Exhibit No.:	
Issues:	Revenue Requirement
Witness:	Annika Brink
Sponsoring Party:	National Housing Trust
Type of Exhibit:	Direct Testimony
Case Nos.:	GR-2019-0077
Date Testimony Prepared:	April 19, 2019

MISSOURI PUBLIC SERVICE COMMISSION

FILE NO. GR-2019-0077

DIRECT TESTIMONY

OF

ANNIKA BRINK

ON

BEHALF OF

NATIONAL HOUSING TRUST

April 19, 2019

Q. Please state your name and business address.

A. Annika Brink, National Housing Trust, 1101 30th Street NW, Suite 100A, Washington, DC 20007.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the National Housing Trust (NHT). All work developing my testimony has been completed by me or under my direction.

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

A. I am employed by the National Housing Trust as its Midwest Director of Energy Efficiency Policy. In this capacity I work with state and local partners across the country to make multifamily housing healthy and affordable through energy efficiency. I have primary responsibility for NHT's energy efficiency policy work in the Midwest, including Missouri.

Q. Please provide a summary of your qualifications and experience.

A. I earned a Bachelor of Arts in both History and German Studies from Wesleyan University in 2005 and subsequently spent a year studying Architecture and Urban Planning at the Universität Stuttgart in Stuttgart, Germany. In 2011, I earned a Master in Public Policy from Harvard University where I focused on energy, sustainability, and social/urban policy and during which time I produced research on state and local policy solutions for rental sector energy efficiency.

I have nine years of professional experience with energy policy, affordable housing, and green building, both from an energy and a housing perspective. Beginning in 2011, I spent over two years leading the nonprofit Alliance to Save Energy's engagement of publicly-owned non-for-profit electric power utilities, helping utilities share best practices, consider energy efficiency

program models, benchmark their energy efficiency portfolios, develop innovative online tools, and achieve consensus on priority topics. Since 2013 I have been a LEED Green Associate.

In my work for the National Housing Trust, I analyze state, local, and utility efficiency policies and programs, help disseminate best practices, and facilitate coordination among housing and energy stakeholders. I have filed comments with utility regulators in Missouri, Michigan, Minnesota, Iowa, and Kansas. In 2015, I worked with a Kansas City-based housing nonprofit to organize a series of three convenings to explore the experience, barriers, solutions, and potential recommendations related to expanding energy efficiency for affordable multifamily housing in the greater Kansas City metro area. In 2014-2015, I also worked with St.-Louis-area and statewide stakeholders to produce a white paper on this topic, as relates to Missouri and Illinois. I was a member of the energy usage stakeholder group that provided input to the Missouri Division of Energy as they developed the State Energy Plan. In February 2018 I began working with other stakeholders to form a "Low-Income Work Group" under the auspices of the Missouri Energy Efficiency Advisory Collaborative and I am currently serving on this work group's Steering Committee.

In addition to my work at the National Housing Trust, I have worked for affordable housing developers in Grand Rapids, Michigan (internship) and Minneapolis, Minnesota, including work on green affordable housing, community development, and multifamily rehabilitation projects.

Q. Have you previously testified before this Commission?

A. Yes, I previously provided testimony in Ameren Missouri's 2016-18 MEEIA filing (EO-2015-0055), in Spire's 2017 rate cases (GR-2017-0215 and GR-2017-0216), in Ameren Missouri's 2019-2024 MEEIA filing (EO-2018-0211), and in Kansas City Power & Light's

2019-2024 MEEIA filing (EO-2019-0132 and EO-2019-0133). I have also presented to Commissioners and stakeholders at various workshops, convenings, and meetings, such as the Missouri Energy Efficiency Advisory Collaborative (MEEAC).

Q. Please summarize your testimony.

A. First, I outline what Ameren Gas' ("the Company") proposed rate increases would mean for low-income and low-income multifamily customers, describing the size of the low-income multifamily population in the Company's Territory and the housing and energy burdens they face. Then I describe the energy efficiency needs of low-income multifamily buildings and the opportunities presented by these needs. I then applaud the Company for including energy efficiency in its rate case filing, while recommending that the Company set specific low-income multifamily goals so that this sector is not neglected within the proposed low-income program.

I then describe barriers facing low-income multifamily energy efficiency, outline best practices for overcoming these barriers, and propose areas where the Company could place emphasis or improve its proposed program design in order to better serve affordable multifamily properties. These include: (1) commit to a whole-building savings approach; (2) fix proposed tariff language to clarify multifamily's eligibility for the Company's low-income offerings; (3) clarify that energy saving measures are eligible for low-income rebates no matter where they are located in an eligible multifamily property; (4) expand low-income eligibility pathways to match Ameren Electric's eligibility definitions; (5) clarify the applicability of and/or eliminate caps on rebates for low-income multifamily properties; (6) increase low-income multifamily prescriptive incentive levels; and (7) guarantee availability of rebates over 36 months for multifamily properties that are financing/re-financing. Lastly, I discuss co-delivery and compare the Company's proposed energy efficiency spending to that of other natural gas utilities.

Q. What would the Company's proposed rate increases mean for low-income and low-income multifamily customers?

A. In Schedules MWH-D2 attached to Ameren Gas witness Michael Harding's Direct Testimony, the Company indicates that the average residential Ameren Gas residential customer will pay 6.8% more annually vs. current rates.[1] While this may seem modest, this is in the context of Missouri's poverty rate, which is 14%, and its child poverty rate of over 19.2%. The poverty rate is much higher than 14% in parts of Ameren Gas' service territory: for example, it is 16.6% in Boone County, 16.1% in Randolph County, 17% in Audrain County, 19.1% in Stoddard County, 16.3% in Miller County, and 18% in Pike County. These are the numbers for individuals below 100% of the federal poverty level: a family of four must make $25,100 or less to fall below this threshold.[2] In fact, Missouri's low-income population is much larger: families making *twice* this amount are considered poor for purposes of qualifying for certain federal poverty programs, such as the Weatherization Assistance Program. It is difficult for low-income and low-income multifamily households to absorb bill increases, because they are already facing high housing and energy burdens. These households regularly make decisions between paying rent and energy bills and buying groceries, medicine, and other necessities.

Q. How many low-income multifamily households are in the Company's service territory and what are the levels of housing and energy burden facing these households?

Across Ameren Gas' territory, there are approximately 19,223 households (8.4% of all households) living in affordable multifamily buildings of three or more units. This is shown in Table 1 below, along with the number of units in buildings of five or more units, an alternative

[1] *Direct Testimony of Michael Harding – Schedule MWH-D2*, File No. GR-2019-0077, December 3, 2018, p.84.
[2] Missouri Community Action, *2018 Missouri Poverty Report*, data drawn from U.S. Census, February 2018, pp. 3-5. http://www.communityaction.org/2018-poverty-report/

definition of multifamily. A more detailed table and notes on methodology are included in the Appendix. It should be noted that not all affordable multifamily units in Ameren Gas' territory are served by natural gas: later energy savings estimates take this into account.

Table 1: Affordable Multifamily Unit Counts for Ameren Gas Territory[3]

	NOTE: The 3+ numbers are the 5+ numbers plus units in buildings of 3-4 units. Thus, the 5+ and 3+ unit counts should not be added together.						
	All Housing Units (Single Family + Multifamily)	All MF (5+)			All MF (3+)		
Utility	Total	Total	Market-Rate	Affordable	Total	Market-Rate	Affordable
Ameren Gas	229,052	23,287	8,304	14,983	33,869	14,646	19,223

When we consider the different types of low-income multifamily housing, this includes public housing (owned by a city, county, or other public entity), subsidized affordable housing (privately owned, but with affordability restrictions in place according to Low Income Housing Tax Credit, HUD, or USDA requirements), and unsubsidized housing (privately owned, but without affordability restrictions, and affordable by virtue of market forces).

Almost 43% of renters in Ameren Gas' service territory spend more than 30% of their income on rent plus utilities, the federal standard for housing affordability.[4] This can also be characterized as households' housing and energy burdens. According to the U.S. Department of

[3] Mosenthal, P. and Socks, M., *Potential for Energy Savings in Affordable Multifamily Housing*, Optimal Energy for NRDC, 2015. http://www.energyefficiencyforall.org/sites/default/files/EEFA%20Potential%20Study.pdf Supplementary analysis of Missouri's natural gas potential completed by Optimal in April 2015, with data in Table 1 provided here: http://energyefficiencyforall.org/sites/default/files/EEFA_MO_Multifamily_Potential_Study_.pdf

[4] U.S. Census Table B25070. *2013-2017 American Community Survey 5-Year Estimates*. Analysis conducted for Census tracts matched to Ameren Gas service territories based on 2014 Platts geospatial data.

Housing and Urban Development, such households "may have difficulty affording necessities such as food, clothing, transportation and medical care."[5]

Q. How can the energy burdens facing low-income multifamily households be alleviated?

A. A 2016 report by Energy Efficiency for All and ACEEE found that energy efficiency was key to alleviating the high energy burdens experienced by low-income households in a sample of cities across the country:[6]

> For all low-income households and for multifamily low-income households, bringing their housing stock up to the efficiency level of the median household would eliminate 35% of their excess energy burden. As one might expect, the energy burdens of low-income households are driven in large part by their low-income status. However more than one-third of their excess energy burden was caused by inefficient housing stock.

Therefore, as discussed below, we support increased incentives to help low-income multifamily buildings upgrade the efficiency of their properties. We also support lower fixed charges as a way of helping low-income multifamily buildings lower their energy bills and incentivize investment in energy efficiency improvements. This will be discussed in NHT's rate design testimony to be filed later in this case.

Q. What are the energy efficiency needs of these low-income multifamily households and what are the opportunities presented by these needs?

A. A historical lack of access to energy efficiency for multifamily rental housing presents an opportunity for the Company to tap latent energy savings. In fact, efficiency measures are far less likely to be installed in multifamily rentals than in any other type of housing. Multifamily

---

[5] Spending 30% of income on rent plus utilities is found in the U.S. Department of Housing and Urban Development's definition for whether a household is housing cost burdened. http://portal.hud.gov/hudportal/HUD?src=/program_offices/comm_planning/affordablehousing/

[6] Drehobl, A. and Ross, L., *Lifting the High Energy Burden in America's Largest Cities: How Energy Efficiency Can Improve Low Income and Underserved Communities*, Energy Efficiency for All and ACEEE, April 2016, p. 19. http://www.energyefficiencyforall.org/sites/default/files/Lifting%20the%20High%20Energy%20Burden_0.pdf

units occupied by low-income renters had 4.1 fewer energy efficiency features in 2005 and 4.7 fewer in 2009 compared with other households.[7] This translates to significant unrealized low-income multifamily energy savings.

A 2015 Energy Efficiency for All potential study and subsequent supplementary analysis found that if Ameren Gas pursued maximum achievable cost-effective gas savings in the affordable multifamily sector from 2015-2034, the cumulative savings would equate to 17% to 24% lower energy usage sector-wide across its territory in 2034.[8] The low-end estimate represents cost-effective potential without factoring in the substantial non-energy benefits (NEBs) of low-income energy efficiency, while the high-end estimate represents cost-effective potential when NEBs are included in cost-effectiveness analysis. (See below for addition discussion of NEBs.) As the table below outlines, Ameren Gas could be achieving, conservatively, 0.3 BBtu of first-year energy savings annually in low-income multifamily buildings and 39.1 BBtu in cumulative savings in 2034. Note: these numbers—and the numbers in the two related tables below—apply to buildings with 5+ units, so these numbers are actually an *underestimate* of the potential for low-income multifamily buildings of 3+ units, which is the population eligible for the Company's proposed low-income multifamily program.

Table 2: Ameren Gas Maximum Achievable Savings Estimates, Optimal Energy, 2015[9]

		Cumulative Savings			Savings % of Total Usage		
		Year 1	Year 5	Year 20	Year 1	Year 5	Year 20
Ameren Gas	Max Achievable, No NEBs (Gas BBtu)	0.3	3.5	39.1	0.1%	1.5%	17.0%
	Max Achievable, High NEBs (Gas BBtu)	0.6	6.0	54.6	0.3%	2.6%	23.8%

[7] Pivo, Gary, *Unequal access to energy efficiency in US multifamily rental housing: opportunities to improve*, 2014. Building Research & Information, 42:5, pp. 551-573.
[8] Mosenthal, P. and Socks, M., http://www.energyefficiencyforall.org/sites/default/files/EEFA%20Potential%20Study.pdf and http://energyefficiencyforall.org/sites/default/files/EEFA_MO_Multifamily_Potential_Study_.pdf, p. 12.
[9] Mosenthal, P. and Socks, M., http://energyefficiencyforall.org/sites/default/files/EEFA_MO_Multifamily_Potential_Study_.pdf, p.11.

Furthermore, the Company's low-income multifamily energy efficiency investments would return $1.80 to $2.60 in benefits for every $1.00 invested, resulting in $2.0 million to $7.0 million in *net* benefits over 20 years. In order to achieve these results, the Company would need to invest an average of between $125,000 (for low-end net benefits) and $220,000 (for high-end net benefits) in low-income multifamily energy efficiency each year for 20 years.

Table 3: Costs and Benefits for Gas Maximum Achievable Savings Scenarios, Optimal Energy, 2015[10]

		Total Costs (Million 2015$)	Total Benefits (Million 2015$)	Net Benefits (Million 2015$)	BCR
Ameren Gas	Max Achievable, No NEBs	$2.5	$4.4	$2.0	1.8
	Max Achievable, High NEBs	$4.4	$11.4	$7.0	2.6
	Max Achievable, No NEBs, average annual	$0.125	$0.220	$0.100	n/a
	Max Achievable, High NEBs, average annual	$0.220	$0.570	$0.350	n/a

Q. What are you proposing that the Company spend annually on low-income multifamily energy efficiency?

A. Based on the above analysis, *I am proposing that the Company spend $125,000 to $220,000 annually on low-income multifamily energy efficiency.* Creating a low-income multifamily carve-out from the Company's proposed annual low-income budget of $266,531 is one option to achieve this. It should be noted that the Company is spending an additional $238,000 on Weatherization, which in Missouri is essentially a program for single family or sometimes 2-4 unit buildings, and which very rarely serves multifamily buildings of 5+ units.

Energy efficiency programs are extremely beneficial to low-income tenants and can help owners maintain the buildings they live in, especially in subsidized properties where owners have limited cash flow because of legal obligations to maintain low rents and other restrictions.

[10] Mosenthal, P. and Socks, M., http://energyefficiencyforall.org/sites/default/files/EEFA_MO_Multifamily_Potential_Study_.pdf, p. 12.

Retrofits can result in non-energy benefits such as water/wastewater bill savings, reduced maintenance costs, lower turnover rates, increased resident comfort, increased durability, improved safety, and improved health (e.g. less asthma or aggravation of chronic conditions from extreme heat and cold, resulting in fewer sick days from work and school). Utilities can benefit from reduced arrearage carrying costs, reduced customer collection calls/notices, reduced termination/reconnection costs, and reduced bad debt write-offs.

Q. Do you support Ameren Gas' proposal to deliver energy efficiency to low-income multifamily households in its service territory? Please explain.

A. The National Housing Trust applauds the Company's inclusion of energy efficiency in its rate case plans. We further commend the Company's commitment to including low-income multifamily, a chronically underserved and traditionally overlooked sector in its energy efficiency offerings. However, we recommend that the Company designate a specific budget amount and savings goals for low-income multifamily buildings, rather than merely including it within a general low-income program. Because this sector is so difficult to serve, it is otherwise at risk of being neglected in favor of low-income single family homes.

As an advocate for tenants and owners of low-income multifamily housing, we regularly advocate for well-designed multifamily programs. We also support energy efficiency investments more broadly because of their ability to lower system-wide energy costs for all customers, including in low-income multifamily housing. Well-designed energy efficiency programs enable utilities to ease gas transmission capacity constraints and delay or avoid costly investments in new pipeline infrastructure.[11] These are costs that would otherwise have been passed on to customers.

[11] For a more detailed explanation of the system and other benefits of natural gas energy efficiency programs, please refer to the following report: Hoffman, I., Zimring, M., and Schiller, S. R., *Assessing Natural Gas Energy Efficiency*

Free or low-cost low-income offerings (including for major equipment) are an essential part of any equitably designed energy efficiency portfolio. They ensure that low-income households are able to participate in and directly benefit from a utility's energy efficiency investments. Moreover, offerings that are targeted specifically to low-income multifamily buildings are necessary to ensure that such buildings are equitably served with energy efficiency offerings. Low-income multifamily buildings have unique barriers and needs, and are typically underserved by existing energy efficiency programs such as the federal Weatherization Assistance Program. For more information on the unique needs of low-income multifamily buildings, please refer to the Energy Efficiency for All *Program Design Guide.*[12]

Q. You indicate that low-income multifamily buildings should be served by targeted programs. Do you support Ameren Gas' approach of serving low-income single family and multifamily buildings jointly via a single Low-Income Program?

A. No, I do not support the Company's approach of a single program to serve both single family and multifamily low-income properties. Targeting programs specifically to low-income multifamily properties is a best practice affirmed by NHT's experience as a multifamily owner of over 3,000 units of multifamily affordable housing and as a housing advocate; by my conversations with multifamily owners across the Midwest and during cross-sector convenings in Missouri, several of which Ameren staff have attended; and by best practice research.

Q. What barriers do low-income multifamily buildings face to implementing energy efficiency retrofits and how can these barriers be overcome?

Programs in a Low-Price Environment, Lawrence Berkeley National Laboratory, 2013. https://eta.lbl.gov/sites/default/files/publications/lbnl-6105e.pdf

[12] Energy Efficiency for All, *Program Design Guide: Energy Efficiency Programs in Multifamily Affordable Housing*, January 2015. http://www.energyefficiencyforall.org/resources/program-design-guide-energy-efficiency-programs-multifamily-affordable-housing

A. Low-income multifamily buildings may have difficulty implementing energy efficiency retrofits because programs are not designed with multifamily needs in mind. For example, a program may be geared toward participation by individual tenants, even though building owners are the decision-makers for investments in multifamily properties. Or, owners are often asked to apply separately to gas and electric programs and separately to programs for common area and tenant units: owners may decide the transaction costs of understanding, applying to, and participating in such disjointed programs are not worth the incentives being offered.

Other barriers are financial, such as insufficient financial incentives or owners' lack of access to capital. In some cases, contractors are unfamiliar with the multifamily building type and the potential savings it presents, leaving savings on the table. For affordable buildings financed through the state housing finance agency (the Missouri Housing Development Commission), utility-sponsored energy efficiency incentives may not be flexible or reliable enough to account for the long planning and construction timelines associated with this process, where time from energy audit to rehabilitation completion may be 24 months or more. Finally, owners often lack access to energy usage data for the tenant meters in their buildings, which can hamper their ability to make well-informed whole-building energy efficiency investment decisions and to prioritize such investments across their property portfolios.

While these barriers are significant and complex, there is compelling evidence from the field that programs can be designed to overcome these barriers, including two key best practice reports I would like to bring to the Commission's attention. The reports are summarized in Table 4 below along with their checklists of best practices for overcoming multifamily barriers to participation:

Table 4: Comparison of EEFA and ACEEE Best Practices Reports for Overcoming Barriers to Participation in Multifamily Efficiency Programs.

Energy Efficiency for All (http://www.energyefficiencyforall.org/resources/program-design-guide-energy-efficiency-programs-multifamily-affordable-housing) **Program Design Guide: Energy Efficiency Programs in Multifamily Affordable Housing** Best Practices Checklist for Policymakers and Program Administrators	*ACEEE* (http://aceee.org/research-report/e13n) **Apartment Hunters: Programs Searching for Energy Savings in Multifamily Buildings** Best Practices for Multifamily Energy Efficiency Programs
1. Establish a goal to capture all cost-effective efficiency in multifamily affordable housing (MFAH). 2. Assure coordination and count savings across electricity, gas, and water utility programs. 3. Assure that cost-effectiveness tests work for MFAH by accounting for non-energy benefits and applying cost-effectiveness tests across portfolio of programs. 4. Improve building owners' access to energy usage information. 5. Develop programs specifically targeted to MFAH buildings. 6. Structure incentives for whole-building savings. 7. Assure incentives are reliable at project outset. 8. Support benchmarking, audits, and other assessments. 9. Support a "one-stop-shop" where building owners can access integrated program services. 10. Build partnerships with key local market participants. 11. Help building owners finance efficiency projects by tailoring incentives to fit with conventional purchase and refinancing loans, partnering with lenders active in the local market, and exploring on-bill payment arrangements. 12. Assure robust quality assurance.	1. Provide a one-stop shop for program services. 2. Incorporate on-bill repayment or low-cost financing. 3. Integrate direct installation and rebate programs. 4. Streamline rebates and incentivize in-unit measures to overcome split incentives. 5. Coordinate programs across electric, gas, and water utilities. 6. Provide escalating incentives for achieving greater savings levels. 7. Serve both low-income and market-rate multifamily households. 8. Align utility and housing finance programs. 9. Partner with the local multifamily housing industry. 10. Offer multiple pathways for participation to reach more buildings.

Q. In what ways could Ameren Gas improve its low-income multifamily program design to be more in line with established best practices?

A. While the Company has not provided many details, there are a few areas where we think the Company could place emphasis or improve on its program design in order to better achieve established best practices:

1. *Commit to a whole-building savings approach—addressing direct install, in-unit/residential and common area/commercial savings at once.*

Multifamily buildings are a unique building type with multiple types of meters and diverse savings opportunities. It is extremely difficult to get affordable multifamily building owners' attention and these buildings often operate on periodic financing/re-financing cycles where they are only able to make major building upgrades every 15-20 years. Thus, it is imperative to address all possible energy savings opportunities in an affordable multifamily building at the moment when the utilities have the owner's attention.

2. *Fix language in its tariff sheets to clarify that both single family and multifamily buildings are eligible for its low-income offerings.* The Company's current language in Schedule LMW-D3, page 1 of 2 of Laureen Welikson's Direct Testimony calls the program "The Missouri Energy Efficient Natural Gas Residential Single Family Low Income Program."[13] This is clearly not aligned with the intent stated elsewhere in Ms. Welikson's testimony where she clarifies that the Company's low-income offerings be available to both single family and multifamily properties alike.[14] Later on the page (Schedule LMW-D3 p. 1 of 2), the draft tariff states, "The Program is available… and owners and operators of any multi-family properties of three (3) or more dwelling units with eligible customers receiving service under the Residential Service Rate."

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.* Based on best practices of delivering energy savings in a holistic, whole-building manner, eligible low-income multifamily

[13] *Direct Testimony of Laureen Welikson – Schedule LMW-D3*, File No. GR-2019-0077, December 3, 2018, p. 27.
[14] *Id.*

properties should be eligible for low-income energy saving measures regardless of where in the building they are found, whether in tenant units, common areas, HVAC equipment, or building shell. It is not clear from the filing whether the Company intends to restrict measure eligibility to only certain parts of the building. Also, it is possible that some low-income multifamily properties have meters taking General Service, which are serving a central boiler and/or other equipment. These properties should also be eligible for the Company's low-income offerings.

4. *Expand eligibility for low-income offerings to be aligned with Ameren Electric's low-income definition.* The Company's current language in Schedule LMW-D3 of Laureen Welikson's Direct Testimony lists three ways for a program participant to qualify;[15] however this list is not aligned with Ameren Electric's eligibility criteria. In order to facilitate easier co-delivery, this list should be expanded to match Ameren Electric's list. For example, 200% of the Federal Poverty Level should be added to the list, which will also facilitate easier coordination with the Weatherization Assistance Program.

5. *Clarify that the caps on residential low-income rebates apply per housing unit, not per property.*

The Company's current language, found in Schedule LMW-D3 of Laureen Welikson's Direct Testimony, states, "No single premise can receive incentives more than $3,500 in a thirty-six month period."[16] The Company should clarify that for multifamily properties a "premise" is a single multifamily unit, rather than an entire multifamily property.

Further, in the rebate range sheets included in Laureen Welikson's Direct Testimony, the Company notes that for certain items landlords can receive rebates for "a maximum of ten (10)

[15] *Id.*
[16] *Id. at 28.*

units or 10% of the total units whichever is greater."[17] Similarly, participants are limited to 2 rebates for other measures, a restriction that should, similarly, be lifted for multifamily properties. We strongly oppose a strategy of rationing rebates for each property and urge the Company to eliminate any cap for low-income properties: rather, in the spirit of a holistic approach, we encourage the Company to maximize every energy saving opportunity in each multifamily property it touches.

Given the difficulty of getting multifamily owners' attention, and the rareness of substantial rehabilitation projects, we encourage the Company to maximize the energy savings opportunities within these buildings, rather than erect barriers to a once-every-20-years chance to upgrade efficiency. We should be encouraging these buildings to *expand* their energy efficiency scopes of work, not contract them to stay under arbitrary rebate caps.

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.*

Over the past few years, the Company states that it has not spent its entire energy efficiency budgets. Chronic underspending of portfolio budgets can provide evidence that program design changes are needed. As the Company launches new low-income offerings, we suggest they implement higher rebates at the front end, in order to better drive robust participation that will satisfactorily draw down budgets.

As general guidelines for low-income multifamily buildings, we believe that incentives should cover, at a minimum, 100% of *incremental cost.* Ideally, to properly incentivize owners to act, incentives should cover at least 40-50% of *total cost on average* across incentives (including direct install and major equipment). However, the Company's rebate range sheet for residential

[17] *Direct Testimony of Laureen Welikson – Schedule LMW-D2*, File No. GR-2019-0077, December 3, 2018, p. 23.

and landlord measures specifically state that furnace tune-up and boiler tune-up measures are intended to cover only 25-75% of *incremental cost*,[18] which is too low. Further examples follow.

NHT worked with partners to research the total cost, including both equipment and labor, of seven representative, multifamily-relevant measures found on the list of rebates proposed to be offered by the Company. Interviews were conducted of six local contracting firms and two Community Development Corporations that serve affordable multifamily properties to obtain average total cost information from experts who deliver these efficiency services in the field. The table below compares the average total cost from this research to the rebates Ameren Gas is proposing to offer. We include business rebates here only because the Company has not made clear whether or not energy saving measures served by General Service meters within low-income multifamily buildings are eligible for low-income rebates (we proposed earlier that they should be). We assume a boiler size for a multifamily building of 1,000 MBH, since our proposed boiler rebate is based on MBH.

Table 5: Company's Proposed Rebate Levels for Major Equipment vs. Total Average Costs and NHT's Recommended Rebate Levels

Equipment	Efficiency	Company		NHT Research and Recommendations		
		Proposed Maximum Residential and Landlord Rebate	Proposed Maximum Business Rebate	Total Cost Average from Contractors & CDCs	Company's Rebate % of Total Cost	Recommended Rebates Covering 30% of Total Cost
Gas Furnace	> or equal to 92% AFUE	$300	$300	$2,800	11%	$840
Gas Furnace	> or equal to 96% AFUE	$450	$450	$3,400	13%	$1,020
Gas Storage Water Heater (20-55 gallons)	EF > or equal to 0.67	$300	$300	$1,500	20%	$450
Gas Instantaneous Water Heater (< 2 gallons)	EF > or equal to 0.82	$400 (EF > 0.9)	$400 (EF > 0.9)	$2,000	20%	$600
Gas Space Heating/Water Boiler 300-	> or equal to 85% AFUE	$300 (equivalent to $0.30/MBH)	N/A	$55/MBH (or $55,000 for 1,000 MBH	0.55%	$16.50/MBH (or $16,500 for 1,000 MBH

[18] *Id.* at 23.

5,000 MBH				boiler)		boiler)
Gas Space Heating/Water Boiler 300-5,000 MBH	> or equal to 92% AFUE	$450 (90% or higher) (equivalent to $0.45/MBH)	$450 (90% or higher) (equivalent to $0.45/MBH)	$65/MBH (or $65,000 for 1,000 MBH boiler)	0.69%	$19.50/MBH (or $19,500 for 1,000 MBH boiler)

The Company's proposed rebates—at the maximum end of its proposed range—cover only a small percentage of the total cost of purchasing and installing major efficient equipment, ranging from 0.55% to 20% (see table above). In no case do the proposed rebates meet our recommended levels: boiler rebates are notable for falling the furthest short. At $300-$450 per boiler, for our model boiler of 1,000 MBH this is only $0.30-$0.45/MBH, rather than the $16.50-$19.50/MBH we recommend. Compare this to Consumers Energy in Michigan, for example, which offers $25-$28/MBH for boilers with efficiencies of >87% and >90% in income-qualified multifamily properties.[19] Unfortunately, Ameren Gas' rebate levels will generally not be enough to motivate affordable multifamily owners to consider early replacement of major equipment. Affordable multifamily owners operate on tight margins and rarely have sufficient cash available to cover the cost of capital upgrades outside of a major financing events such as taking on a new first mortgage. Those financing events only occur once every 15-20 years, leaving large spans of time where owners are frequently unable to invest in cost effective upgrades that generate savings for utilities and lower owner operating expenses, which helps to maintain the affordability of Missouri's affordable housing stock.

Raising prescriptive incentives *for low-income multifamily properties* would also help to ensure that the Company spends its energy efficiency budget. As Ameren Gas witness Laureen Welikson notes in her testimony, the Company has "unspent regulatory liability form previously approved energy efficiency programs" that it proposes to use to fund low-income programs for

[19] Consumers Energy, *2019 Multifamily Income Qualified Supplement*, Version: "CEMF_2019_Income_Qualified_Supplement_v11_032519_FINAL.PDF."

2020-2022.[20] We believe it likely that current, insufficient incentive levels have limited customer demand and thus played a role in the Company's failure to spend its approved energy efficiency funding.

We recommend that the Company raise prescriptive incentive levels *for the low-income multifamily programs* to cover, at a minimum, 30% of total equipment and labor costs. RS Means can be used to source costs for some measures and NHT would be happy to help convene contractors and CDCs to estimate average total costs for the full array of low-income multifamily prescriptive incentives.

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.

Properties that are applying for tax credit financing must complete an energy audit as part of their application process with the state. Utility involvement at this juncture is crucial, so that utilities can influence the rehabilitation design process to include more energy efficiency measures. It is extremely helpful to developers, and helps avoid measures being "value engineered" aka eliminated from designs later, if rebate amounts can be guaranteed during the application phase. That way the owner is assured that, when construction finishes 24-36 months later, the rebates will still be available. Ameren Gas responded to NHT's Data Request 005 that the Company does not currently have a pre-approval process in place that could provide certainty to owners in this situation.[21] We recommend that the Company institute a pre-approval, guarantee, or reservation process.

---

[20] *Direct Testimony of Laureen Welikson*, File No. GR-2019-0077, December 3, 2018, pp. 4-5.
[21] Ameren Gas, *Response to NHT DR-005*, File No. GR-2019-0077, March 28, 2019.

Q. What is your opinion of the Company's decision to offer its low-income energy efficiency offerings to properties regardless of their participation in partnering electric energy efficiency programs?

A. We strongly support co-delivery with existing electric energy efficiency programs such as Ameren Electric's MEEIA programs, as well as the exploration of new co-delivery options with additional utilities, especially Columbia Water & Light. However, we understand that co-delivery is complex and takes time to put into place: therefore, we also support the Company's decision to also seek energy savings outside existing electric energy efficiency programs. Where the Company enters electric utility territories without robust low-income offerings in place, we encourage the Company to initiative dialogue with these utilities in order to facilitate co-delivery of savings and/or referrals.

Q. How does the Company's proposed energy efficiency budget compare to those of other natural gas utilities?

A. The Company's proposed 2020 budget of $966,531 is only 0.70% of its 2018 natural gas operating revenues of $138 million.[22] Compared to many of its peers, Ameren Gas is proposing to budget less for energy efficiency as a percentage of Gross Operating Revenues (GOR). For example, the following four natural gas utilities, all operating in states *without* state mandates for gas energy efficiency spending, budgeted between 1.16% and 3.0% of Gross Operating Revenues for energy efficiency in recent years.

- Columbia Gas of Ohio agreed to spend $26.8 million on demand side programs in 2016, representing 3% of its GOR for that year.[23] [24]

[22] Ameren Gas, *2018 Annual Report: Building a Brighter Future*, p. 18 https://s21.q4cdn.com/448935352/files/doc_downloads/proxy/2019/Ameren-Corp.-2018-Annual-Report-(Final).pdf

[23] Columbia Gas of Ohio, Inc., *Columbia Gas of Ohio 2016 Annual Report*, p. 64.

- MidAmerican in South Dakota invested 1.34% of GOR in demand side programming in 2016 equaling a $1.1 million expenditure.[25] [26]
- NorthWestern of South Dakota committed 1.38% of GOR to demand side programs in 2016.[27] [28]
- NorthWestern of Montana invested 1.16% of GOR in demand side programs in 2016.[29]
- Puget Sound Energy in Washington invested 1.53% of GOR or $13.6 million in energy efficiency in 2016.[30] [31]

In states *with* energy efficiency mandates, gas utilities are spending even more: in the five examples below, the utilities are spending from 1.2% to 4.24% of gross operating revenues annually.

- In Minnesota, CenterPoint Energy will commit 4.01% of GOR in 2017 to energy efficiency, increasing to 4.24% of GOR by 2019.[32]
- Consumers Energy in Michigan had a planned investment of $47.2 million in 2016, approximately 2.8% of GOR.[33]

---

[24] Schilling, Matt. *PUCO approves Columbia Gas of Ohio's energy efficiency programs*, Press Release, Ohio Public Utilities Commission, 2016.
[25] MidAmerican Energy Company, *South Dakota Energy Efficiency Plan 2013-2017*, Docket GE15-004, 2015, p. 2.
[26] Berkshire Hathaway Energy, Co., *Berkshire Hathaway Energy, Co. 2016 Annual Report*, Form 10-K, 2017, pp. 16-247.
[27] NorthWestern Energy, *NorthWestern South Dakota DSM Program Budget Estimates*, Attachment 5, Year 2 Budget, Docket GE16-005, 2015. http://puc.sd.gov/commission/dockets/gaselectric/2015/ge15-002/attach5.pdf
[28] NorthWestern, *2016 Annual Report*, 2017, p. 47. http://www.northwesternenergy.com/docs/default-source/documents/investor/annualreport2016.pdf
[29] NorthWestern, *2016 Annual Report*, 2017, p. 9.
[30] Puget Sound Energy, *2016 Annual Report of Energy Conservation Accomplishments*, 2017, p. 16. https://pse.com/aboutpse/Rates/Documents/ees_2016_annual_rpt_energy_conservation_accomplishments.pdf
[31] PSE, *PSE Energy Company 2016 Annual Report*, (Form 10-K, 2017), p. 76. https://www.last10k.com/sec-filings/81100#sE6775C0EC3C0701028B050AD8640FC53.
[32] CenterPoint Energy, *2017-2019 Conservation Improvement Program Triennial Plan Filing*, Docket No. G008/CIP-16-119, 2016, pp. 6-7. https://www.edockets.state.mn.us/EFiling/edockets/searchDocuments.do?method=showPoup&documentId=%7BD08395C8-A2FB-4701-B8BB-1EB0491FF29F%7D&documentTitle=20166-121869-01
[33] Consumers Energy, *Consumers Energy Annual Report*, 2016, p. i. http://s2.q4cdn.com/027997281/files/doc_financials/consumers_annual_reports/2016-Consumers-Energy-Annual-Report.pdf

- In 2016, Michigan-based DTE's gas segment invested $21.7 million in energy efficiency programs or 1.6% of GOR.[34]
- In 2017, Nicor Gas in Illinois has a savings target of 1.12% of sales, reaching 1.2% in 2019.[35] This represents approximately 2% of GOR.[36]
- In 2016, Peoples Gas and North Shore Gas in Illinois achieved a combined gas savings of 5.7 million therms with energy efficiency expenditures totaling $19 million dollars.[37] [38] In 2017, their total energy efficiency program budgets represent approximately 1.4% of GOR.[39]

We look forward to seeing the Company's energy efficiency budgets and program participation grow over the coming years, especially in the low-income sector.

Q. Does this conclude your testimony?

A. Yes it does.

[34] DTE Energy Company, *DTE Energy Company 2016 Annual Report* (Form 10-K, 2017), pp.10 and 34. http://ir.dteenergy.com/phoenix.zhtml?c=68233&p=irol-sec_MichCon

[35] Nicor Gas, *Nicor Gas Ex. 1.1*, (Energy Efficiency Plan, 2016), Docket no. 16-0421, p. 22. https://icc.illinois.gov/docket/CaseDetails.aspx?no=16-0421

[36] Public Utilities Bureau Illinois Commerce Commission, *ILLINOIS COMMERCE COMMISSION Illinois Gas Utilities Comparison of Gas Sales Statistics For Calendar Years 2016 and 2015*, 2017, https://icc.illinois.gov/reports/report.aspx?rt=24 , p. 15.

[37] North Shore Gas, *North Shore Gas Report*, 2017, Docket no 13-0550. https://icc.illinois.gov/docket/CaseDetails.aspx?no=13-0550

[38] Peoples Gas, *Peoples Gas Report*, 2017, Docket no. 13-0050. https://icc.illinois.gov/docket/CaseDetails.aspx?no=13-0550

[39] Peoples Gas, *NS-PG Ex 1.3, People's Gas Plan 3*, 2016, Docket no.16-0466. https://icc.illinois.gov/docket/CaseDetails.aspx?no=16-0466

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the Matter of Union Electric Company	)	File No. GR-2019-0077
d/b/a Ameren Missouri's Tariffs to Increase	)	Tracking Nos. YG-2019-0112
Its Revenues for Natural Gas Service	)	YG-2019-0113

AFFIDAVIT OF ANNIKA BRINK

CITY OF WASHINGTON,	)	
	)	**SS**
DISTRICT OF COLUMBIA	)	

Annika Brink, of lawful age and being first duly sworn on her oath, states:

1. My name is Annika Brink. I work in the City of Washington, District of Columbia and I am employed by The National Housing Trust as its Midwest Director of Energy Efficiency Policy.

2. Attached hereto and made a part hereof for all purposes is my Direct Testimony on behalf of The National Housing Trust, which has been prepared in written form for introduction into evidence in the above-referenced docket before the Missouri Public Service Commission.

3. I hereby swear and affirm that my answers contained in the attached testimony to the questions therein propounded are true and correct.

/s/ Annika Brink
Annika Brink

Subscribed and sworn to me this 19th day of April, 2019

/s/ Emily Schamberger
Notary Public

My commission expires: 5-31-22

EMILY SCHAMBERGER NOTARY PUBLIC DISTRICT OF COLUMBIA MY COMMISSION EXPIRES 5/31/2022