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TESTIMONY

OF

ANNIKA LYNN BRINK

ON

BEHALF OF

NATIONAL HOUSING TRUST

September 7, 2017

Q. Please state your name and business address.

A. Annika Lynn 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).

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

A. I am employed by the National Housing Trust (NHT) as their Energy Efficiency Advisor. 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 seven years of professional experience with energy policy, affordable housing, and green building, both from an energy and a housing perspective. In my work for NHT, 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, Minnesota, and Kansas. From 2011 to 2013, I led the nonprofit Alliance to Save Energy's engagement of publicly-owned not-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. 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.

I have specific experience working on energy efficiency issues in Missouri. In 2014-2015, I provided input as a member of the energy usage stakeholder group for the Missouri Division of Energy's State Energy Plan. Since 2014, I have helped to organize a series of convenings in the St. Louis and Kansas City metro areas to explore the experiences, barriers, solutions, and potential recommendations related to expanding energy efficiency for affordable multifamily housing in Missouri and Illinois. Based on a White Paper[1] produced from discussions that occurred at several of these convenings (attached as Appendix 1), I helped to develop and advocate for the approved low-income multifamily efficiency programs as part of Ameren Missouri and Kansas City Power & Light's energy efficiency portfolio cases, approved pursuant to the Missouri Energy Efficiency Investment Act ("MEEIA"). Since the programs' approval, I have continued to engage with these utilities and their stakeholders to further address barriers to expanding energy efficiency opportunities for low-income and multifamily customers in Missouri.

Q. Have you previously testified before this Commission?

A. Yes, I submitted testimony in Ameren Missouri's MEEIA case (File No. EO-2015-0055).

Q. Please summarize your testimony.

A. First, I outline what the Companies' proposed rate increases would mean for low-income and low-income multifamily customers, describing the size of the low-income multifamily population in the Companies' territories 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 express support for the Companies' low-income multifamily programs and describe the barriers

[1] *Scaling Up Energy Efficiency in in Missouri and Illinois Multifamily Affordable Housing*, April 2015. http://energyefficiencyforall.org/sites/default/files/EEFA%20IL.MO_.pdf

facing these programs. I outline best practices for overcoming these barriers and propose changes to the Companies' proposed program designs in order to better serve affordable multifamily buildings. Last, I compare the Companies' proposed/approved energy efficiency spending to that of other natural gas utilities.

Throughout this testimony, I will use "the Companies" to refer to Laclede Gas Company and Missouri Gas Energy. Alternatively, I will use "Laclede" or "MGE" to refer to the individual business units.

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

A. In their Tariff Revisions (YG-2017-0195 and YG-2017-0196), the Companies indicate that the average residential Laclede customer will pay 5% or $42 more annually vs. current rates and the average residential MGE customer will pay 9.1% or $67 more annually vs. current rates.[2] Contrast these proposed increases with Missouri's poverty rate, which is 15.5%, and with its child poverty rate of over 21%. The poverty rate in St. Louis City is an astonishing 28.8%.[3] These are the numbers for individuals below 100% of the federal poverty level: a family of four must make $24,250 or less to fall below this threshold. 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. Nationally, Missouri ranks 22nd: in the bottom half of states in terms of poverty rate (#1 being the worst).[4] It is difficult for low-income and low-income multifamily households to absorb these types of bill increases, because they are already facing high housing and

[2] Tariff Revisions YG-2017-0195 p. 141 and YG-2017-0196 p. 236.
[3] Missouri Community Action, *2016 State of the State Poverty in Missouri*, data drawn from U.S. Census, February 2016, pp. 3-5. http://www.communityaction.org/2016-poverty-report/
[4] Missouri Community Action, p. 11.

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 Companies' service territories and what are the levels of housing and energy burden facing these households?

Across Spire's territory, there are approximately 199,058 households (12% of all households) living in affordable multifamily buildings of three or more units. This is shown in the following table, along with the number of units in buildings of five or more units, an alternative definition of multifamily. A more detailed table and notes on methodology are included in Appendix 2. It should be noted that not all affordable multifamily units in Spire's territory are served by natural gas: later energy savings estimates take this into account.

Table 1: Affordable Multifamily Unit Counts for Laclede and MGE Territories[5]

	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
Laclede	903,304	158,183	82,420	75,763	212,618	109,104	103,514
MGE	784,434	122,441	41,087	81,354	152,384	56,840	95,544
Spire (LAC + MGE)	1,687,738	280,624	123,507	157,117	365,002	165,944	199,058

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

[5] 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

requirements), and unsubsidized housing (privately owned, but without affordability restrictions, and affordable by virtue of market forces).

Fully 45% of renters in Spire's Missouri service territories spend more than 30% of their income on rent plus utilities, the federal standard for housing affordability.[6] According to the U.S. Department of Housing and Urban Development, such households "may have difficulty affording necessities such as food, clothing, transportation and medical care."[7]

Low-income multifamily households face a higher energy burden than non-low-income households. A 2016 report by Energy Efficiency for All and ACEEE found that low-income multifamily households in the Kansas City metropolitan area had a median energy burden of 6.4%, compared to just 4.5% for the median household in the Kansas City metropolitan area. This means that the median low-income multifamily household spends 6.4% of its gross income on energy utility spending, the 10th worst energy burden for this group across the 48 large U.S. cities studied. For the St. Louis metropolitan area these numbers are 6.3% and 4.1%, respectively, ranking St. Louis' low-income multifamily households with the 11th worst energy burden. Cities where the median low-income multifamily household has a lower energy burden include Chicago, Oklahoma City, Louisville, Milwaukee, Cincinnati, Cleveland, Detroit, and Minneapolis.[8] In both the Kansas City and the St. Louis metro areas, a quarter of low-income multifamily households experience energy burdens topping 11% (12.87% for Kansas City and 11.08% for St. Louis).[9]

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

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[6] U.S. Census Table B25070. *2011-2015 American Community Survey 5-Year Estimates.* Analysis conducted for Census tracts matched to Laclede and MGE service territories based on 2014 Platts geospatial data.
[7] 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/
[8] 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. 46. http://www.energyefficiencyforall.org/sites/default/files/Lifting%20the%20High%20Energy%20Burden_0.pdf
[9] Drehobl and Ross, Table C1, p. 47.

A. The Energy Efficiency for All/ACEEE report cited above found that energy efficiency was key to alleviating these high energy burdens: "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."[10] 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 Companies 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 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.[11] 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 Laclede and MGE 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

[10] Drehobl and Ross, p. 19.
[11] Pivo, Gary, *Unequal access to energy efficiency in US multifamily rental housing: opportunities to improve*, 2014. Building Research & Information, 42:5, pp. 551-573.

usage sector-wide across their territories in 2034.[12] 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 (more on NEBs later in this document). As the table below outlines, Spire could be achieving, conservatively, 3.1 BBtu of first-year energy savings annually in low-income multifamily buildings. 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 Companies' proposed low-income multifamily programs.

Table 2: Gas Maximum Achievable Savings Estimates, Optimal Energy, 2015[13]

		Cumulative Savings			Savings % of Total Usage		
		Year 1	Year 5	Year 20	Year 1	Year 5	Year 20
Laclede	Max Achievable, No NEBs (Gas BBtu)	1.5	17.9	197.5	0.1%	1.5%	17.0%
	Max Achievable, High NEBs (Gas BBtu)	3.3	30.5	276.2	0.3%	2.6%	23.8%
MGE	Max Achievable, No NEBs (Gas BBtu)	1.6	19.7	217.7	0.1%	1.6%	17.4%
	Max Achievable, High NEBs (Gas BBtu)	3.6	33.6	304.3	0.3%	2.7%	24.4%

Furthermore, the Companies' low-income multifamily energy efficiency investments would return $1.80 to $2.60 in benefits for every $1.00 invested, resulting in $21.1 million to $74.3 million in *net* benefits over 20 years. In order to achieve these results, the Companies would need to invest an average of between $1.29 million (for low-end net benefits) and $2.31 million (for high-end net benefits) in low-income multifamily energy efficiency each year for 20 years.

[12] 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

[13] Mosenthal, P. and Socks, M.,

Table 3: Costs and Benefits for Gas Maximum Achievable Savings Scenarios, Optimal Energy, 2015[14]

		Total Costs (Million 2015$)	Total Benefits (Million 2015$)	Net Benefits (Million 2015$)	BCR
Laclede	Max Achievable, No NEBs	$12.4	$22.4	$10.0	1.8
	Max Achievable, High NEBs	$22.3	$57.5	$35.2	2.6
MGE	Max Achievable, No NEBs	$13.3	$24.5	$11.1	1.8
	Max Achievable, High NEBs	$24.0	$63.1	$39.1	2.6
Spire	Max Achievable, No NEBs	$25.7	$46.9	$21.1	1.8
	Max Achievable, High NEBs	$46.2	$120.6	$74.3	2.6
	Max Achievable, No NEBs, average annual	$1.29	$2.34	$1.06	n/a
	Max Achievable, High NEBs, average annual	$2.31	$6.03	$3.72	n/a

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

A. Based on the above analysis, *I am proposing that the Companies spend $1.29-$2.31 million annually on low-income multifamily energy efficiency*. 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. 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.

[14] Mosenthal, P. and Socks, M.,

Q. Do you support Laclede and Missouri Gas Energy's current and proposed tariffs to deliver energy efficiency to low-income multifamily households in their service territories? Please explain.

A. The National Housing Trust applauds the Companies' commitment to serving this chronically underserved and traditionally overlooked sector. In general, we support the Companies' proposed low-income multifamily programs, which contain many best practice design elements, though there are a few program design improvements that should be made in order to better serve low-income multifamily customers. This is especially the case if the Companies implement their proposed Rate Stabilization Mechanism, which should be paired with a vigorous ramp-up of energy efficiency investment. At a minimum, the Companies should meet their 0.5% of Gross Operating Revenues goals. As noted above, we recommend low-income multifamily energy efficiency spending of $1.29 to $2.31 million annually vs. the Companies' current combined annual budget of $791,000 for this sector.

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.[15] These are costs that would otherwise have been passed on to customers.

Free or low-cost low-income offerings 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

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

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.[16]

Q. You indicate that low-income multifamily buildings should be served by targeted programs. Do you support Laclede and MGE's approach to serving low-income multifamily buildings via stand-alone Income-Eligible Multi-Family programs administered jointly with the local electric utilities, Ameren and KCP&L?

A. Yes. The National Housing Trust commends Laclede and MGE for proposing distinct "Income-Eligible Multi-Family" offerings that are specifically targeted to multifamily buildings. And, co-delivery with local electric utilities is a key step in simplifying program participation for multifamily buildings. Targeted programs and co-delivery are two best practices 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 Laclede and MGE 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?

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 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

[16] 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

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. Are there any differences between the proposed Laclede "Multi-Family Low Income Program" and MGE "Income-Eligible Multi-Family Direct Install" program and, if so, which program's features more closely follow best practices?

A. There are differences. For the sake of consistency for owners and property managers with properties across both service territories, the programs should be as uniform as possible across the two territories. I draw here from tariff documents (Laclede: effective August 18, 2017. MGE: effective May 11, 2017); after each item I offer my recommendation:

1. EDUCATION: Only Laclede's program description mentions education about energy efficiency measures, with this education directed toward residents. Recommendation: Education is a positive feature. It should also include education of building operators and apply to both multifamily programs, not only Laclede's.
2. DIRECT INSTALL MEASURE LIST: Both program descriptions list programmable thermostats, low-flow faucet aerators, low-flow showerheads, and insulating water-heating pipe wrap as eligible direct install measures, but only Laclede's program description mentions furnace clean & checks. Recommendation: For consistency, and in order to maximize energy savings opportunities, the direct install measure lists should be as uniform as possible between the two programs. Thus, MGE's program should also include furnace clean & checks.
3. SAVINGS BEYOND DWELLING UNITS: Only MGE's program description states an intent to deliver savings in "shared common areas." Laclede's program description instead states only its intent to install measures "within income qualified dwelling units." Recommendation: As explored below, both programs should deliver savings in and beyond dwelling units, to include common areas. Laclede's tariff should be changed to match MGE's language.
4. CUSTOM MEASURES: Only MGE's program description outlines procedures for participating buildings to access custom measures. Recommendation: As explored below, in order to maximize the opportunity when they have an owner's attention, both programs

should seek to deliver savings wherever they can be found. Laclede's tariff should be changed to match MGE's language.

Otherwise, the two multifamily program designs appear to be identical.

Q. Are the proposed Laclede "Multi-Family Low Income Program" and MGE "Income-Eligible Multi-Family Direct Install" programs designed to overcome the barriers experienced in the low-income multifamily sector?

A. To answer this question, I will draw on the National Housing Trust's experience as well as the two best practice reports above. Laclede's "Multi-Family Low Income Program" and MGE's "Income-Eligible Multi-Family Direct Install" programs, henceforth "the multifamily programs," represent a solid start in serving this sector, incorporating several best practices for serving low-income multifamily buildings, but leaving room for immediate improvement and future growth.

We cannot praise the Companies strongly enough for the following program design decisions, which we strongly support and consider to be best practice:

1. A program targeted specifically to low-income multifamily buildings;
2. Joint delivery of electric and gas efficiency offerings;
3. In-unit and common area upgrades provided via a single program (MGE only);
4. Access to custom incentives in order to drive savings regardless of the specific measure (MGE only);
5. Integration of direct installation and other incentive offerings (MGE offers direct install, residential, and commercial/custom; per the Companies' response to NHT DR 010 it seems Laclede only offers direct install plus "residential" incentives).
6. Allowing participation by mixed-income properties.

Q. In what ways could Laclede and MGE improve low-income multifamily program design to be more in line with established best practices?

A. There are a few areas where we think the Companies could 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—across both the Laclede and MGE programs.

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. It is encouraging to see that MGE's tariff highlights the multifamily program's inclusion of direct install, common area, and custom measures. The Companies' response to NHT Data Request 011 further clarifies that buildings can access MGE residential rebates. While the Companies' response to NHT Data Request 010 clarifies that buildings can access Laclede residential rebates, Laclede's tariff does not indicate that it offers common area or custom rebates. In response to NHT Data Request 013 the Companies state: "Laclede is also looking at ways to work with Ameren to let customers know about our non-direct install incentives." It is important for Laclede to prioritize a whole-building approach internally and to reach agreement with Ameren on how to make it easy for owners to access all relevant Laclede rebates via the multifamily program—not only residential, but also commercial and custom.

2. Expand list of rebated measures to include specific measures with proven results in low-income multifamily buildings.

Part of a whole-building approach is trying to incentivize savings no matter their source. We applaud the Companies' openness to expanding the list of measures they incentivize: **"**We are also open to additional suggestions by NHT and other parties on other energy efficiency measures that we could

consider for future implementation."[17] The Companies should regularly assess potential additions to its lists of residential and commercial rebates (both of which apply to multifamily buildings). Specifically, the Companies should consider offering rebates for fiberglass pipe wrap, as well as other measures being incentivized by their peers. For example, Consumers Energy in Michigan believes that furnace tune-ups, direct hot water boiler tune-ups, and certain envelope measures are cost-effective for multifamily, including ENERGY STAR® doors and windows, airtight can lights, duct sealing, and roof insulation.[18]

3. Lift the limits on the number of rebates and on the dollar amount that a commercial customer can receive during a program year.

Both Companies propose limiting "owners of multiple individually metered dwelling units […] to a maximum of 250 heating system rebates (furnace or boiler), 250 water heater rebates, or 250 combination unit rebates, and 250 thermostat rebates during one program year."[19] They also state that "During a program year, a commercial or industrial customer's total rebate is limited to $100,000."[20] The 250-rebate caps are a vast improvement over previous 50-rebate caps, but we question why these caps are necessary at all.

Given the difficulty of getting multifamily owners' attention, and the rareness of substantial rehabilitation projects, we encourage the Companies to maximize the energy savings opportunities within these buildings, rather than erect barriers to once-every-20-years chances 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. Eliminating dollar amount caps also becomes more important if prescriptive incentive levels are increased.

[17] Response to NHT Data Request 014.
[18] Consumers Energy, *2017 Multifamily Program Catalog*. Please note that in 2017 low-income buildings received incentives 50% higher than those listed in this catalog.
https://www.consumersenergy.com/~/media/CE/Documents/Energy%20Efficiency/multifamily-catalog.ashx?la=en
[19] Tariff Revisions YG-2017-0195 (Laclede) p. 105 and YG-2017-0196 (MGE) p. 200.
[20] Tariff Revisions YG-2017-0195 (Laclede) p. 114 and YG-2017-0196 (MGE) p. 209.

4. 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.

In each of the past three program years, the Companies have only spent 60% to 79% of their energy efficiency budgets and have done particularly poorly at spending their low-income multifamily budgets—never spending more than 21%.[21] While some of the multifamily shortcomings can certainly be attributed to difficulties finalizing co-delivery contracts with Ameren and KCP&L, chronic underspending of portfolio budgets provides evidence that program design changes are needed as well.

NHT worked with partners to research the total cost, including both equipment and labor, of seven representative, multifamily-relevant measures from the list of rebates currently offered by the Companies. 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 Spire is proposing to offer.

[21] Response to NHT Data Requests 003 and 004.

Table 5: Companies' Proposed Rebate Levels vs. Total Average Costs, and NHT's Recommended Rebate Levels

Equipment	Efficiency	Companies		NHT Research and Recommendations			
		Proposed Residential Rebate	Proposed Commercial Rebate	Total Cost Average from Contractors & CDCs	Companies' Rebate % of Total Cost	Recommended Rebates (two alternative strategies)	
						Cover 30% of Total Cost	Triple Current Rebates
Gas Furnace	> or equal to 92% AFUE	$200	$200	$2,800	7%	$840	$600
Gas Furnace	> or equal to 96% AFUE	$300	N/A	$3,400	9%	$1,020	$900
Gas Storage Water Heater (20-55 gallons)	EF > or equal to 0.67	$200	N/A	$1,500	13%	$450	$600
Gas Storage Water Heater (55-100 gallons)	EF > or equal to 0.77	$350	N/A	$2,000	18%	$600	$1,050
Gas Instantaneous Water Heater (< 2 gallons)	EF > or equal to 0.82	$300	$300	$2,000	15%	$600	$900
Gas Space Heating/Water Boiler 300-5,000 MBH	> or equal to 85% AFUE	N/A	$2.50/MBH	$55/MBH	5%	$16.50/MBH	$7.50/MBH
Gas Space Heating/Water Boiler 300-5,000 MBH	> or equal to 92% AFUE	N/A	$3.00/MBH	$65/MBH	5%	$19.50/MBH	$9.00/MBH

The Companies' rebates cover only a small percentage of the total cost of purchasing and installing efficient equipment, 10% on average based on our research, and that is not enough to motivate affordable multifamily owners to consider early replacement of 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 the low-income multifamily programs* would also help to ensure that the Companies meet their spending targets. As noted above, in each of the past three program years, the Companies have failed to spend more than 21% of their low-income multifamily budgets. We believe that incentive levels have played a role in this by limiting customer demand.

We recommend that the Companies 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. Alternately, the Companies could triple incentives across the board to raise the estimated average cost coverage from 10 to 30%.

5. <u>Provide properties that are undergoing financing/re-financing with a 36-month window for implementation of measures after pre-approval.</u>

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. However, this starts a clock ticking that will only end when construction has been completed and inspected. The utilities' current 6-month window for measure implementation after pre-approval is insufficient for substantial rehabilitation projects of this scale: applying for tax credits, being selected, pulling together the requisite additional financing, and completing construction more typically takes 24 months from the initial design phase when an energy audit would be completed—and more if there are construction delays or if tax credits are not awarded in the first year during which the owner applies.[22]

[22] "All measures that receive pre-approval must be implemented / installed within six (6) months of the date of pre approval, and all invoice(s) and other required project documentation must be submitted within eight (8) months of the date of pre-approval." Tariff Revisions YG-2017-0195 (Laclede) p. 114 and YG-2017-0196 (MGE) p. 209.

Q. What is your opinion of the Companies' decision to offer their low-income multifamily energy efficiency programs only in properties jointly served by Ameren or KCP&L—and the implications this has for the size of the program?

A. We strongly support the Companies' decision to seek energy savings via jointly-delivered programs: it is preferable to go deep in fewer buildings rather than conduct cream-skimming across a larger number of buildings. Two things are important in terms of program size. First, for the aforementioned reasons regarding difficulty in gaining owners' attention, the Companies should allocate sufficient budget to serve efficiency to *every* gas-served building coming through the Ameren and KCP&L multifamily programs. Second, and for the same reasons, the Companies should allocate sufficient budget to deliver as *deep* of savings as possible in each of these properties. This means delivering not only direct install savings, but in addition regularly awarding rebates for in-unit and common area prescriptive and custom measures. The potential study cited earlier in this testimony provides evidence that the savings opportunities are plentiful: while co-delivery is a great start, the Companies also need to allocate sufficient budget and improve program design in order to unlock these savings (see previous section). Later, as the programs mature, we expect the Companies to consider the best way of expanding beyond the shared Ameren and KCP&L territories.

Q. How do the Companies' proposed/approved energy efficiency budgets compare to those of other natural gas utilities?

A. As outlined on page 123 of the Companies' Tariff Revisions submitted on April 11, 2017: "The rates established in Case Nos. GR-2017-0215 and GR-2017-0216 include an allowance in rates of $2,033,354 for LAC and $1,794,361 for MGE to fund ongoing energy efficiency program expenditures." The utilities are working toward a goal of annual energy efficiency spending comprising 0.5% of Gross Operating Revenues for the prior three years averaged. Laclede target funding for the 2016 program year

was $2,679,910 relative to actual spending of $2,101,920.[23] MGE target funding for the 2016 program year was $2,567,871 relative to actual spending of $1,861,118.[24] Actual spending represents 0.39% and 0.36% of GOR for Laclede and MGE, respectively.

Compared to many of their peers, Laclede and MGE are already budgeting 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 their GOR for that year.[25] [26]
- MidAmerican in South Dakota invested 1.34% of GOR in demand side programming in 2016 equaling a $1.1 million expenditure.[27] [28]
- NorthWestern of South Dakota committed 1.38% of GOR to demand side programs in 2016.[29] [30]
- NorthWestern of Montana invested 1.16% of GOR in demand side programs in 2016.[31]
- Puget Sound Energy in Washington invested 1.53% of GOR or $13.6 million in energy efficiency in 2016.[32] [33]

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.

[23] Response to NHT Data Request 003 - *Laclede EEC Quarterly Report-FY2016-4Q_with 2016 Summary*.
[24] Response to NHT Data Request 004 - *MGE EEC Quarterly Report - FY2016-4Q*.
[25] Columbia Gas of Ohio, Inc., *Columbia Gas of Ohio 2016 Annual Report*, p. 64.
[26] Schilling, Matt. *PUCO approves Columbia Gas of Ohio's energy efficiency programs*, Press Release, Ohio Public Utilities Commission, 2016.
[27] MidAmerican Energy Company, *South Dakota Energy Efficiency Plan 2013-2017*, Docket GE15-004, 2015, pg. 2.
[28] Berkshire Hathaway Energy, Co., *Berkshire Hathaway Energy, Co. 2016 Annual Report*, Form 10-K, 2017, pp. 16-247.
[29] 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
[30] NorthWestern, *2016 Annual Report*, 2017, pg. 47. http://www.northwesternenergy.com/docs/default-source/documents/investor/annualreport2016.pdf
[31] NorthWestern, *2016 Annual Report*, 2017, pg. 9.
[32] 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
[33] PSE, *PSE Energy Company 2016 Annual Report*, (Form 10-K, 2017), p. 76. https://www.last10k.com/sec-filings/81100#sE6775C0EC3C0701028B050AD8640FC53

- In Minnesota, CenterPoint Energy will commit 4.01% of GOR in 2017 to energy efficiency, increasing to 4.24% of GOR by 2019.[34]
- Consumers Energy in Michigan had a planned investment of $47.2 million in 2016, approximately 2.8% of GOR.[35]
- In 2016, Michigan-based DTE's gas segment invested $21.7 million in energy efficiency programs or 1.6% of GOR.[36]
- In 2017, Nicor Gas in Illinois has a savings target of 1.12% of sales, reaching 1.2% in 2019.[37] This represents approximately 2% of GOR.[38]
- 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.[39] [40] In 2017, their total energy efficiency program budgets represent approximately 1.4% of GOR.[41]

We look forward to seeing the Companies' energy efficiency budgets and program participation grow over the coming years, especially in the low-income sector. We hope the Energy Efficiency Collaborative will support the Companies in a growth trajectory by gradually raising its percent of GOR goals.

Q. Does this conclude your testimony?

A. Yes it does.

[34] 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

[35] 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

[36] 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

[37] 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

[38] 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.

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

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

[41] 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.