Exhibit No.:	______________
Issue(s):	Rate Design/ Decoupling/ Energy Efficiency/ Weatherization/ CHP
Witness/Type of Exhibit:	Marke/Rebuttal
Sponsoring Party:	Public Counsel
Case No.:	GR-2019-0077

REBUTTAL TESTIMONY

OF

GEOFF MARKE

Submitted on Behalf of the Office of the Public Counsel

UNION ELECTRIC COMPANY
D/B/A AMEREN MISSOURI

FILE NO. GR-2019-0077

June 7, 2019

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company d/b/a Ameren Missouri's Tariffs to Increase Its Revenues for Natural Gas Service	))))	File No. GR-2019-0077

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 Regulatory Economist for the Office of the Public Counsel.

2. Attached hereto and made a part hereof for all purposes is my rebuttal 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 7th day of June 2019.

NOTARY PUBLIC NOTARY SEAL STATE OF MISSOURI
JERENE A. BUCKMAN
My Commission Expires
August 23, 2021
Cole County
Commission #13754037

Jerene A. Buckman
Notary Public

My commission expires August 23, 2021.

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REBUTTAL TESTIMONY

OF

GEOFF MARKE

UNION ELECTRIC COMPANY

d/b/a Ameren Missouri

FILE NO. GR-2019-0077

I. INTRODUCTION

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

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

Q. Are you the same Geoff Marke that filed direct testimony in GR-2019-0077?

A. Yes.

Q. What is the purpose of your rebuttal testimony?

A. The purpose of this testimony is to respond to the direct testimony regarding:

<u>Rate Design</u>

- Residential Rate Design
    - Missouri Public Service Commission Staff witnesses Robin Kliethermes and Kim Cox;
    - Ameren Missouri ("Ameren," "Ameren Gas," or " the Company") witnesses Michael W. Harding and Ryan P. Ryterski
    - National Housing Trust ("NHT") witness Annika Brink
- Alterative Residential Rate Design: Inclining Block
    - Staff witnesses Sarah L. K. Lange, Robin Kliethermes and Kim Cox
- Decoupling—Weather Normalization Adjustment Rider
    - Staff witness Michal L. Stahlman
    - Ameren witness Michael W. Harding

<u>Energy Efficiency and Low-Income Programs</u>

- Energy Efficiency Program Design

  - Ameren witness Laureen M. Welikson
  - Staff witness Kory Boustead
  - NHT witness Annika Brink
- Weatherization Budget and Design
  - Missouri Division of Energy ("DE") witness Sharlet E. Kroll
  - Ameren witness Laureen M. Welikson
- Decoupling—Energy Efficiency
  - Ameren witness Laureen M. Welikson
  - NHT witness Annika Brink

Other Revenue Requirement Issues

- Combined Heat & Power ("CHP")
  - DE witness Jane E. Epperson

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

II. RATE DESIGN

Residential Rate Design

Q. Please summarize the various positions.

A. Ameren witness Michael W. Harding recommend a residential volumetric rate for all Ccfs of approximately $.32/Ccf and a $17.00 customer charge.

Staff witnesses Ms. Kliethermes and Ms. Cox recommend a residential volumetric rate for all Ccfs of approximately $.28/Ccf and a $17.00 customer charge.

NHT witness Ms. Brink recommends that the residential customer charge remain at $15.00.

Q. What is OPC's position?

A. OPC supports both the Company's and Staff's recommendation to move to a flat volumetric charge; however, OPC supports Ms. Brink's recommendation to maintain the residential customer charge at $15.00. OPC's ultimate recommendation will be dependent on the overall revenue requirement and on mitigation of customer impacts, and may adjust accordingly.

Q. Please explain OPC's position as it pertains to the residential customer charge.

A. OPC generally supports NHT witness, Ms. Brink's arguments and recommendations as it pertains to the residential customer charge. OPC has historically supported a low residential customer charge to allow ratepayers, and especially low-income, low-usage ratepayers, greater control over their utility bills. If the present customer charge is raised, this will result in lower bills for above-average consumers of natural gas but higher bills for below-average consumers of natural gas. It has been OPC's experience that low-usage and low-income are strongly correlated.

Presently, OPC recommends maintaining the current $15.00 customer charge. This would place the residential customer charge in line with other Missouri utilities as well as natural gas utilities nationwide.

Q. What is the general argument against a higher residential customer charge?

A. When having one or more customers on the system raises the utility's cost regardless of how much the customer uses (billing is an example), then a fixed charge to reflect that additional fixed cost the customer imposes on the system makes perfect economic sense. Utilities can justify a customer charge recovering these basic costs because they are directly related to the number of customers receiving an essential monopoly service. The idea that each household has to cover its customer-specific fixed cost also has obvious appeal on grounds of equity. In contrast, system-wide "fixed" costs, such as maintaining the distribution network, do not change if one customer drops off the system.

Q. Does OPC believe that an increased customer charge would negatively impact low-income customers?

A. Yes. Low-income and fixed-income customers with low usage can all be seen as customer groups with inelastic demands.

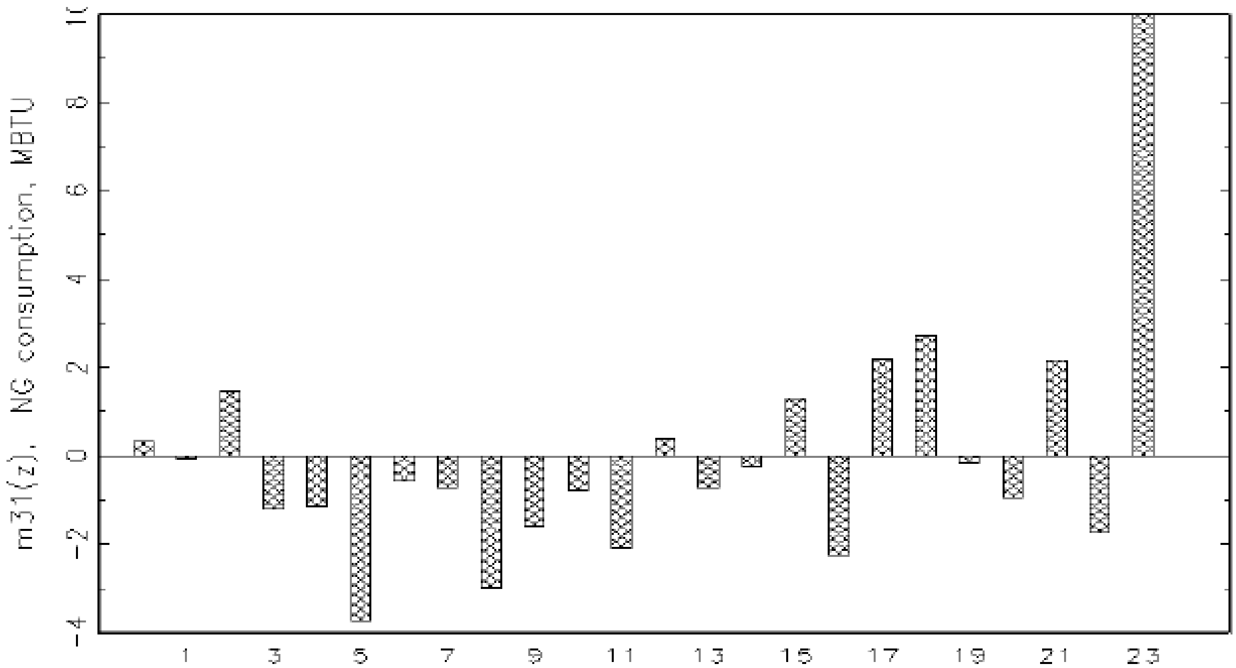
Q. Do you have any empirical data to support the link between income and natural gas consumption?

A. Yes. The impact of household income on natural gas usage can be seen in Figure 1, which is reprinted from the US Department of Energy's ("DOE") analysis of the "Impact of Residential Building Attributes, Demographic and Behavioral Factors on Natural Gas Usage."[1]

The data utilized for this nonparametric regression analysis is based on the U.S. DOE's Residential Energy Consumption Survey ("RECS") microdata and is not Ameren Gas specific. However, similar high-income/high-usage and low-income/low-usage patterns have been confirmed for Missouri's investor-owned electric utilities consumers as filed within recent triennial Integrated Resource Plans ("IRP").

[1] Figure 1 specifically isolates for annual household income and shows the direction of that variable on gas usage. Actual household gas usage depends on a complicated set of variables whose impact is not fully understood or separated.

Figure 1: Regression for Direction 31: Income and Natural Gas Usage[2]



0	Less than $2,500	12	$50,000 - $54,999
1	$2,500 - $4,999	13	$55,000 - $59,999
2	$5,000 - $7,499	14	$60,000 - $64,999
3	$7,500 - $9,999	15	$65,000 - $69,999
4	$10,000 - $14,999	16	$70,000 - $74,999
5	$15,000 - $19,999	17	$75,000 - $79,999
6	$20,000 - $24,999	18	$80,000 - $84,999
7	$25,000 - $29,999	19	$85,000 - $89,999
8	$30,000 - $34,999	20	$90,000 – $94,999
9	$35,000 - $39,999	21	$95,000 - $99,999
10	$40,000 - $44,999	22	$100,000 - $119,999
11	$45,000 - $49,999	23	$120,000 or more

[2] Livingston, O.V. and K.A. Cort (2011) Analyzing the impact of residential building attributes, demographic and behavioral factors on natural gas usage. http://www.pnl.gov/main/publications/external/technical_reports/PNNL-20235.pdf

Q. Does OPC take a position in regards to other customer class rate design proposals?

A. OPC supports Staff's recommendations; however, our ultimate recommendation will be dependent on the overall revenue requirement and on mitigation of customer impacts and OPC may adjust our position accordingly.

Alterative Residential Rate Design: Inclining Block

Q. What is Staff's residential inclining block design?

A. Staff has designed a one-cent variable inclining block rate ("IBR") as an alternative "policy-based" residential rate.[3]

Q. What is OPC's response?

A. OPC does not support this alternative "policy-based" mechanism, but, if the Commission elects to move forward with an IBR, a one-cent incline would seemingly minimize the resulting unintended consequences.

Decoupling: Weather Normalization Adjustment Rider

Q. What are the various positions currently filed?

A. Ameren witness Mr. Harding proposes a periodic weather normalization and conservation ("energy efficiency") adjustment. This adjustment mechanism is also commonly called a "decoupling mechanism."

It is not all together clear if Staff supports a decoupling mechanism for Ameren or not. Staff witness Mr. Stahlman makes no recommendations regarding whether or not the Commission should approve a weather decoupling mechanism, but instead points to past cases in which the Commission approved such a mechanism (Spire and Liberty Gas). Mr. Stahlman is silent as to whether or not a conservation adjustment should be included within that calculation. Mr. Stahlman's specific testimony is as follows:

> Should the Commission determine that a mechanism to account for changes in usage due to variations in either weather or conservation is in the public

[3] Technically, Staff's inclining block difference is just under one cent. The first block is set at $0.2762 per Ccf for the first 30 Ccfs of usage each month and $0.2859 per Ccf for usage beyond 30 Ccfs a month.

> interest and is just and reasonable in this case, Staff recommends approving a weather normalization adjustment rider similar to the example tariff sheets attached as Appendix 2, Schedule MLS-d1 and described in more detail below.[4]

Q. What is OPC's response to Ameren?

A. OPC does not categorically reject a decoupling mechanism; however, the current environment does not justify approval of a decoupling mechanism.

No doubt, decoupling has its place, and that is as a regulatory tool to complement aggressive energy efficiency programs that are tied to explicit deferrals of supply-side investments. To be clear, none of those factors are at play for Ameren Gas.

Effective regulation of monopolies is a substitute for competition. Commission approval of a decoupling mechanism will only further undermine the free-market proxy, for which regulation is supposed to substitute, by shifting risk from shareholders to captive ratepayers. It ensures revenue recovery of the Company's profits irrespective of market conditions or inefficient utility behavior. For a gas company, the risk exposures to shareholder profits are, in part, due to weather volatility, fluctuations in the economy during periods of contraction (recessions), or the loss of customers. A decoupling mechanism effectively eliminates those risks.

Decoupling is not necessary, in part, because there is no compelling argument for customers to continue funding energy efficiency programs for Ameren Gas (an issue I will address at length later) and the Company already receives expedited recovery of costs through the Purchased Gas Adjustment ("PGA")" and, if approved, the Infrastructure System Replacement Surcharge ("ISRS") moving forward. The fact that Ameren has not been in for a rate cases since 2010 reinforces the reality that the Company has not been experiencing revenue volatility.

[4] GR-2019-0077 Staff Report: Class Cost of Service p. 18, 15-19.

Q. What is OPC's response to Staff?

A. If the Commission were to move forward with granting a decoupling mechanism, OPC agrees with Staff's design. I have no comment on Staff's silence on whether or not such a mechanism should be approved.

Q. What is OPC's recommendation regarding implementing a decoupling mechanism to mitigate revenue risk related to weather?

A. The Commission should reject it in total. Let the regulatory framework that is supposed to be a proxy for the market work. There is no public interest furthered by approving a decoupling mechanism. The sole purpose for the mechanism is to reduce the risk of revenue volatility. That is, decoupling reduces risk for shareholders. Such risk-shifting policy should be tied to a reduction in reward—a reduction in the allowable return on equity ("ROE").

If the Commission elects to award the Company by approving a decoupling mechanism, I recommend these conditions:

- A 20 basis point reduction in ROE;
- Maintain the residential customer charge of $15.00;
- An initial notification by mail to customers informing them of the decoupling process; public notification for any future adjustments; and a detailed explanation of the process and adjustments on the Company's website and on customer bills;
- Any given upward adjustment shall not be in excess of 5 cents per Ccf with excess under-recovery carried over to future adjustments;
- In the event of an economic recession, as defined by the National Bureau of Economic Research ("NBER") which includes "a significant decline in economic activity spread across the economy, lasting more than a few months, normally visible in real GDP, real income, employment, industrial population, and wholesale-retail sales" any revenue loss attributable to the economic recession will not be adjusted for in the WNAR,

recognizing that the WNAR has already been designed to adjust only for the impact of weather on customer usage.[5]

These recommendations are consistent with the recent Liberty natural gas rate case. In that case, Liberty agreed to a reduction in its ROE of up to 20 basis points in recognition of a number of factors, including the adoption of a weather-only related decoupling mechanism in its most recent rate case proceeding. (GR-2018-0013, Unanimous Stipulation and Agreement, p. 2. Para. 1).

Q. Have any other state utility commissions ordered similar reductions recently?

A. Yes. Liberty Utilities (EnergyNorth Natural Gas) in New Hampshire requested a decoupling mechanism in Docket No. DG 17-048. The request was approved with an explicit reduction in the Company's ROE. In its order, the New Hampshire Public Utilities Commission ruled:

> We are approving a decoupling mechanism in this case, which reduces the risk that Liberty will not recover its authorized requirement. . . . Accordingly, to account for the decrease in risk Liberty will experience under the approved decoupling mechanism, **we will set the ROE in this case at 9.3 percent, resulting in a WACC of 6.8 percent. That ROE is 10 basis points lower than the ROE contained in settlement**.[6]

Q. What is OPC's recommendation regarding implementing a decoupling mechanism to mitigate revenue risk related to conservation?

A. The Commission should reject this recommendation.

[5] The National Bureau of Economic Research (2008) The NBER's recession dating procedure. Business Cycle Dating Committee. http://www.nber.org/cycles/jan2003.html

[6] DG 17-048 Liberty Utilities (EnergyNorth Natural Gas) Corp. Petition for Permanent and Temporary Rates Order Approving Permanent Rates Order No. 26,122. April 27, 2018, p. 42-43.

III. ENERGY EFFICIENCY AND LOW INCOME PROGRAMS

Energy Efficiency ("EE") Budget and Design

Q. What are the various positions currently filed?

A. Ameren witness Ms. Welikson makes the following recommendations:

- Maintain budget at current funding level $437,000;
- Annual allocation of $266,531 in historic unspent funds (regulatory liability) to be allocated to new low-income programs;
- Expand program to natural gas transportation service customers;
- Adopt Ameren's natural gas TRM as the "official" statewide TRM which will then be administered by Staff.

NHT witness Ms. Brink makes the following budgetary recommendations:

- Proposes Ameren maintain current budget; and
- Proposes that between $125,000 and $220,000 of the annual $266,531 regulatory liability amount be allocated exclusively to multi-family low income programs (as opposed to single-family).

Ms. Brink then offers up the following seven program recommendations as it relates to low-income multi-family:

1. Commit to a whole-building savings approach—addressing direct install, in-unit/residential and common area/commercial savings at once;
2. Fix language in its [Ameren Gas] tariff sheets to clarify that both single family and multifamily buildings are eligible for its low-income offerings;
3. Clarify that low-income offerings are available for energy saving measures anywhere within a qualifying low-income multifamily property, not only within tenant units and not only for measures affecting meters served by the Residential Service Rate;

4. Expand eligibility for low-income offerings to be aligned with Ameren Electric's low-income definition;
5. Clarify that the caps on residential low-income rebates apply per housing unit, not per property;
6. Increase low-income multifamily prescriptive incentive levels in order to drive demand for the multifamily programs, encourage early replacement of inefficient equipment, and achieve deeper energy savings; and
7. Guarantee availability of rebates to multifamily properties that are undergoing financing/re-financing, with a 36-month window for implementation of measures after pre-approval.

Staff witness Ms. Boustead recommends programs continue at present design and funding levels.

Q. Is there a compelling argument for ratepayers to continue funding EE programs for Ameren?

A. No. Stable, low natural-gas-fuel prices have been a blessing for consumers but have, in turn, decreased the cost effectiveness of natural gas EE programs. Moreover, the near certain erasure of sweeping regulatory environmental regulation in the form of the Clean Power Plan has minimized justification of natural gas EE programs as an emission reduction complement to electric demand-side-management programs. Additionally, equity issues persist regarding high numbers of free ridership (i.e., customers who would still purchase efficient natural gas appliances regardless of whether there is a rebate) making it more difficult to justify additional rate increases for these programs in the face of potential cuts to low-income programs such as state-funded Utilicare and federally-funded LIHEAP.

I would also note that not one year in the nine-year history of funding for this Ameren EE program has the Company met or exceed the $437,000 annual budget. Moreover, no interveners are proposing to increase the budget.

Q. What if we allocated money for a third-party EM&V (Evaluation, Measurement and Verification) to inform funding levels or program continuation in the future?

A. What would be the point? There are no earnings opportunities tied to these programs or "lost revenue" recovery—and for good reasons, as natural gas companies do not have a similar MEEIA-like statutory option available to them. Ameren has very little motivation to aggressively promote rebates for gas heating when it would arguably rather promote electric space heating (as it is in the unique situation that at least some of its territory overlaps its electric service territory). Continuing a program that is over-budget, largely populated by free riders, allocates more costs than benefits to nonparticipants and locks in a fossil fuel appliance at a point when Ameren is also aggressively pushing "electrification" is a counterproductive and inefficient policy. A legitimate 3rd party EM&V would be cost prohibitive and a wasteful use of finite resources given the present state of this program.

Q. What about all of the recommendations to expand programs to low-income customers?

A. The most direct and efficient means to accomplish that objective would be to transfer the EE funding to weatherization. There may be an argument to carve-out some amount of money solely for multi-family low-income, but there are some concerns with that.

Q. What are those concerns?

A. The concerns are two-fold. First, unlike electric portfolios there are not a lot of natural gas efficiency measures to begin with. Perhaps there are opportunities to target landlords who specialize in subsidized properties to replace an inefficient furnace before its useful life, but on a pure cost basis, that has proven to be a difficult sale. I am doubtful that the allocated budget will be able to effectively accomplish the goals that NHT has espoused let alone be able to spend down the money. The second concern pertains more directly to the systematic problems associated with affordable housing, namely, the many low-income renters who rely on the private rental market of substandard housing. In such cases, landlords have no incentive to invest in efficient furnaces or whole house retrofits, or even maintain basic housing codes because the costs of such improvements outweigh their margins. My concern here is that even if low-income multi-family ratepayers are explicitly targeted, there will still remain a large number of families struggling unassisted in the private market who will merely experience higher utility rates. To provide a broad-brush stroke generalization, according to Desmond (2016) who relies on American Housing Survey data:

> In 2013, 1 percent of poor renters lived in rent-controlled units; 15 percent lived in public housing; and 17 percent received a government subsidy, mainly in the form of a rent-reducing voucher. The remaining 67 percent—2 of every 3 poor renting families—received no federal assistance. This drastic shortfall in government support, coupled with rising rent and utility costs alongside stagnant incomes, is the reason why most poor renting families today spend most of their income on housing.[7]

Again, I am not suggesting funding cease for low income customers. Rather, funding should be directed at and implemented by Ameren local community action agencies in the form of weatherization and discretionary weatherization assistance.

Q. What is OPC's recommendation on energy efficiency funding?

A. OPC recommends placing a moratorium on continued funding of natural gas EE programs to all ratepayers for further consideration until the next rate case. In light of that primary recommendation, OPC recommends reallocating the EE budget to low-income weatherization and flowing the unspent funds in Ameren regulatory liability back to ratepayers. OPC would welcome feedback and reserves the right to provide further recommendations on how to prioritize funding on low-income rental units.

Q. Are there any additional comments to make?

A. Just briefly, although we are confident that money will more likely be spent down and greater societal benefits experienced for all ratepayers under our proposal, if the Commission elects to reject our recommendations we would highly recommend that Ameren Missouri's Technical Resource Manual ("TRM") proposal be rejected as the preferred tool for deeming EE savings from gas measures across the state. As stakeholders to the statewide natural gas collaborative are aware, OPC has been attempting to formulate a memorandum of understanding amongst

[7] Desmond, M. (2016) *Eviction: Poverty and profit in the American city*. Penguin Random House. p. 302-303.

utilities to fund a third-party consultant to administer DE's existing statewide TRM for natural gas measures. Such an outcome should save all ratepayers costs that would otherwise be allocated for duplicative EM&V work across utilities. Furthermore, supporting the DE TRM as opposed to the Ameren Missouri TRM would better control for variations in weather across the state, achieve economies of scale, and be an equitable compromise across utilities. Finally, support for maintaining DE's statewide TRM through an agreed-to 3rd party EM&V consultant would free up valuable, finite Staff resources that Ameren volunteered in its direct testimony.

Weatherization Budget and Design

Q. What are the various positions currently filed?

A. Ameren witness Ms. Welikson recommends allocating 10.5% (or $25,000) of the annual weatherization amount of $238,000 to a new "Red Tag" program.

DE witness Ms. Kroll recommends the Commission allow Ameren to self-administer their weatherization program moving forward.

Q. What is your recommendation on weatherization funding and administration?

A. I sincerely applaud DE's recommendation and initiative. Freeing up weatherization funds from DOE guidelines should ensure that money is spent down in a more timely fashion and more homes are weatherized. Because my recommendation is to reallocate EE funding to weatherization, I recommend that Ameren's collaborative continue to meet on a bi-annual basis along with invitations to Ameren's Community Action Agencies to discuss program spend and how to best drive savings to low income renters and likely adopt many of Ms. Brink's earlier recommendations.

OPC does not support Ameren's suggestion to carve-out money from weatherization for its proposed red-tag program.

Decoupling: Energy Efficiency

Q. What are the various positions currently filed?

A. Ameren witness Ms. Welikson recommends that the Company be allowed to collect throughput disincentive (or "lost revenues") based on Ameren Missouri's natural gas Technical Resource Manual ("TRM") through Ameren's proposed decoupling mechanism.

NHT witness Ms. Brink writes general testimony in support of decoupling, stating that:

> Decoupling will enable the Company to increase its energy efficiency investments without impact to its bottom line. These increased efficiency investments will help offset the impact of proposed bill increases affecting low-income multifamily buildings.[8]

As noted earlier, Staff is presently silent on the issue of energy efficiency being included in a decoupling mechanism.

Q. What is OPC's response to Ameren?

A. OPC rejects this recommendation and has already addressed this issue at length earlier in my testimony. On a related noted, although technically applicable to electric programs, it is worth citing the definition of Demand-Side Program in the Commission's Rules. 4 CSR 240-20.092(1)(M) states:

> Demand-side program means any program conducted by the utility to modify the net consumption of electricity on the retail customer's side of the electric meter, including, but not limited to, energy efficiency measures, load management, demand response, and interruptible or curtailable load, but not including deprivation of service **or low-income weatherization**. (emphasis added)

Under OPC's proposed recommendation, to place a moratorium on funding the existing EE programs and reallocate those funds to low income weatherization, it would be inconsistent with the Commission's rules to collect lost revenues based on actions designed to help vulnerable populations.

Q. What is your response to NHT?

[8] GR-2019-0077 Direct testimony on Rate Design of Annika Brink. P. 10, 6-9

A. I would like to merely point out that approving decoupling would not increase Ameren's EE investments. No party has recommended increasing the nine-year-old historically underspent budget. I would also note that increased efficiency investments will help participants and will hurt non-participants at the current scale and under the current parameters. Decoupling does nothing to changes those realities.

IV. OTHER REVENUE REQUIREMENT ISSUES

<u>Combined Heat and Power</u>

Q. What is DE's recommendation regarding CHP?

A. DE witness Ms. Epperson recommends that the Commission order Ameren to complete a detailed CHP outreach within one year of the conclusion of this rate case at "little or no monetary cost to the Company or the customers."[9]

Q. What is your recommendation regarding CHP?

A. OPC supports DE's efforts as long as there are no costs passed on to Ameren Gas's nonparticipant ratepayers (i.e., nonparticipants are held harmless).

Q. Does this conclude your testimony?

A. Yes.

[9] GR-2019-0077 Direct Testimony of Jane E. Epperson p. 14, 10.