

Exhibit No.: DE Exhibit 300
Issues: Low-Income Weatherization;
Income-Related Considerations
Witness: Marcy Oerly
Sponsoring Party: Missouri Department of Natural
Resources – Division of Energy
Type of Exhibit: Direct Testimony
Case No.: ER-2019-0335

MISSOURI PUBLIC SERVICE COMMISSION

**UNION ELECTRIC COMPANY
d/b/a AMEREN MISSOURI**

CASE NO. ER-2019-0335

DIRECT TESTIMONY

OF

MARCY OERLY

ON

BEHALF OF

MISSOURI DEPARTMENT OF NATURAL RESOURCES

DIVISION OF ENERGY

Jefferson City, Missouri

December 4, 2019

(Revenue Requirement)

MDNR Exhibit No. 300
Date 3/4/20 Reporter JMB
File No. ER-2019-0335

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1 **I. INTRODUCTION**

2 **Q. Please state your name and business address.**

3 A. My name is Marcy Oerly. My business address is 1101 Riverside Drive, PO Box 176,
4 Jefferson City, Missouri 65102.

5 **Q. By whom and in what capacity are you employed?**

6 A. I am employed by the Missouri Department of Natural Resources (“DNR”) – Division of
7 Energy (“DE”) as a Planner III.

8 **Q. Please describe your educational background and employment experience.**

9 A. From September 2007 to February 2017, I was DE’s Administrative Manager of the State
10 Weatherization Assistance Program (“WAP”), where I supervised the procedural
11 operations and staff of the program. I rejoined DE as a Planner III in July 2019, where I
12 currently work in both the WAP program and in the Energy Policy and Resources program.
13 I have over 28 years of state government program experience, with 12 of those years in
14 areas related to low-income, energy efficiency, and community development grants. From
15 1991 to 2007, I worked in various roles for DNR’s Soil and Water Conservation Program.
16 I was awarded a Bachelor of Science degree in Animal Science/Agriculture in 1989 from
17 the University of Central Missouri.

18 **Q. Have you previously filed testimony before the Missouri Public Service Commission**
19 **(“Commission”) on behalf of DE?**

20 A. No.

1 **II. PURPOSE AND SUMMARY OF TESTIMONY**

2 **Q. What is the purpose of your Direct Revenue Requirement Testimony in this**
3 **proceeding?**

4 **A.** The purpose of my testimony is to present DE's recommendations regarding administration
5 and funding of the income-eligible weatherization assistance program ("IEWAP") funded
6 by Union Electric Company d/b/a Ameren Missouri ("Ameren Missouri" or "Company").
7 I will provide information on (1) energy burden and other household income-related
8 considerations, (2) weatherization, (3) the history and performance of the Company's
9 IEWAP, and (4) the relationship of the Company's IEWAP to the U.S. Department of
10 Energy ("DOE") WAP, which is administered by DE.

11 **Q. What are your recommendations regarding the IEWAP?**

12 **A.** DE requests that the Commission continue the current level of funding for the IEWAP at
13 \$1,200,000, along with all associated roll-over provisions, in order to alleviate the energy
14 burdens addressed in Section III. I also recommend that the Commission authorize the
15 Company to work with DE to transition administration of the Company's IEWAP to the
16 Company and that the Commission allow the Company's IEWAP to be administered
17 differently than the DOE WAP guidelines. DE is willing to serve in an advisory role to
18 support the program, and, to that end, DE requests that the Company hold at least one
19 annual in-person meeting with its weatherization agencies and any interested stakeholders.
20 The purpose of this meeting would be to review IEWAP budget and expenditures, program
21 implementation, and opportunities for improvement in program delivery and customer
22 service.

1 Q. What information did you review in preparation of this testimony?

2 A. I reviewed DE Company Weatherization Quarterly Reports, data from the Missouri
3 Weatherization Assistance Program web-based reporting and tracking system, past
4 stipulations and agreements and reports and orders from previous Company rate cases,
5 prior testimony filings, Missouri's Annual State Plan Application for DOE Funding, the
6 Missouri Weatherization Assistance Program Technical Manual, the Missouri
7 Weatherization Program Operations Manual, weatherization fact sheets, 10 Code of
8 Federal Regulations ("CFR") Part 440, DOE Financial Assistance Rules at 2 CFR 200, and
9 DOE Weatherization Program Notices ("WPN").

10 **III. INCOME-RELATED ENERGY CONSIDERATIONS**

11 Q. What is meant by "energy burden" and "energy insecurity?"

12 A. Energy burden is the portion of annual income that a household pays for home energy.
13 Energy burdens are higher for low-income households. According to research in *The Home*
14 *Energy Affordability Gap*, Missouri households with incomes between 50-100 percent of
15 the federal poverty level ("FPL") have home energy burdens of 16 percent of their annual
16 incomes. Home energy burdens increase to 29 percent for those households below 50
17 percent of FPL.¹

18 Energy insecurity describes a family's ability to meet basic household energy needs. It is,
19 "...the interplay between structural conditions of housing and the costs of household

¹ Fisher, Sheehan & Colton. (April 2019). "The Home Energy Affordability Gap 2018: Missouri," Public Finance and General Economics. Retrieved from http://www.homeenergyaffordabilitygap.com/03a_affordabilityData.html

1 energy.”² Energy insecurity occurs when one or all of three things are experienced:
2 1) limited or uncertain access to energy; 2) receipt of a utility termination notice; and/or,
3 3) the actual discontinuation of utility service.³

4 **Q. What factors, other than income, contribute to higher energy burden?**

5 A. A 2016 report examining energy burdens in the largest 48 US cities concluded that low-
6 income households paid more per square foot for energy due to energy inefficient housing.
7 Low-income households had median annual utility costs of \$1.41 per square foot, while
8 non-low-income households had median annual utility costs of \$1.17 per square foot. This
9 resulted in a median energy burden of 7.2 percent for low-income households, versus 2.3
10 percent for non-low-income households.⁴

11 **IV. WEATHERIZATION OVERVIEW**

12 **Q. What is weatherization?**

13 A. Congress established the WAP in response to the energy crisis of the early 1970s. WAP is
14 the nation’s largest residential energy efficiency program, and it provides cost-effective,
15 energy-efficient home improvements to Missouri’s low-income households, especially
16 households in which the elderly, children, those with physical disadvantages, and others
17 most affected by high utility costs reside.⁵ The program is intended to be a more effective,
18 long-lasting solution to address energy insecurity. Its goal is to lower utility bills and

² Hernandez, D., Aratani, Y., & Jiang, Y. (2014). Energy Insecurity Among Families with Children, New York: *National Center for Children in Poverty*, Columbia University Mailman School of Public Health. Retrieved October 4, 2016 from http://www.nccp.org/publications/pdf/text_1086.pdf

³ E. March. (January 2011). *Children's HealthWatch*. Behind Closed Doors, The hidden health impacts of being behind on rent.

⁴ Drehobl, A. & Ross, L. (April 2016). *Lifting the High energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities*. Retrieved September 9, 2016 from <http://aceee.org/research-report/u1602>.

⁵ Tonn, B., Rose, E., Hawkins, B., & Conlon, B. (2014). Health and Household-Related Benefits Attributable to the Weatherization Assistance Program. *Oak Ridge National Laboratory*. ORNL/TM-2014/345.

1 improve comfort while ensuring health and safety. The WAP utilizes a “whole-house
2 retrofit” approach to building improvement. Per Missouri’s Weatherization Assistance
3 Program Technical Manual,⁶ which incorporates the federal WAP guidelines, all
4 participating homes must undergo an energy audit to identify energy efficiency and health
5 and safety opportunities, such as malfunctioning or substandard equipment. Home
6 efficiency and health and safety measures which have been determined to be cost-effective
7 or necessary for occupant health and safety are installed by trained weatherization
8 professionals.⁷ Since July 1, 2015, every DOE-funded weatherized home is required to
9 pass a thorough quality-control inspection before the dwelling can be reported as
10 completed.⁸ The final inspection must certify that all repairs and installations were
11 completed in a professional manner and in accordance with DOE Technical Standards.
12 Finally, per 10 CFR 440.18(e)(2)(iii) regarding allowable expenditures, homes previously
13 weatherized on or after September 30, 1994 cannot be re-weatherized except in cases where
14 weatherization work was destroyed due to disaster events.⁹

15 **Q. What are some benefits of weatherization?**

16 **A.** Weatherization can 1) increase energy efficiency, 2) improve the health and safety of
17 residents, and 3) provide economic benefits.

⁶ Missouri’s Technical and Procedural Manuals can be accessed at <https://energy.mo.gov/assistance-programs/liwap/facts#wxopmanual>

⁷ U.S. Department of Energy. (2019). WPN 19-4: Revised Energy Audit Approval Procedures, Related Audit and Material Approvals.

⁸ *Ibid.*

⁹ U.S. Department of Energy. (2018). WPN 19-1 Program Year 2019 Weatherization Grant Guidance.

1) Energy Efficiency Benefits:

Low-income households are less likely to have the financial resources to make meaningful energy efficiency improvements that will reduce their energy burdens.¹⁰ Low-income households carry a larger burden for energy costs, typically spending 16.3% of their total annual income versus 3.5% for other households. Weatherization helps alleviate this energy burden through cost-effective building shell improvements such as insulation and air sealing, heating, ventilation, air conditioning systems, lighting, and appliances. Weatherized households save on average \$283 or more every year.¹¹

2) Health and Safety Benefits:

Without weatherization, homeowners may resort to using broken or malfunctioning equipment, which can result in fires or carbon monoxide poisoning.¹² Homeowners may go without heating or cooling or forgo needed medical appointments, medications, and/or food.¹³ This is particularly concerning for households with premature babies, elderly persons, or persons who suffer from chronic diseases such as asthma, chronic obstructive pulmonary disease, diabetes, or congestive heart failure.¹⁴

The United States loses more than \$82 billion a year as a result of unhealthy and inefficient housing. By weatherizing their homes, occupants can not only reduce their energy bills,

¹⁰ Ross, L., Drehobl, A., & Stickles, B. (2018). The High Cost of Energy in Rural America: Household Energy Burdens and Opportunities for Energy Efficiency. *American Council for an Energy-Efficient Economy*.

¹¹ U.S. Department of Energy. (2018). Weatherization Works! DOE/1561.
https://www.energy.gov/sites/prod/files/2018/03/f49/WAP-fact-sheet_final.pdf

¹² Hawkins, B., Tonn, B., (2016) Evaluation of DOE's WAP Health and Household-Related Benefits. *Home Energy*. Fall 2016, PP 16-22. www.homeenergy.org

¹³ Hernandez, D. (2016). Understanding 'energy insecurity' and why it matters to health. *Social Science & Medicine*. 2016, October; 167: 1-10, doi: 10.1016

¹⁴ World Health Organization. (2006). Report on the WHO technical meeting on quantifying disease from inadequate housing. Bonn, Germany. November 2005. EUR/00/50, PP 6-7.
http://www.euro.who.int/_data/assets/pdf_file/0007/98674/EBD_Bonn_Report.pdf?ua=1.

1 but also improve their health and safety. For example, to help prevent carbon monoxide
2 poisoning, weatherization crews test furnaces and stoves for gas leaks and install alarms
3 for smoke and carbon monoxide in the home. In addition, after a home is weatherized,
4 residents with asthma report fewer hospitalizations and trips to the emergency room. They
5 also report missing fewer days of work and school.¹⁵

6 3) Economic Benefits:

7 Weatherization not only helps low-income households, it also helps revitalize communities
8 by spurring economic growth. There are approximately 8,500 jobs in the weatherization
9 network, with many more supported in related businesses, such as material manufacturers
10 and suppliers. WAP supports the home performance industry, American manufacturers,
11 and small businesses.¹⁶ Weatherization returns \$2.78 in non-energy benefits for every
12 \$1.00 invested in the Program.¹⁷

13 **Q. Are there utility benefits from low-income weatherization services?**

14 **A.** Yes. Low-income households are more likely to have difficulty connecting to utility
15 service due to outstanding account balances, have energy disruptions due to shut-offs, and
16 experience negative health employment outcomes due to challenges related to acquiring
17 and maintaining basic household energy services.¹⁸ Weatherized homes have improved
18 energy efficiency, which helps low-income households to reduce energy usage and better

¹⁵ J. Coggin (October 2017). *3 Health Benefits to Weatherizing Your Home*
<https://www.energy.gov/eere/articles/3-health-benefits-weatherizing-your-home>

¹⁶NASCSP (2018). *Weatherization Assistance Program*
<https://nascsp.org/wp-content/uploads/2018/02/201620wap-20american20families2C20workers2C20businesses.pdf>

¹⁷ U.S. Department of Energy. (2018). Weatherization Works! DOE/1561.
https://www.energy.gov/sites/prod/files/2018/06/fs2/EERE_WAP_Fact%20Sheet-v2.pdf

¹⁸ Hernandez, D. (2015). Sacrifice Along the Energy Continuum: A Call for Energy Justice. *Environmental Justice*.
2015 August 18; 8(4): 151-156. doi: 10.1089/env.2015.0015.

1 manage energy bills. When customers can afford their energy bills, there are fewer shut-
2 offs and reconnections, fewer notices and customer calls, reduced collection costs, and
3 lower bad debt.¹⁹ This, in turn, lowers the utility's costs associated with unpaid balances
4 and results in a positive impact on future rates for all customers.

5 **V. DE'S ADMINISTRATION OF WEATHERIZATION ASSISTANCE**
6 **PROGRAMS**

7 **Q. What are the current sources of weatherization funding administered by DE?**

8 A. DE administers funds from three funding streams: DOE, LIHEAP, and some utility
9 IEWAPs. All funds are administered in accordance with DOE WAP guidelines. From
10 1977 through October 31, 2019, funds administered by DE helped weatherize 193,032
11 Missouri homes. DE annually submits an application to receive DOE grant funds, which
12 has traditionally been DE's primary source of WAP funding. Beginning in 2013, LIHEAP
13 funds have transferred from the Missouri Department of Social Services to DE to
14 weatherize homes, providing a long-term solution to address the energy burdens of low-
15 income clients.

16 **Q. Which utility IEWAPs are administered by DE?**

17 A. Beginning November 1, 2019, DE administers three of the 10 utility IEWAPs: Ameren
18 Missouri (electric only), The Empire District Electric Company, and The Empire District
19 Gas Company. Ameren Missouri (natural gas only), Liberty Utilities (Midstates Natural
20 Gas) Corp. d/b/a Liberty Utilities ("Liberty Utilities"), Spire Missouri Inc. d/b/a Spire (East

¹⁹ M.Schweitzer. (April 2002). Non-energy Benefits from the Weatherization Assistance Program: A Summary of Findings from the Recent Literature, *Oak Ridge National Laboratory*.

1 and West) (“Spire”), Evergy Metro, Inc., Evergy Missouri West, Inc., and Summit Natural
2 Gas of Missouri, Inc. self-administer their IEWAPS.

3 **Q. Have there been any recent changes to DE’s administration of certain IEWAPs?**

4 A. Yes. Per the stipulations and agreements in Case Nos. GR-2017-0215, GR-2018-0013, and
5 GR-2019-0077,²⁰ DE returned administration of the Spire, Liberty Utilities, and Ameren
6 Missouri (natural gas) IEWAPs by October 31, 2019, to each respective company.
7 Additionally, per the stipulation and agreement in Case No. ER-2016-0179,²¹ Ameren
8 Missouri and stakeholders compiled a report to the Commission regarding future DE
9 administration of Ameren Missouri’s IEWAP. That report noted concerns about providing
10 ratepayer funds to DE for administrative purposes.²²

11 **VI. COMPANY WEATHERIZATION ASSISTANCE PROGRAM**

12 **Q. What entity administers the Company’s IEWAP?**

13 A. DE administers the Company’s IEWAP as determined in Case No. ER-2007-0002 and the
14 Cooperation and Funding Agreement dated August 14, 2007, in addition to subsequent
15 amendments. DE oversees contractor (“subgrantee”) delivery of program services within
16 the Company’s service area. There are eleven Community Action Agency (“CAA”)
17 subgrantees and one non-profit (Urban League of Metropolitan St. Louis) subgrantee that
18 are contracted by DE to provide approval and installation of IEWAP measures for some of
19 the most vulnerable households in the Company’s service territory. Subgrantees include

²⁰ 20 Ibid.

²¹ 21 Missouri Public Service Commission Case No. ER-2016-0179, *In the Matter of Union Electric Company d/b/a Ameren Missouri’s Tariffs to Increase Its Revenues for Electric Service*, Unanimous Stipulation and Agreement, February 23, 2017, page 17.

²² 22 Missouri Public Service Commission Case No. ER-2016-0179, *In the Matter of Union Electric Company d/b/a Ameren Missouri’s Tariffs to Increase Its Revenues for Electric Service*, Ameren Missouri’s Report Response to: “How Its Low Income Weatherization Program Should Be Administered,” December 27, 2017, page 5.

1 the Community Action Agency of Greater Kansas City, Community Action Agency of St.
2 Louis County, Community Action Partnership of North Central Missouri, Community
3 Action Partnership of Northeast Missouri, Central Missouri Community Action,
4 Community Services Incorporated of Northwest Missouri, Delta Area Economic
5 Opportunity Corporation, East Missouri Action Agency, Jefferson Franklin Community
6 Action Corporation, Missouri Ozarks Community Action, Inc., North East Community
7 Action Corporation, and Urban League of Metropolitan St. Louis.

8 **Q. How are the subgrantees paid for their IEWAP activities?**

9 **A.** The subgrantees receive payment through the Environmental Improvement and Energy
10 Resources Authority (“EIERA”). EIERA was established in 1972 by the Missouri General
11 Assembly and is a type III agency housed within DNR. EIERA is a quasi-governmental
12 environmental finance agency that has a five-member board whose members are appointed
13 by the Governor for a three-year term and confirmed by the Senate. EIERA does not
14 receive state general revenue funds. Since 2003, all DE-administered utility IEWAP funds
15 have been held by EIERA. This arrangement is documented by the DE and EIERA
16 Cooperation and Funding Agreement. Every year, the Company disburses its entire annual
17 IEWAP budget to EIERA, which holds the funds in an interest-bearing account. Upon DE
18 review and approval of subgrantee monthly reimbursements, DE will send a request for
19 funds to EIERA for subgrantee payment. Paragraph seven of the Cooperation and Funding
20 Agreement allows EIERA to retain up to \$3,000 of Company IEWAP funds in order to
21 cover certain charges, fees, and expenses (including legal and accounting fees) incurred
22 due to EIERA’s role.

1 **Q. How many households have been served with IEWAP funds?**

2 A. DE subgrantees have provided weatherization services to 7,840 households in the
 3 Company's service area with IEWAP funds from 2002 through October 2019, as shown in
 4 Table 1.

5 **Table 1. Company IEWAP statistics for 2002-2019.**

Year	Ameren Missouri Funds Awarded*	Balance**	Expenditures	Percent Expended	Number of Homes	Average Cost Per Home
2002-2003	\$1,000,000	\$1,000,000	\$947,574	95%	470	\$2,016
2003-2004	\$1,000,000	\$1,052,426	\$933,541	93%	915	\$1,020
2004-2005	\$1,000,000	\$1,125,026	\$997,390	100%	731	\$1,364
2005-2006	\$1,000,000	\$1,121,495	\$859,537	86%	650	\$1,322
2006-2007***	\$0	\$395,869				
2007-2008****	\$1,200,000	\$1,595,869	\$1,048,147	87%	493	\$2,126
2008-2009	\$900,000	\$1,003,171	\$907,813	101%	534	\$1,700
2009-2010	\$1,500,000	\$1,636,702	\$1,115,398	74%	376	\$2,966
2010-2011	\$1,200,000	\$1,722,804	\$973,935	81%	305	\$3,193
2011-2012	\$1,140,000	\$1,888,878	\$1,103,505	97%	279	\$3,646
2012-2013	\$1,140,000	\$1,975,074	\$1,592,843	140%	416	\$3,595
2013-2014	\$1,140,000	\$1,522,231	\$1,338,415	117%	393	\$3,168
2014-2015	\$1,140,000	\$1,267,559	\$1,158,136	102%	446	\$2,420
2015-2016	\$1,270,316	\$1,357,128	\$1,269,464	100%	404	\$2,899
2016-2017	\$1,200,000	\$1,287,533	\$1,224,007	102%	448	\$2,516
2017-2018	\$1,200,000	\$1,264,315	\$1,195,677	100%	376	\$2,953
2018-2019	\$1,200,000	\$1,270,390	\$1,131,329	94%	260	\$4,016
Total	\$18,230,316		\$17,796,711	98%	7,496	\$2,558

Grant period is November 1 - October 31

* Funds awarded do not include the interest earned or EIERA expense adjustments

** Balance consists of the annual Ameren Missouri funds awarded plus carryover funds from the prior year and interest earned

*** No funds awarded due to rate case being filed

**** Balance contains the initial \$1.2 million award from the 2007 rate case, plus final carryover and interest earned from years 2002-2006

6 Further, the expenditure levels under the IEWAP since 2011 have exceeded 90 percent of
 7 the annual funds provided by Ameren Missouri. The high expenditure percentages, along
 8 with the need to reduce the energy burdens of low-income customers, reinforce the need
 9 for continued funding.

10 **Q. Were there past challenges with fully spending IEWAP funds?**

11 A. Yes. Missouri received American Recovery and Reinvestment Act of 2009 ("ARRA")
 12 funding from April 1, 2009, to June 30, 2013. Since ARRA's DOE WAP funds were

1 required to be expended by a deadline, they had to be utilized in advance of the utility
2 funds. This resulted in less than 80 percent unspent utility funds in Program Year 2009;
3 those funds were carried into future years. However, since that time expenditures have
4 increased with an average expenditure rate of 98%.

5 **Q. Please further describe the information presented above in Table 1.**

6 A. Table 1 includes the annual Ameren Missouri funds awarded, annual budgets (which
7 includes carryover from the previous year, expenditures, and average cost per unit
8 (“ACPU”) dwelling expenditure for each year that DE has administered the Company’s
9 IEWAP. DE uses the number of homes completed and level of program operation
10 expenditures to calculate the ACPU.

11 **Q. How does the ACPU affect the program?**

12 A. For the current Program Year, DOE requires DE to be at or below \$7,541 ACPU.²³ Since
13 ACPU is calculated by comparing total program operation expenditures to total homes
14 weatherized, DE can and does allow individual homes to exceed this amount in order to
15 achieve the goal of having all cost-effective measures installed in every home. However,
16 DE’s operational policies specify a \$15,000-per-home threshold amount whereby the
17 subgrantee must obtain DE review and written approval prior to installation of measures.
18 It is uncommon for subgrantees to have homes exceed this threshold.

19 **Q. Are there waiting lists for weatherization services?**

20 A. Yes. There are currently 2,049 homes statewide on subgrantee waiting lists for
21 weatherization services, of which 732 (or 36 percent) are served by the Company.

²³ 23 DOE WAP guidelines allow DOE funds to be leveraged with other fund sources, as well as calculation of ACPU by fund source.

1 Subgrantees use waiting lists to fairly manage the order in which approved applicants
2 receive weatherization services.

3 **Q. Do the efficiency measures and terms of service offered under the Company's IEWAP**
4 **differ from those offered under DOE WAP?**

5 A. Not at this time. DE administers all utility IEWAP funds in accordance with DOE WAP
6 guidelines. In the case of the Company's IEWAP funds, this is specified in the Cooperative
7 and Funding Agreement and the Stipulations and Agreements transferring administration
8 of the IEWAP to DE.

9 **Q. How does DE administer the Company's IEWAP funds?**

10 A. Paragraph 5 (c) of the 2007 Cooperation and Funding Agreement specifies that, "Monies
11 from the Fund will be spent in a manner consistent with the Federal Weatherization
12 Assistance Program as administered by DNR." This has not changed over subsequent cases
13 and amendments to the Cooperation and Funding Agreement.

14 **Q. Why has DE supported uniformity in the services offered under the Company's**
15 **IEWAP and those offered under DOE WAP?**

16 A. Uniformity of the terms and services offered under DOE and Company funds has allowed
17 DE to use many of the same systems and processes to administer the Company's IEWAP
18 as are used to administer the DOE WAP, reducing the resources and costs to DE of
19 administering the Company's program. DE agreed to provide administrative services
20 without compensation in order to ensure that the subgrantees would receive more funds to
21 support their weatherization activities. DE was able to forgo compensation because, in the
22 past, the total funding for all DE-administered utility IEWAPs was relatively small. As

1 these programs have grown and DOE WAP requirements have increased, it has become
2 more difficult for DE to provide administrative services without compensation.

3 **Q. Is DE recommending that the Company assume administrative responsibilities for its**
4 **IEWAP?**

5 A. Yes. In recent utility cases,²⁴ compensating DE for its administration of utility IEWAPs
6 using ratepayer funds has been a controversial issue. As a result, DE is prepared to work
7 with Ameren Missouri to ensure a smooth transition of administrative functions to the
8 Company.

9 **Q. Are there potential benefits to allowing the Company to administer its own IEWAP?**

10 A. Yes. The Company will have additional flexibility in delivering its program, such as: (1)
11 installing additional measures not allowed under DOE guidelines; (2) re-weatherizing
12 homes that were weatherized after September 30, 1994; and (3) working with other utilities
13 to co-deliver IEWAPs.

14 **Q. What is the potential benefit to re-weatherizing homes?**

15 A. Homes weatherized in Missouri between 1994 and 2009 did not have as many energy
16 efficiency measures installed compared to homes weatherized after 2009 because the
17 ACPU amount during that time was significantly lower as shown in Table 2. Thus, there
18 are additional energy savings that customers and the Company could capture.

²⁴ 24 Missouri Public Service Commission Case No. GR-2018-0013. *In the Matter of Liberty Utilities (Midstates Natural Gas) corp. d/b/a Liberty Utilities' Tariff Revisions Designed to Implement a General Rate Increase for Natural Gas Service in the Missouri Service Areas of the Company.* Stipulation and Agreement.
Missouri Public Service Commission Case No. GR-2017-0215. *In the Matter of Laclede Gas Company's Request to Increase Its Revenues for Gas Service.* Stipulation and Agreement.

1 **Table 2. DOE Annual ACPU Limits.**

DOE Program Year	DNR/DE Fiscal Year	Authorizing Document	Average Expenditure Limit
PY00	FY01	WPN 00-1	\$2,085
PY01	FY02	WPN 01-1	\$2,500
PY02	FY03	WPN 02-1	\$2,568
PY03	FY04	WPN 03-1	\$2,614
PY04	FY05	WPN 04-1	\$2,672
PY05	FY06	WPN 05-1	\$2,744
PY06	FY07	WPN 06-1	\$2,826
PY07	FY08	WPN 07-1	\$2,885
PY08	FY09	WPN 08-1	\$2,966
PY09	FY10	WPN 09-1	\$3,055
PY10	FY11	WPN 10-1	\$6,500
PY11	FY12	WPN 11-1	\$6,572
PY12	FY13	WPN 12-1	\$6,769
PY13	FY14	WPN 13-1	\$6,904
PY14	FY15	WPN 14-1	\$6,987
PY15	FY16	WPN 15-1	\$7,105
PY16	FY17	WPN 16-1	\$7,105
PY17	FY18	WPN 17-1	\$7,212
PY18	FY19	WAP Memo 047	\$7,371
PY19	FY20	WPN 19-1	\$7,541

DOE Average Cost per Unit Amounts by Year

2 Energy efficiency technology has advanced substantially over the past 24 years. For
 3 example, 24 years ago a 70-80 percent efficient furnace was standard, today 95 percent
 4 efficient furnaces are common. In 2010 the Missouri Weatherization Program began
 5 requiring that appliances replaced through the program must be Energy Star ®-certified.
 6 There are also new insulation and air sealing technologies that have been implemented,
 7 such as the use of polyurethane foam sealant which provides both outstanding air sealing
 8 and insulation qualities in one product. In addition, energy efficiency measures installed
 9 in 1994 (approximately 25 years ago) will have most likely exceeded their useful life as

1 shown below in Table 3 below. Note how all of the below-listed measures have anticipated
 2 life span of no more than twenty-years.

3 **Table 3. Energy Efficiency Measure Lifespan – NEAT/MHEA Energy Auditing
 Tools.**

National Energy Audit Tool (NEAT*) Site Built	
Measure Name	Life Span (Year)
Attic Insulation R-11	20
Attic Insulation R-19	20
Attic Insulation R-30	20
Attic Insulation R-38	20
Fill Ceiling Cavity	20
Sillbox Insulation	20
Floor Insulation R-11	20
Floor Insulation R-19	20
Wall Insulation	20
Kneewall Insulation	20
Duct Insulation	20
Furnace Tuneup	3
Replace Heating System	20
High Efficiency Boiler	20
High Efficiency Furnace	20
Install/Replace Heat Pump	15
Lighting Retrofits	10
Water heater Pipe Insulation	13
Attic Insulation R-49	20
Floor insulation R-30	20
Low E Windows	20
Replace AC	15
Foundation Wall Insulation	20
Door Replacement	20
Storm Windows	15
Window Replacement	20
Flame Retention Burner	10
Smart Thermostat	15
Tuneup AC	3

Manufactured Home Energy Audit (MHEA*)	
Measure Name	Life Span (Year)
Seal Ducts	10
General Air Sealing	10
Wall Fiberglass Batt Insulation	20
Wall Fiberglass Batt Insulation in Addition	20
Wall Fiberglass Loose Insulation	20
Wall Fiberglass Loose Insulation in Addition	20
Floor Fiberglass Loose Insulation	20
Floor Fiberglass Loose Insulation in Addition	20
Roof Fiberglass Loose Insulation	20
Roof Fiberglass Loose Insulation in Addition	20
Tune Heating System	3
Lighting Retrofits	10
Water Heater Pipe Insulation	13
Replace Heating System	20
Wall Cellulose Loose Insulation in Addition	20
Roof Cellulose Loose Insulation in Addition	20
Tune Cooling System	3
Replace Dx Cooling Equipment	15
White Roof Coat	7
White Roof Coat in Addition	20
Replace Marked Doors	15
Replace Wooden Doors	15
Replace Wooden Doors in Addition	15
Replace Single Paned Windows	15
Replace Single Paned Windows in Addition	20
Glass Storm Windows	15
Glass Storm Windows in Addition	15
Setback Thermostat	10
Refrigerator Replacement	15

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Refrigerator Replacement	15	Water Heater Tank Insulation	13
Water Heater Tank Insulation	13	Low Flow Showerheads	15
Low Flow Showerheads	15	Water Heater Replacement	13
Water Heater Replacement	13	Wall Cellulose Loose Insulation	20
White Roof Coating	7	Floor Cellulose Loose Insulation	20
Floor Insulation R-38	20	Floor Cellulose Loose Insulation in Addition	20
Window Sealing	10	Roof Cellulose Loose Insulation	20
Window Shading (awning)	10	Add Skirting	10
Sun Screen Fabric	10	Add Skirting on Addition	10
Sun Screen Louvered	15	Storm Doors	10
Window Film	15	Storm Doors in Addition	10
Thermal Vent Damper	10	Window Sealing	10
Electric Vent Damper	10	Window Sealing in Addition	10
IID	10	Plastic Storm Windows	5
Electric Vent Damper IID	10	Plastic Storm Windows in Addition	5
Evaporative Cooler	15	Add Awnings	20
		Add Awnings in Addition	10
		Add Shade Screens	15
		Add Shade Screens in Addition	10
		Evaporative Cooling	15

*Energy audit software developed by the Oak Ridge National Laboratory for the DOE WAP

- 1 **Q. Are there opportunities for program co-delivery if Ameren Missouri administers its**
 2 **own program?**
- 3 **A. Yes. Ameren Missouri will have the flexibility to work with other utilities to deliver**
 4 **additional services.**
- 5 **Q. Would DE be willing to serve in an advisory capacity for the program?**
- 6 **A. Yes. DE serves in an advisory capacity for other utility programs. DE's recommendations**
 7 **have focused on assisting with elements of program management, including: (1) local**
 8 **agency contracts that specify budget amounts and processes; (2) administrative monitoring**
 9 **requirements; (3) quarterly process reports for all subgrantees; and (4) annual on-site**
 10 **meetings with all subgrantees.**

1 **VII. CONCLUSIONS**

2 **Q. Please summarize your conclusions and the positions of DE.**

3 A. DE recommends that the Company's IEWAP continue at its present level of \$1,200,000,
4 allowing for roll-over of unspent funds in order to alleviate energy burden of qualifying
5 customers. DE recommends the Commission allow the Company to self-administer its
6 IEWAP and that Ameren Missouri hold an annual meeting with its subgrantees in order to
7 review IEWAP budget and expenditures, program implementation, and opportunities for
8 improvement in program delivery and customer service. DE is willing to serve in a
9 cooperative advisory role to support the program and attend the annual in-person meeting
10 with weatherization agencies and any interested stakeholders.

11 **Q. Does this conclude your Direct Revenue Requirement Testimony?**

12 A. Yes.