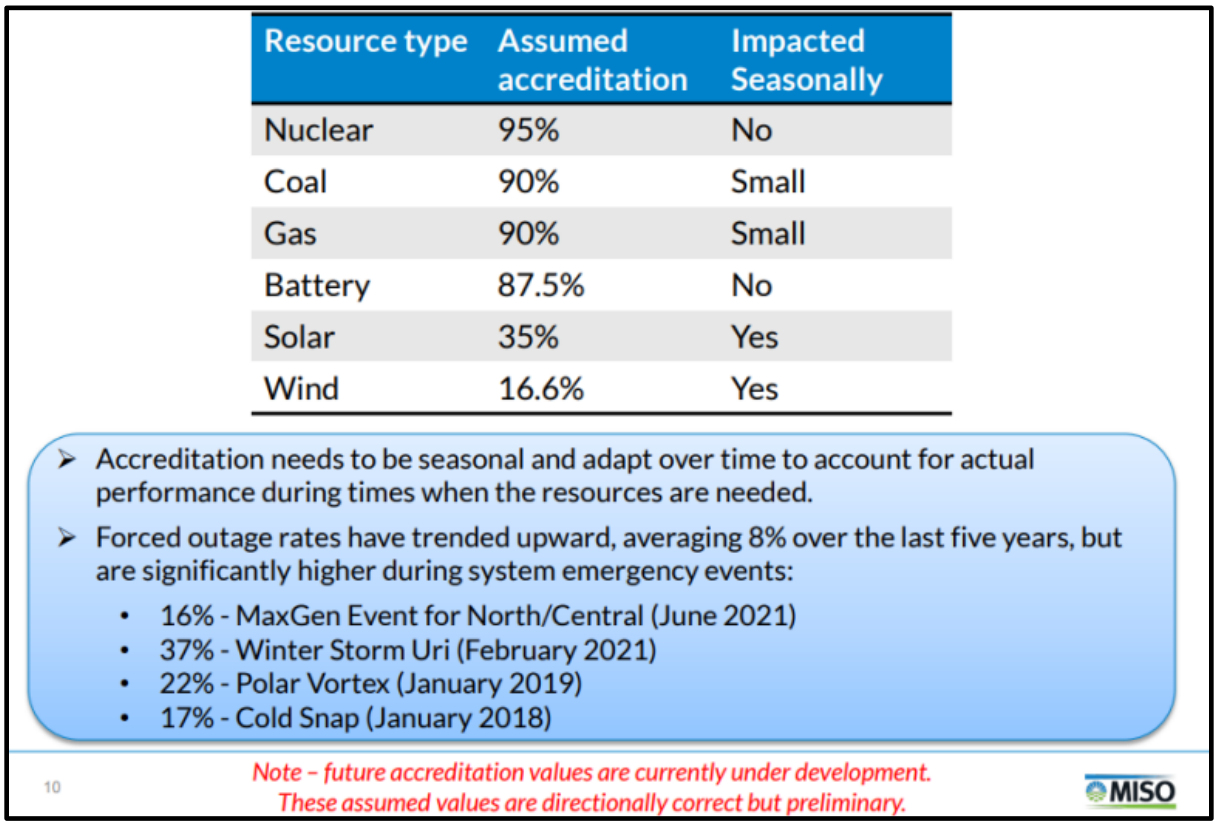
Q. Who determines Ameren Missouri's accredited capacity?

A. The Midcontinent Independent System Operator ("MISO").

Q. What was the assumed MISO accredited capacity of resource types when you filed this testimony?

A. That can be seen in Figure 5 taken from a June 2022 MISO presentation titled "Managing Reliability Risk in the MISO footprint."

Figure 5: Assumed MISO Resource Accreditation and Seasonal Impact[16]



Resource type	Assumed accreditation	Impacted Seasonally
Nuclear	95%	No
Coal	90%	Small
Gas	90%	Small
Battery	87.5%	No
Solar	35%	Yes
Wind	16.6%	Yes

Q. How does Ameren Missouri's preferred plan look in light of these assumed accreditation percentages?

A. Not good. Ameren Missouri would have a shortfall of (at least) 2,212 MW in accredited capacity by 2030 if the MISO accredited capacity methodology were to mirror the assumed accreditation percentages listed in Figure 5. Table 6 provides a rough approximation.

[16] MISO (2022) Managing Reliability Risk in the MISO Footprint. June 16, 20022. https://cdn.misoenergy.org/20220616%20Board%20of%20Directors%20Item%2008a%20Reliability%20Imperative625168.pdf

Table 6: 2020-2030 Breakdown of retirements and investments based on accredited capacity.

Retirements	Accredited Capacity	Investments	Accredited Capacity
Meramec	744 MW	Installed Wind (2021)	116 MW
Rush Island	1060 MW	Additional Solar #1 (2025)	280 MW
Venice CTG	445 MW	Additional Wind (2030)	166 MW
Sioux	875 MW	Additional Solar #2 (2030)	350 MW
Total	3,124 MW		912 MW (-2,212 MW)

Q. What is the takeaway from this exercise as it pertains to MEEIA?

A. This is an example of a glaring large mistake in an Ameren Missouri IRP. If the Company had moved forward exactly as articulated in Figure X, Ameren Missouri would be short more than 2 GW of power with no accredited capacity to replace it within six-years.

I will move off identified issues in Ameren Missouri's IRP for the moment and refocus my testimony on addressing the rest of the MEEIA rebuttal leveled by the Company; however, I have included my surrebuttal testimony from EA-2022-0245 as attachment GM-1 for full transparent disclosure for the record.

The takeaway point is Mr. Lozano's faith in Ameren Missouri's IRP process is far from perfect and should be held with a high degree of skepticism especially if it results in self-serving outcomes.

Q. Mr. Lozano cites to the Commission Report and Order approving Evergy's MEEIA Cycle III as evidence that the Commission should support Ameren Missouri's application. What is your response?

A. At the end of the day, there is as much value in citing to that docket as it would be for me to cite to the Commission's order rejecting Ameren Missouri's MEEIA Cycle II in Case No. EO-2015-0055.

The Commission is an independent, fact-finding, economic regulatory body. The Commission make-up, timing, circumstances, Company, and applications are entirely different and should be treated as such. As stated earlier, we are not an EERS state. The MEEIA applications should be able to be approved or rejected based on the merits of the application itself, accounting for the problem it is attempting to solve, with consideration for alternative options (including doing nothing), not based on an isolated example without context.

I am confident in my analysis of Ameren Missouri's application and all of the observed shortfalls and examples of inefficient wasted uses of captive ratepayers' finite money. I stand by my recommendations to reject Ameren Missouri's filed application. The fact that the Commission approved a different Company's filed MEEIA four years ago is not relevant to the problem we are attempting to address today.

If either the Company or the Commission want to cross me on the stand on the relevance, and more importantly, the context of what took place with Evergy MEEIA Cycle III, I will be more than happy to opine for the record, but at this point, it is largely an unnecessary distraction.

Q. Mr. Lozano says that you are not recommending an earnings opportunity. Is that true?

A. I cannot find anything in my direct testimony that recommends this.

To be clear, I am recommending that the Commission reject Ameren Missouri's application in its entirety. In rebuttal testimony I offered up an alternative path forward that did provide

a more reasonable and appropriate earnings opportunity if some form of an application is approved. I have since revised that earnings opportunity downward in light of the compelling arguments made by the PSC Staff in this case and to recognize that Ameren Missouri has close to no downside in moving forward with a MEEIA whereas ratepayers are exposed to enormous risk.

Q. Mr. Lozano dismisses your concerns regarding the principal-agent problem by citing to unrelated examples where there are known risks despite potential benefits. Can you summarize those examples?

A. Yes. Mr. Lozano provides three illustrative examples for why the principal-agent problem I articulated in direct testimony is not an issue. Those examples taken directly from his testimony are as follows:

- The growing use, including cheating, of Chat GPT and other artificial intelligence ("AI") models by college and university students;
- Concussions in sports, and the impacts of them; and
- Internet crimes, especially targeting those who are >60.[17]

Mr. Lozano articulates these examples, acknowledges that each represent real concerns, with real supportive data, and then concludes that the answer is not to kill AI advancement, or contact sports, or internet use for individuals older than 60-years-of-age because the benefits outweigh the risks. Therefore, he argues we should not reject Ameren Missouri's application just because there are obvious problems in how confident we can be in claiming savings.

Q. What is your response?

A. This is an example of a fallacy of relevance. That is, an argument where the premises are logically irrelevant to the conclusion. Mr. Lozano's argument is to take three unrelated and random arguments that can be easily refuted in an attempt to weaken my concerns.

[17] Case No. EO-2023-0136 Rebuttal Testimony of Antonio M. Lozano p. 30, lines 20-21 & p. 31, lines 1-2.

Importantly, he never explicitly addresses the core concern I make—that operational savings are being overstated, ratepayers are overpaying for it, and the Company is making undue profit from this charade. Instead, Mr. Lozano dismisses it first by claiming it does not exist and then later claiming that having sound processes in place will resolve this issue. What those sound process are or how they are going to be applied is left unanswered.

I reject Mr. Lozano's arguments and stand by my assertions and the empirical evidence I provided to substantiate these concerns. However, I will go through the exercise of responding to each of Mr. Lozano's illustrative counter-examples.

First, many universities, and primary and secondary schools are in fact prohibiting the use of ChatGPT and similar AI tools full stop. The following is Harvard University's position on the topic:

> We specifically forbid the use of ChatGPT or any other generative artificial intelligence (AI) tools at all stages of the work process, including preliminary ones. Violations of this policy will be considered academic misconduct.[18]

Second, to combat concussions, the NFL has created an independent board of NFL-affiliated physicians and scientists to serve on the NFL Head, Neck, and Spine Committee. There is a 19-page Concussion Diagnosis and Management Protocol that all teams have to adhere to. This arose after more than $1.2 billion has been paid out to more than 1,600 former NFL players and their families [19]

[18] Harvard University (2024) AI Guidance & FAQs https://oue.fas.harvard.edu/ai-guidance
[19] National Football League (2022) NFL Head, Neck and Spine Committee's Concussion Diagnosis and Management Protocol https://static.www.nfl.com/image/upload/v1665264248/league/moexjmdzy2kvjtqsdpbx.pdf

Klawans, J. (2024) The NFL's concussion settlement has seemingly failed its players. *The Week*. https://theweek.com/sports/nfl-concussion-settlement

Finally, the Federal Bureau of Investigation ("FBI") has created an Internet Complaint Center specifically tasked with Elder Fraud which the FBI estimates includes approximately 18,000 complaints and almost $600 million in reported annual losses.[20]

Schools face an existential crisis of continued existence if they cannot solve and adapt for AI. Additionally, the NFL has paid out over a billion dollars and has had to repurpose how players are treated in games and training this effort has trickled down to college, high school and youth leagues, and finally, the federal government had to step up and create a new federal sub-agency and mitigation control processes in an attempt to counter internet elder fraud.

My testimony articulated four paths forward to mitigate the principle-agent problem with an open solicitation from stakeholders to provide feedback or a possible solution to this problem. What I got was one witness claiming it is not a problem because I don't have Ameren Missouri specific-data and even if it is an issue the world has experienced other problems and adapted (albeit at great cost and injury in the examples Mr. Lozano provided) so, no problem.

To be clear, this is a problem and Mr. Lozano's response has no workable answer.

Failure to address this problem will merely perpetuate the false narrative that MEEIA is above reproach and result in an outcome that continues to overstate the benefits and ignores the costs. As a result, Missouri will be worse off because we continue to promote energy policy not grounded in reality.

[20] Federal Bureau of Investigation (2024) FBI Releases 2023 Elder Fraud Report with Tech Support Scams Generating the Most Complaints and Investment Scams Proving the Costliest https://www.fbi.gov/contact-us/field-offices/losangeles/news/fbi-releases-2023-elder-fraud-report-with-tech-support-scams-generating-the-most-complaints-and-investment-scams-proving-the-costliest#:~:text=Nationwide%2C%20tech%20support%20fraud%20was,with%20losses%20exceeding%20%241.2%20billion.

Federal Bureau of Investigation (2024) Internet Crime Complaint Center (IC3): Elder Fraud. https://www.ic3.gov/Home/EF

Q. Mr. Lozano claims that no states are rolling back DSM programs. Is that true?

A. No. I have already cited two examples in New Hampshire and Ohio. I would also include Iowa and South Carolina who passed a law allowing customers (all for Iowa and commercial/industrial customers for South Carolina) to opt-out of paying their energy efficiency surcharge.[21] Additionally, programs across the United States are wrestling with mandated targets that cannot be reached due to diminishing returns and increased expenditures and many states have no programs whatsoever. ACEEE found that utility spending across the United States dropped by 5% from 2018 to 2021.[22] To have four states effectively kill their programs is a big deal. Based on my own personal experience, it is near impossible to eliminate a utility-approved law. In Missouri, this should be easier because enormous discretion is given to the Commission and the law in Missouri is entirely voluntary and tied to realizing savings for all participants.

To be clear, I am not supporting Ameren Missouri's filed application and I would not frame my argument as "rolling back" or "ceasing" programs. Rather I believe the programs need to adapt and evolve. What that does necessarily mean is that the historical excessive profit-maximizing, risk-free MEEIA mechanism in place for Ameren Missouri is not sustainable (and was arguably never appropriate to begin with) especially if regulators cannot have confidence in the results all the while more cost effective alternatives exist.

[21] Uhlenhuth, K. (2021) Since 2018 law, Iowa utilities are doing a lot less to help customers save energy. Energy News Network. https://energynews.us/2021/07/07/since-2018-law-iowa-utilities-are-doing-a-lot-less-to-help-customers-save-energy/

Rives, K. (2022) ACEEE 2022 energy efficiency scorecard praises Maine; South Carolina tumbles. *S&P Global.* https://www.spglobal.com/marketintelligence/en/news-insights/blog/banking-essentials-newsletter-may-29th-edition

[22] Walton, R. (2023) Utility efficiency spending falls, leading to 5.4% drop in energy savings: ACEEE. *UtilityDive*. https://www.utilitydive.com/news/utility-energy-efficiency-spending-declined-5-percent-from-2018-to-2021/691852/

Response to Ameren Missouri witness Timothy E. Via

Q. What issues does Ameren Missouri witness Timothy Via raise in rebuttal testimony that you will address?

A. I will be addressing the following issues raised by Mr. Via's rebuttal testimony:

- That Ameren Missouri has worked constructively with OPC (and other stakeholders) in previous MEEIA iterations; and
- Response to NRDC's observation that more savings should be possible;

I will not be addressing his assertion that I believe the $150M in IRA funding will negate Ameren Missouri's MEEIA portfolio as that issue has already been addressed in my surrebuttal testimony to Ms. Piontek.

Q. Mr. Via notes the many examples of Ameren Missouri working constructively with stakeholders in the past. Do you agree?

A. I do. Ameren Missouri has largely been attentive of my recommendations in the past and I believe the relationship has been mutually constructive as I have identified savings/profit opportunities for the Company. To the extent that some form of MEEIA is eventually approved, I expect that relationship will continue.

Q. NRDC's witness suggested that more energy and demand savings were possible than what Ameren Missouri is proposing. What was Ameren Missouri's response?

A. Mr. Via responded to that claim as follows:

> The IRP analysis showed a gap between the costs of the RAP and MAP portfolios increase in terms of the cost per kWh saved. As a result, the incremental cost of the MAP portfolio does not result in savings from the deferral of supply side resources that justify this cost, as evidenced by the PVRR analysis performed. The IRP also concluded that the achievement of energy savings at levels less than RAP portfolio

would give rise to the need for more supply side resource additions, resulting in higher costs for customers.[23]

Restated, Mr. Via claims Ameren Missouri has hit a Goldilocks level of perfect energy and demand savings targets. Not too high and not too low.

Q. Do you agree?

A. I believe that Ameren Missouri has a perverse incentive to have the lowest targets possible that result in the highest returns in profit. This is why MEEIA applications will forever only be at "realistic achievable potential" (or "RAP") levels.

If Ameren Missouri would have proposed a $2 billion dollar MEEIA investment with the stated purpose of deferring a large power plant *and* the Company had some skin-in-the-game if that investment did not materialize as hoped, then I would agree that the Company is taking demand-side management seriously and valuing it on an equivalent level as its supply-side investment.

But that will never happen and, quite frankly, I don't believe that can be achieved under the current market saturation of energy efficiency appliances and unique increases in demand (e.g., data centers).

What we ("Ameren Missouri ratepayers") get, is a nominal level of targeted savings that is roughly in line with naturally occurring savings that would occur regardless of MEEIA. Additionally, every year that efficiency standards are in place or increased the naturally occurring savings will become more pronounced moving forward. This of course calls into

[23] Case No. EO-2023-0136 Rebuttal Testimony of Tim E. Via p. 36, 19-23 & p. 37, 1-4.

RAP = realistic achievable potential the standard energy and demand saving target under "realistic" or "normal" conditions.

MAP = maximum achievable potential is effectively a very aggressive or "maximum" energy and demand saving target

PVRR = present value revenue requirement which is the current worth of the total expected future revenue requirements associated with a particular resource portfolio, expressed in dollars in the year the plan is filed as discounted by the appropriate discount rate.

question the long-term viability of MEEIA, at least as it is presently constructed (e.g., rebates for efficient measures when only efficient measures exist).

Simply put, Ameren Missouri should withdraw their application and rethink what role DSM plays moving forward. For my part, I have been attempting to get the Company to think that way for some time now. The clearest example I can give is my continued challenge to the Company to look at mitigation strategies related to the Urban Heat Island occurring in the Greater St. Louis metropolitan area; however, these efforts have largely been in vain with Ameren Missouri to date. Absent the Commission rejecting this application as not being in the public interest I fail to see how we ratepayers elicit financial benefits from this cost-intensive endeavor.

Response to Ameren Missouri witness J. Neil Graser

Q. What issues does Ameren Missouri witness J. Neil Graser raise in rebuttal testimony that you will address?

A. I will be addressing the following issues raised by Mr. Graser's rebuttal testimony:

- Ameren Missouri's retrospective EM&V history;
- Dismissal of my concerns around the rebound effect that negates assumed savings.

Q. Do you agree with Mr. Graser that the EM&V process in place with Ameren Missouri has been effective?

A. With all due respect, Mr, Graser does not have the work experience over Ameren Missouri's EM&V process to opine on this topic. My understanding is that he has held his current position for under two years. During that time, Ameren Missouri has been operating under one-year extensions explicitly designed to minimize EM&V because the checks and balances in previous EM&V iterations were perceived to be inadequate. My case history in

GM-1 speaks to the problems I have experienced with Ameren Missouri's consultants and the EM&V process.[24]

Q. Can you think of anything that would make the EM&V process more neutral and objective?

A. Sure, the Commission could approve a MEEIA that is conditioned on only employing one EM&V contractor who works for the Commission. Many states employ this process to avoid the obvious conflict of interest inherent between a utility and a utility's private EM&V consultant. That simple act should alleviate much of the frustration leveled at the Company and this MEEIA application regarding the position that the EM&V process is biased towards the Company's saving assumptions.

Q. Mr. Graser argues that the rebound effect could theoretically be applied to future EM&V's but is not a reason to reject the MEEIA application in its entirety. What is your response?

A. I never recommended rejecting Ameren Missouri's MEEIA application in its entirety based solely on the rebound effect. I recommend rejecting Ameren Missouri's filed MEEIA application for many reasons, including the rebound effect. It's the cumulative concerns that led to my opinion that this application is not in the public interest.

That being said, I appreciate that small concession that this is something that could be addressed in future EM&V's.

[24] With that in mind, I will say that this relationship has improved over time. I do not believe we are anywhere near the level of blatant bias evaluation that occurred in MEEIA Cycle I.

Q. Mr. Graser also suggests that a 10% across the board reduction related to the rebound effect is inappropriate and that any investigation into the rebound effect should be countered with an investigation into energy efficiency spillover. First, can you define what he means by spillover, and then do you agree with his comments?

A. Sure, when Mr. Graser speaks of spillover in the context of EM&V I assume he is attempting to include a research action that examines whether or not Ameren Missouri's actions (e.g., providing a rebate for an HVAC) also resulted in additional energy efficiency actions beyond what the Company offers as rebates.

In this hypothetical scenario, a customer purchases an EnergyStar HVAC because of Ameren Missouri's rebate and then purchases energy efficiency windows because he or she became aware that energy efficiency is an action that has value. Absent Ameren Missouri's rebated HVAC—the customer would have presumably bought inefficient windows. In such a hypothetical scenario, Ameren Missouri would claim additional savings above and beyond what was rebated.

Q. Do you believe such an outcome is frequent enough to warrant additional funding?

A. No. In my opinion, spillover is largely a methodological EM&V trick to create more savings and it is both highly subjective and controversial.

On a practical level, the spillover argument has been eroded over time by the saturation of efficient appliances brought on by increased codes and standards and by the overall collective knowledge of energy efficiency by the public at large. I am confident that any theoretical additional savings obtained through spillover from direct rebates is a rounding error at best in terms of what could reasonably be attributable to the Company at this point. Spillover is the Company's response to the ever eroding savings opportunities that Ameren Missouri can claim as a result of their actions. I would argue the savings lost from customers not changing out their HVAC air filters in a timely fashion far outweigh any saving gained from spillover, but we currently don't investigate filter changes—we just assume customers

are constantly changing them and that the savings will materialize at engineered levels through the life of the measure.

V. CONCLUSION

Q. Can you provide some closing macro-level thoughts on how the Commission should approach this docket moving forward if we go to an evidentiary hearing?

A. Sure. At various points in my three rounds of testimony I have raised the question of "what problem are we solving for?" The testimony in this case includes many different answers that often undercut one another. At a macro-level, I would argue that it may be helpful to view the application through a political lens. I would argue that there are three ways to do that:

- The Market Lens: Under this perspective no MEEIA is necessary. The market is saturated with energy efficient options that are only getting more efficient with each subsequent revised standard. The naturally occurring energy efficiency is now and will continue to be in a constant state of more efficient measures moving forward and all ratepayers are better off by not having to subsidize the Company's earnings for actions that would happen anyway. This perspective would also not be regressive as no effective "tax" (in the form of a MEEIA surcharge) would be leveled at income-strapped households that are currently subsidizing efficient households.
- The Government Lens: Under this perspective DSM would aggressively be pushed by mandating efficiency across households. The government could buy all of the EnergyStar appliances in bulk (with huge savings) and we could distribute these measures uniformly at significant cost savings to customers, along with significant cost savings for implementation. We could be much more certain about energy and demand savings through a uniformed, controlled manner, but it would come at the expense of market innovations and progress. It would also not be a regressive policy

as this approach would presumably be funded through tax dollars and, as stated earlier, most income eligible homes don't pay taxes.

- The Hybrid (or MEEIA) lens: I would argue that this is the worst of the three options. We charge the one actor who has a perverse incentive to encourage consumption—the utility—with the task of determining what an appropriate energy/demand savings target is, how much money they need, and how much money they should be rewarded. We do this while the market moves forward with naturally-occurring energy efficiency and the government is promoting codes and standards and also giving out their own direct rebates and tax breaks. Then we charge the utility with hiring a 3rd party evaluator to calculate who is responsible for energy and demand savings that we can't be sure have materialized. All the while, the utility has zero skin in the game in terms of risk and, instead, has all upside.

What you get is a portfolio that spends close to half of its program budget on administrative overhead and has the same "realistic" targets every year that more or less align with naturally-occurring energy savings. The utility justifies the program by saying it's cost-effective, which it deduces by leaving most of the costs out of the calculation (e.g., lost revenues, earnings opportunity) and overstating the savings assumptions (no rebound effect, minimize free ridership claims, and don't investigate operational inefficiencies or principal agent losses).

Q. Could you provide an illustrative breakdown of what you just said in that last paragraph?

A. I will attempt to do that, with the caveat that these numbers are rough approximations and based on my professional experience. Table 7-9 provide a breakdown of costs associated with this application and accounts for conservative estimates for free ridership, operational losses, and principal-agent losses.

Table 7: Estimated all-in costs assuming full earnings opportunity is met, and lost revenues are the average of Ameren Missouri's last three cycles

Program Costs	$370M
Earnings Opportunity	$70M
Lost Revenues (3 MEEIA cycle average)	$121M
Total cost to ratepayers	**$561M**

Table 8: Ameren Missouri's program costs broken down by estimated administrative overhead and actual incentives paid out

Total Program Costs	$370M
Administrative overhead (45% of total) • Based on historical performance	($166.5M) 45% of $370
Remaining balance for incentives (rebates)	$203.5M

Table 9: Ameren Missouri's program costs filtered by additional layers of conservatively estimated inefficiencies to express estimated incentive amount actually spent

Total Potentially Spent on Energy Efficiency Measures	$203.5M
Rebound Effect (10%) • Based on ACEEE estimates	10% of $203.5M ($20M)
Operational inefficiencies (15%) • Based on DOE estimates for filters (but would also apply to duct work, etc…)	15% of $203.5M ($30.5M)
Principal-Agent losses (5%) • My own professional, conservative estimate for illustrative purposes	5% of $203.5M ($10M)
Free ridership (15%) • Based on historical performance and not estimates associated with federal funding via IRA	15% of $203.5M ($30.5M)
Estimated MEEIA funds that are being used as designed behind very conservative estimates	**$112.5M** **$203.5M-$20M-$30.5M-$10M-$30.5M**

Q. What should the Commission take away from these three examples?

A. With the caveat that these are professional estimates over an unknown future, I would argue that Ameren Missouri's portfolio assuming full spend, full profit (not an unsafe assumption), and an average amount of lost revenues based on the last three cycles will cost ratepayers $561M. Of that amount, only $112.5M (under generous assumptions) could be said to be funds spent directly on measures that would not otherwise not have happened but

for the Ameren MEEIA program. Restated, all ratepayers (minus opt-out) will have to spend approximately $5 for some select Ameren Missouri customers to receive approximately $1 in rebate savings. Keep in mind, Ameren Missouri is effectively saying that the savings achieved from the $112.5M in actual spend will offset the $561M they would then recover from ratepayers.

This should give everyone pause. At a minimum, under these assumptions that $112.5M will need to do a lot of heavy lifting to translate into financial savings that will collectively lower everyone's utility bills.

Q. Do you have reason to believe that the $112.5M is likely overstated in your hypothetical?

A. Most definitely. Even if I am 100% accurate in my assumptions, the Commission needs to consider that the $112.5M that I calculated would be attributable to Ameren Missouri's MEEIA includes many different types of measures. Some of those measures are going to have more energy and demand savings then others. This is above and beyond the fact that I believe free ridership numbers will be significantly greater than the assumed historical 15% that I used in my calculation. As stated earlier, this is because Ameren Missouri's rebates will effectively be competing against larger rebates and tax breaks from the federal government.

Q. Do you have any final recommendations to make?

A. My position is not to approve the application as drafted.

I have also offered up an entirely different two-year alternative option for the Commission's consideration. I believe this alternative achieves the intent of the MEEIA statute, § 393.1075 RSMo and is much more aligned with the public interest than what is being proposed. The alternative option was originally proposed in my rebuttal testimony, but I have made some slight modifications based on feedback I received since that testimony was filed.

Q. What does your modified alternative plan consist of?

A. My recommendation for a two-year MEEIA-light portfolio are broken down in table 10.

Table 10: Two-year $100M Alternative MEEIA-Light Portfolio

Program	Annual Budget	Rationale/Description	Earnings Opportunity
Income-Eligible Multi-family	$10 M	The single-most underserved and overlooked demographic	½ of the currently approved ROE % basis based on spend
Modified Residential PAYS Includes FastPass Option[25]	$10 M	The only residential program that provides a closed-loop opportunity to verify the most efficient savings	½ of the currently approved ROE % basis based on spend
Business Demand Response	$15 M	The most cost-effective program	Based on number and size of events called consistent with the one-year extension
Residential Demand Response	$5 M	The second most cost-effective program assuming no further rebated investment	Based on number and size of events called consistent with the one-year extension
Business Standard, Non-Lighting	$10 M	A straightforward obligatory business program that only rebates building shell and heating/cooling measures	½ of the currently approved ROE % basis based on spend

[25] The amount of HVAC rebates only account for a small portion of the increased cost of higher efficiency options and represent a fraction of the increased costs for smarter HVAC systems with demand side management capabilities. HVAC systems in the country are largely only changed out when people are forced to replace their failed unit. Simply said, what stand-alone HVAC rebate programs unintentionally do is allow rate payer subsidized money to be used to reward those who have the luxury of choosing the much more efficient and expensive option when facing what, for the vast majority of ratepayers, is an already financially difficult circumstance. The PAYS FastPass Program, as articulated in my rebuttal testimony attachment is an attempt to address that issue.

Q. What other details do you believe are pertinent to this proposal?

A. I recommend that administrative overhead not exceed 20% for all programs minus PAYS, which I would cap at 35% given the complexity and long-term design. I also would recommend that PAYS undertake a FastPass Option. Regarding the throughput disincentive, I am inclined to support Staff's position. I also recommend that no EM&V be conducted, and that Ameren Missouri agree to work with stakeholders over the next two years to formulate a state-wide MEEIA program (which would likely require statutory changes) similar to the State of Massachusetts or Wisconsin with the goal of aligning all of our investor-owned utilities and potentially even the co-operatives and municipals to the extent they want to participate.

Q. Does this conclude your testimony?

A. Yes.

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's 4th Filing to Implement Regulatory Changes in Furtherance of Energy Efficiency as Allowed by MEEIA	)))))	Case No. EO-2023-0136

AFFIDAVIT OF GEOFF MARKE

STATE OF MISSOURI)
) **ss**
COUNTY OF COLE)

Geoff Marke, of lawful age and being first duly sworn, deposes and states:

1. My name is Geoff Marke. I am a Chief Economist for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony.

3. I hereby swear and affirm that my statements contained in the attached testimony are true and correct to the best of my knowledge and belief.

Geoff Marke
Chief Economist

Subscribed and sworn to me this 29th day of May 2024.

TIFFANY HILDEBRAND
NOTARY PUBLIC - NOTARY SEAL
STATE OF MISSOURI
MY COMMISSION EXPIRES AUGUST 8, 2027
COLE COUNTY
COMMISSION #15637121

Tiffany Hildebrand
Notary Public

My Commission expires August 8, 2027.