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Equitable Energy Efficiency Baseline
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Case No.: EO-2018-0211

SURREBUTTAL TESTIMONY

OF

GEOFF MARKE

Submitted on Behalf of
the Office of the Public Counsel

UNION ELECTRIC COMPANY D/B/A AMEREN MISSOURI

CASE No. EO-2018-0211

September 17, 2018

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GEOFF MARKE

UNION ELECTRIC COMPANY

d/b/a Ameren Missouri

CASE NO. EO-2018-0211

1 **I. INTRODUCTION**

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

3 A. Geoffrey Marke, PhD, Chief Economist, Office of the Public Counsel (“OPC”), P.O. Box
4 2230, Jefferson City, Missouri 65102.

5 **Q. Are you the same Geoff Marke that filed rebuttal testimony?**

6 A. Yes.

7 **Q. What is the purpose of your surrebuttal testimony?**

8 A. To respond to the rebuttal testimony of other parties regarding:

- 9
 - Cost-Effectiveness Tests
 - 10 ○ Missouri Division of Energy (“DE”) witness Martin R. Hyman
 - 11 • Equitable Energy Efficiency Baseline (“E3b”)
 - 12 ○ Consumer Council of Missouri (“CCM”) witness Cara Spencer

13 **II. COST-EFFECTIVENESS TESTS**

14 **Q. What is DE’s position?**

15 A. DE witness Hyman makes five suggested modifications to Ameren Missouri’s application.
16 They are paraphrased as follows:

- 17
 1. Quantify non-energy benefits (“NEBs”) and include them in recalculated Total
18 Resource Cost Test (“TRC”) scores;
 - 19 2. Perform a Societal Cost Test (“SCT”) with quantified NEBs and a lower discount rate;
 - 20 3. Recalculate the portfolio-level TRC and Utility Cost Test (“UCT”) with no low-income
21 or general education program costs;

- 1 4. Take the results from 1-3 above, to produce new savings opportunities;
- 2 5. Ameren Missouri should amend its application to include multiple on-bill tariff, on-bill
- 3 financing, and/or on-bill repayment products; and
- 4 6. Create a “new way” to evaluate new program options.

5 Mr. Hyman also recommends that the Commission amend its MEEIA rules so that they are
6 consistent with his aforementioned recommendations.

7 **Q. What is the basis for Mr. Hyman’s recommendations?**

8 A. Mr. Hyman’s testimony relies heavily on the National Efficiency Screening Project’s white
9 paper: *National Standard Practice Manual for Assessing Cost-Effectiveness of Energy*
10 *Efficiency Resources* (“NSPM”) and his interpretation of the MEEIA statute.

11 **Q. Do you believe that Mr. Hyman accurately characterized the MEEIA statute?**

12 A. No. On that point, I will provide further comment later in this testimony.

13 **Q. Do you believe that Mr. Hyman accurately characterized the NSPM white paper?**

14 A. In part. The NSPM white paper attempts to articulate “universal principles” for demand-side
15 management valuation in the form of a “Resource Value Framework (“RVF”).” Unlike the
16 traditional California Cost Effective tests, the RVF would instead be a “living” framework that
17 could be tailored and adapted to each State’s unique policy goals. What Mr. Hyman failed to
18 properly convey is that the NPSM framework was never meant to be the sole consideration on
19 the proper valuation of a given energy efficiency portfolio. Importantly, the NSPM white paper
20 poses a section titled “Questions the RVT Does and Does Not Answer” which states:

21 The primary RVT can be used to answer the fundamental question of which
22 resources have benefits that exceed their costs, where the benefits and costs
23 are defined by the applicable policy goals of a jurisdiction and developed
24 via Framework 7-step process. With this Framework, the resource
25 investment decision question is addressed in a comprehensive and
26 transparently documented manner.

1 **Regulators and decision-makers typically need to answer a second**
2 **critical question: how much utility customer funding should be spent**
3 **on EE resources?** The primary cost-effectiveness test is necessary but may
4 not be sufficient for answering this second question, **which requires**
5 **consideration of jurisdiction-specific factors through a process such as**
6 **integrated resource planning or rate proceedings** (emphasis added).¹

7 **Q. Did Mr. Hyman’s recommendations consider jurisdiction-specific factors through a**
8 **process such as integrated resource planning or rate proceedings?**

9 A. No. Mr. Hyman instead rests his recommendations solely on emphasizing “benefits” at the
10 exclusion of any cost or resource-need considerations. As such, much of his testimony is
11 greatly misplaced. I will respond to each of his recommendations in turn as well as comments
12 made regarding jobs and “all cost-effective demand-side savings.”

13 **Q. Putting aside Mr. Hyman’s recommendations, do you agree with the NPSM’s “Resource**
14 **Value Framework?”**

15 A. No. The issue I take with the NSPM framework is the one-sidedness of its approach. For some
16 parties, there exists a strong presumption that if an investments costs outweigh its benefits, then
17 we just “find” more benefits. Stated differently, if the inputs surrounding the test proves the
18 investment is too costly, than simply change the inputs. That philosophy underscores the fault
19 I find with the NSPM “Resource Value Framework” in that it appears to be a “catch-all”
20 methodology created to justify any ratepayer-funded investment. This is a dangerous line of
21 thinking in that any conceptual normative benefit, whether directly measurable or not, is used
22 to justify further investment and ratepayer expense. Therefore, it is unreasonable to expect
23 captive ratepayers to continually subsidize select participants for infinitely rising “benefits,” as
24 if real monetary costs could/should be offset by nebulous benefits selectively enjoyed (e.g., the

¹ NESP (2017) National Standard Practice Manual for Assessing Cost-Effectiveness of Energy Efficiency Resources
Edition 1 Spring 2017. https://nationalefficiencyscreening.org/wp-content/uploads/2017/05/NSPM_May-2017_final.pdf p. 5.

benefits gained from “an improved sense of self-sufficiency” by investing in an efficient toaster is worth some arbitrary dollar amount to offset a real tangible cost).

Non-Energy Benefits

Q. What are Non-Energy Benefits (“NEBs”)?

A. NEBs are hard-to-quantify attributes enjoyed by participants in an energy efficiency program.

I have reprinted the table of examples from the NPSM white paper in Table 1 below.

Table 1: Reprint of Participant Non-Energy Benefits²

Category	Examples
Asset value	<ul style="list-style-type: none">• Equipment functionality/performance improvement• Equipment life extension• Increased building value• Increased ease of selling building
Productivity	<ul style="list-style-type: none">• Reduced labor costs• Improved labor productivity• Reduced waste streams• Reduced spoilage/defects• Impact of improved aesthetics, comfort, etc. on product sales
Economic well-being	<ul style="list-style-type: none">• Fewer bill-related calls to utility• Fewer utility intrusions & related transactions costs (e.g., shut-offs, reconnects)• Reduced foreclosures• Fewer moves• Sense of greater “control” over economic situation• Other manifestations of improved economic stability
Comfort	<ul style="list-style-type: none">• Thermal comfort• Noise reduction• Improved light quality
Health & safety	<ul style="list-style-type: none">• Improved “well-being” due to reduced incidence of illness—chronic (e.g., asthma) or episodic (e.g., hypothermia or hyperthermia)• Reduced medical costs (emergency room visits, drug prescriptions)• Fewer sick days (work and school)• Reduced deaths• Reduced insurance costs (e.g., for reduced fire, other risks)
Satisfaction/pride	<ul style="list-style-type: none">• Improved sense of self-sufficiency• Contribution to addressing environmental/other societal concerns

² Ibid, p. 55.

1 **Q. What is OPC's position on NEBs?**

2 A. For regulatory objectives, they are at best a distraction and at worst an exercise that will grossly
3 undermine efforts to value demand-side management practices on equivalent basis as supply-
4 side investments.

5 For several years now there has been a strong push from certain parties to quantify and include
6 NEBs in energy efficiency cost-effective tests. The thinking goes, that if NEBs are quantified
7 and monetized there will be more "benefits" and thus a higher overall ratio of benefits to costs
8 which would include measures that are excluded today. This begs a serious question as to what
9 the end-goal is here.

10 Let's assume for a second that Mr. Hyman's recommendation regarding NEBs are adopted and
11 Ameren Missouri spends ratepayer funds hiring "objective" third-party evaluators to quantify
12 and propose a valuation of increased benefits. Let's further assume that all parties agree
13 unanimously on the study's findings and how much NEBs are worth (an unlikely outcome)
14 and then for administrative ease, parties agree that there should be 15% adder to all cost-
15 effective ratios for *any* end-use measure to account for these NEBs. Finally, parties all agree
16 that the decision to include or exclude an end-use measure in the portfolio is dependent on the
17 portfolios ultimate cost-benefit ratio not the end-use measures specific ratio. This would mean
18 that even if an efficient measure scored below 1.0 with the 15% NEBs adder it could still be
19 subsidized if other measures in the portfolio are used to offset its score.

20 Such a scenario may play out as follows:

- 21 • The utility's MEEIA application has a cost-benefit ratio of 1.75;
- 22 • An efficient toaster has a cost-benefit ratio of 0.75;
- 23 • A 0.15 NEBs adder is included in this ratio, raising the toaster score to 0.90; but
- 24 • The inefficient toaster is included because the new MEEIA application ratio is lowered
25 to 1.60 and still above 1.0 overall even with the inclusion of the toaster.

26 The net result is that money would be redirected from promoting large energy and demand
27 savings items like HVAC's to toasters.

1 **Q. Is this a sound policy?**

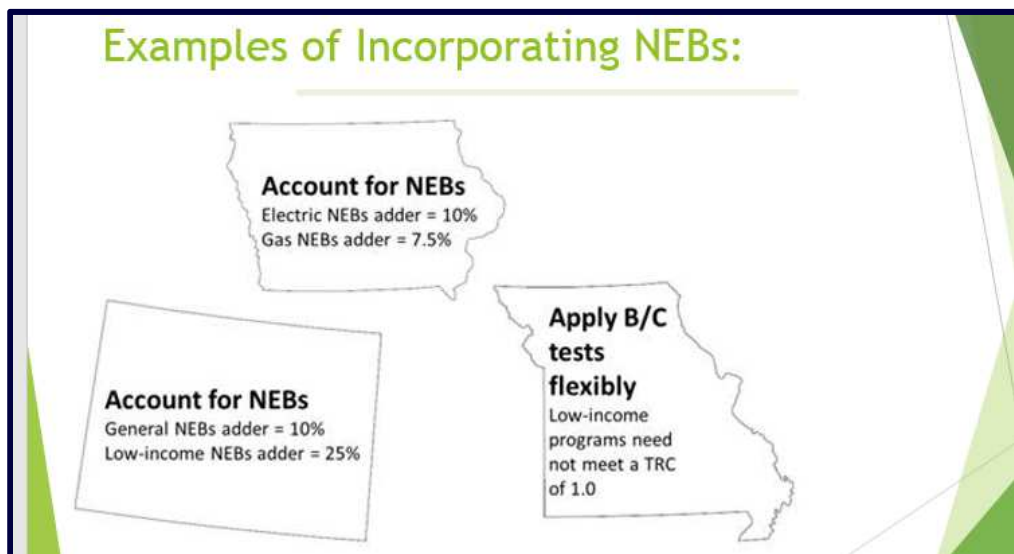
2 A. If the goal is to subsidize appliances or anything that requires electricity to function then it
3 *might* be.³ But it would come at the expense of other, more relevant goals that have been
4 expressed.

5 If the NEBs scenario were to play out then the MEEIA budget would deemphasize the
6 promotion of truly “cost-effective” measures at the expense of not very “cost-effective”
7 measures. In short, more of the finite budget would go to toasters than to HVACs. And more
8 investment would need to be made on the supply side in a shorter time frame. But the toaster
9 participant would indeed receive some increased level of utility from the transaction.

10 **Q. Can you point to another state that aggressively promoted NEBs?**

11 A. Iowa comes to mind as a state that utilized NEBs and was highlighted in a presentation by the
12 Natural Resource Defense Council (“NRDC”) at the statewide MEEIA collaborative on April
13 27, 2018 as shown in Figure 1.

14 Figure 1: Slide from NRDC NEBs PowerPoint to stakeholders⁴



15 ³ If the goal really was to promote the commerce of electric appliances then direct bulk payment transfers preferably through some sort of tax arrangement would be a more efficient manner to accomplish that objective rather than through the administrative burdensome and costly regulatory wealth transfer articulated above.

⁴ EW-2013-0519. Presentation-PowerPoint: Non-Energy Benefits-Statewide Collaborative- Laura Goldberg, NRDC April 24, 2018. Slide 12.

1 **Q. Is Iowa still utilizing NEBs?**

2 A. I do not believe so. Recently passed legislation in the form of Iowa Senate File 2311 now
3 provides for any customer to opt-out and imposes caps on annual portfolio costs to not
4 exceed two percent of the electric utility's expected annual retail rate revenue. Furthermore,
5 customers who have opted-out are not included in the expected annual retail rate revenue
6 calculation.⁵ According to MidAmerican Energy, customers will save \$84 million as a result
7 of the legislation with annual bill decreases of more than \$80.⁶ Reasonable minds might
8 wonder whether the NEBs adder helped spur the legislative action.

9 **Societal Cost Test**

10 **Q. Mr. Hyman recommends Ameren Missouri perform the Societal Cost Test ("SCT")**
11 **which would include NEBs and a lower discount rate. Do you agree?**

12 A. OPC has already stated its position regarding NEBs. Mr. Hyman's recommendation to include
13 a lower discount rate would not support the MEEIA statute which states:

14 It shall be the policy of the state to value demand-side investments equal to
15 traditional investments in supply and delivery infrastructure . . . ⁷

16 A lower discount rate would be below the utility's weighted average cost of capital and thus
17 value demand-side investments greater than traditional investments. But again, let's assume
18 the utility and all stakeholders agreed to Mr. Hyman's recommendation. What would be the
19 end result?

20 The SCT's ratio would be greater. That's it. Targets would not be increased and the
21 assumptions surrounding the IRP would not be any different. If Ameren Missouri were
22 required to study and quantify NEBs there would be additional consultant costs that ratepayers
23 would have to absorb, but there would be no material change to Ameren Missouri's application
24 because Missouri does not base its MEEIA applications on the SCT score. Some filed

⁵ Iowa Code §476.6 (2018). <https://www.legis.iowa.gov/legislation/BillBook?ga=87&ba=sf2311>

⁶ MidAmerican Energy Company (2018) Proposed energy efficiency plan benefits MidAmerican energy customers.
<https://www.midamericanenergy.com/news-article.aspx?story=862>

⁷ Section 393.1075.3 RSMo <http://revisor.mo.gov/main/OneSection.aspx?section=393.1075&bid=34794&hl=> (unless otherwise indicated, all citations to Missouri statutes correspond to the currently enacted 2018 code).

1 document with the Commission would have this amended score and certain parties may take
2 satisfaction in its existence, but it would not change the outcome of the application it would
3 merely be an academic exercise based on loose assumptions. To underscore the futility in this
4 exercise, OPC could find no mention of the Societal Cost Test in the MEEIA statute only that:

5 The commission shall consider the total resource cost test a preferred cost-
6 effectiveness test.⁸

7 **Re-calculated Portfolio Level Scores**

8 **Q. Mr. Hyman recommends Ameren Missouri recalculate the TRC and UCT tests to**
9 **exclude low-income and general education programs. Do you agree?**

10 A. OPC is largely indifferent to this recommendation. Again, a higher TRC or UCT score does
11 not translate into greater energy or demand savings targets. Omitting low income and general
12 education programs from the calculation will only serve to emphasize how those programs are
13 not cost effective and will likely undermine further support in those areas. OPC has historically
14 and continues to be of the opinion that all costs should be accounted for in any cost-benefit
15 analysis, including lost revenues and utility earnings opportunities. If the costs are realized on
16 ratepayer's bills then the costs should be realized in any calculation. Omitting those inputs
17 undermines the credibility of the application.

18 **NEBs + lower discount rates + recalculated cost-effective scores = new measures**

19 **Q. Mr. Hyman recommends that Ameren Missouri utilize the recalculated results from his**
20 **first three recommendations to produce new measures/programs. Do you agree?**

21 A. No. OPC supports demand-side management that meaningfully defers supply-side investment
22 and produces benefits to all customers. Mr. Hyman's recommendations will merely increase
23 subsidies for measures that produce fewer energy and demand savings to select participants.
24 Mr. Hyman's recommendations will also undermine MEEIA policy.

⁸ Ibid.

1 **Goal of MEEIA**

2 **Q. Mr. Hyman frequently states that it is the goal of the State of Missouri to achieve all cost-**
3 **effective demand-side savings. Do you agree?**

4 A. Yes. But, as stated above, I disagree with Mr. Hyman's interpretation of what all cost-effective
5 demand-side savings entails. Mr. Hyman's referenced section of the MEEIA statute states:

6 The commission shall permit electric corporations to implement
7 commission-approved demand-side programs proposed pursuant to this
8 section with a goal of achieving all cost-effective demand-side savings.⁹

9 Mr. Hyman omitted the sentence that follows, which states:

10 Recovery for such programs shall not be permitted unless the programs are
11 approved by the commission, result in energy or demand savings and are
12 **beneficial to all customers in the customer class** in which the programs
13 are proposed, **regardless of whether the programs are utilized by all**
14 **customers**. (emphasis added)¹⁰

15 To be considered a cost effective demand-side saving (i.e., a recoverable cost and benefit to
16 the utility) the action needs to result in energy or demand savings beneficial to all customers in
17 the customer class. That includes non-participants.

18 **On-Bill Financing and PAYS**

19 **Q. Mr. Hyman recommends that Ameren Missouri pursue multiple tracks of on-bill related**
20 **financing. Do you agree?**

21 A. Not in its entirety. OPC has supported and continues to support the PAYS method as a viable
22 deliverable to promote energy efficiency adoption for working class families. DE appears to
23 support this, but doubles down its recommendation by making a blanket recommendation for
24 Ameren Missouri to support multiple, ill-defined, on-bill financing options.

⁹ Ibid.

¹⁰ Ibid.

1 As DE is well aware, Ameren Missouri has already made a good faith effort to explore on-bill
2 financing arrangement in MEEIA Cycle II. That activity was shown to be both not cost-
3 effective and administratively burdensome. If DE has a specific model or financing
4 arrangement other than what has been explored, then OPC encourages DE to articulate exactly
5 what it is advocating for. As presently drafted, it is difficult to understand what more DE is
6 requesting here.

7 As stated in OPC's rebuttal testimony, we believe there are contractors who would move
8 forward with implementing a PAYS program and we intend to explore that option in the future
9 as the need to aggressively promote DSM activities arise.

10 **III. EQUITABLE ENERGY EFFICIENCY BASELINE**

11 **Q. What is CCM's recommendation regarding research on the E3b?**

12 A. CCM witness Spencer recommends that Ameren Missouri begin collecting data to
13 evaluate the equitable distribution of investments and benefits among Ameren Missouri
14 customers mirroring academic research undertaken for the Kansas City Power and Light
15 "Green Impact Zone" SmartGrid Demonstration.

16 **Q. Does OPC support this recommendation?**

17 A. Yes. Ms. Spencer's recommendation is both reasonable and appropriate. Such data will
18 help guide future policy and encourage fairness in the redistribution of costs associated
19 with energy efficiency programs.

20 **Q. Does this conclude your testimony?**

21 A. Yes