

**REBUTTAL TESTIMONY OF KAREN K. HOLBROOK
DIRECTOR, PORTFOLIO REGULATORY STRATEGY AND SUPPORT
DUKE ENERGY BUSINESS SERVICES LLC
ON BEHALF OF DUKE ENERGY INDIANA, LLC
CAUSE NO. 43955 DSM-7
BEFORE THE INDIANA UTILITY REGULATORY COMMISSION**

I. INTRODUCTION AND PURPOSE

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Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Karen K. Holbrook. My business address is 400 South Tryon Street,
Charlotte, North Carolina.

Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT CAPACITY?

A. I am employed by Duke Energy Business Services LLC (“Duke Energy Business
Services”), a service company affiliate of Duke Energy Indiana, LLC (“Duke Energy
Indiana” or “Company”) and a subsidiary of Duke Energy Corporation (“Duke Energy”),
as Director, Portfolio Regulatory Strategy and Support. In this capacity, I provide
services to Duke Energy Indiana, LLC and other regulated utility subsidiaries of Duke
Energy Corp.

**Q. ARE YOU THE SAME KAREN K. HOLBROOK THAT PRESENTED DIRECT
TESTIMONY IN THIS CAUSE IDENTIFIED AS PETITIONER’S EXHIBIT 1?**

A. Yes, I am.

**Q. WHAT IS THE PURPOSE OF YOUR REBUTTAL TESTIMONY IN THIS
PROCEEDING.**

A. I will respond to the testimony filed by Mr. John Haselden of the Indiana Utility
Consumer Counselor (“OUCC”) regarding our reconciliation in this proceeding.

1 Specifically, I will respond to Mr. Haselden's concerns that (1) the Company applied the
2 wrong values for avoided capacity costs; (2) that the avoided Transmission and
3 Distribution ("T&D") capacity cost estimates included in the calculations should be zero;
4 and (3) the Company should not be allowed to use halogen light bulbs as the baseline to
5 project future energy and demand savings.

6 **II. DUKE ENERGY INDIANA'S RECONCILIATION**

7 **Q. WHAT RELIEF IS DUKE ENERGY INDIANA SEEKING IN THIS**
8 **PROCEEDING?**

9 A. The Company is seeking approval of the reconciliation of costs for 2018 incurred
10 pursuant to the approved Order in Cause No. 43955 DSM-4 ("DSM-4"). DSM-4
11 approved Duke Energy Indiana's programs for 2017 through 2019 along with the
12 program cost, lost revenue and shareholder incentive recovery framework as described
13 below.

14 **Q. IS THIS THE FIRST RECONCILIATION SINCE THE COMMISSION**
15 **APPROVED THE COMPANY'S PLAN IN DSM-4?**

16 A. No. The Commission approved the Company's reconciliation of 2016 costs with rates set
17 using the 2018 forecast approved in DSM-4 in Cause No. 43955 DSM-5 ("DSM-5") and
18 the reconciliation of 2017 costs (and 2019 forecast approved in DSM-4) in Cause No.
19 43955 DSM-6 ("DSM-6").

20 **Q. HAS DUKE ENERGY INDIANA CHANGED THE MANNER IN WHICH IT**
21 **CALCULATES ANY OF ITS REVENUE REQUIREMENTS SINCE THE FINAL**
22 **ORDER IN DSM-4?**

1 A. No. All calculations, including the avoided costs used in determining the shared savings
2 incentive, are consistent with what was approved in DSM-4 and as applied to the
3 reconciliation approved in DSM-6.

4 **Q. PLEASE SUMMARIZE THE VARIOUS COMPONENTS OF REVENUE**
5 **REQUIREMENTS APPROVED IN DSM-4.**

6 A. Aside from program cost recovery, the Commission approved lost revenues for the life of
7 the measure and a shared savings shareholder incentive. The shared savings incentive
8 approved was a tiered shared savings mechanism. To calculate the shared savings
9 incentive, the Company takes the net benefits as calculated by the Utility Cost Test
10 (“UCT”) of the programs, then receives a percentage of that net benefit, while the
11 Company’s customers retain the remainder of the benefit.

12 **Q. DID THE COMMISSION FIND THAT THE PLAN APPROVED IN DSM-4 WAS**
13 **CONSISTENT WITH ITS IRP?**

14 A. Yes, the Commission found that the Company complied with the requirement that the EE
15 Plan was consistent with the Company’s then most current IRP, submitted in 2015.
16 Although Duke Energy Indiana has subsequently filed another IRP, the Plan approved in
17 DSM-4 was consistent with the 2015 IRP, and that is the baseline for this proceeding.

18 **Q. ARE DUKE ENERGY INDIANA’S AVOIDED COST ASSUMPTIONS, FOR THE**
19 **PURPOSES OF CALCULATING ITS SHARED SAVINGS INCENTIVE IN THIS**
20 **RECONCILIATION PROCEEDING, CONSISTENT WITH THE**
21 **COMMISSION’S ORDER IN DSM-4?**

1 A. Yes. I would also note that the OUCC did not raise any of these issues with avoided cost
2 calculations in that proceeding, nor in the DSM-5 or DSM-6 reconciliation proceedings,
3 both of which used forecasts from DSM-4.

4 **Q. DID DUKE ENERGY INDIANA USE THE SAME METHODOLOGY IN DSM-6?**

5 A. Yes. I would also note that the OUCC did not raise any of these issues in that
6 proceeding.

7 **Q. MR. HASELDEN ARGUES THAT THE AVOIDED CAPACITY COSTS**
8 **SHOULD BE VALUED AT ZERO FOR PURPOSES OF CALCULATING THE**
9 **UCT TEST BECAUSE THE COMPANY DOES NOT HAVE A PLANNING**
10 **RESERVE MARGIN DEFICIT. DO YOU AGREE?**

11 A. No. It is my understanding that Mr. Haselden is relying on the 2018 IRP for his
12 arguments regarding avoided capacity costs. Mr. Haselden believes that the Company's
13 avoided capacity costs should be set to zero because the Company's 2018 IRP shows one
14 specific future scenario where the Company has a surplus of generation capacity until
15 2023. However, the 2018 IRP is not the IRP that is tied to the 2018 program costs and
16 performance under DSM-4 as discussed above.

17 The 2015 IRP is the appropriate IRP to use for this analysis. That 2015 IRP clearly
18 shows that the Company had an expectation of a need to add capacity resources over and
19 above the EE and DR programs in each year during 2017 – 2019. The 2015 IRP assumed
20 the inclusion of peak reductions from DSM programs that greatly exceeded the required
21 reserve margin. This means that without these programs, the Company would have had
22 an immediate need to install over 800 MW of generation capacity. It is completely

1 illogical to conclude that these DSM programs do not represent a tangible capacity
2 resource that is clearly being “avoided”.

3 In any event, whether the Company has a planning reserve margin deficit is of no
4 consequence in how it should calculate its avoided costs. To follow the OUCC’s
5 argument to its conclusion would have the Company frequently changing the avoided
6 costs used in analyzing its programs and would not provide for a consistent set of energy
7 efficiency programs, which is one key to a successful program. The Company needs
8 consistency in how it applies avoided costs to its programs for those programs to provide
9 value to customers on an ongoing basis.

10 **Q. MR. HASELDEN ALSO ARGUES THAT T&D SAVINGS CREATED BY DSM**
11 **PROGRAMS MAY NOT EXIST. PLEASE EXPLAIN WHY YOU DISAGREE.**

12 A. It is my understanding that Mr. Haselden believes that the addition of EE and the
13 continuation of DR programs provide no avoided T&D capacity benefits. Mr. Haselden
14 attempts to justify this contention by stating that DSM programs only provide value when
15 they relieve capacity problems on specific circuits and he states that none of the
16 Company’s DSM programs target specific circuits. The Company’s methodology to
17 determine the value of avoided T&D is based on a system average spending associated
18 with investments to accommodate load growth divided by expected load growth. It is
19 reasonable to assume that customers adopt DSM programs across the system in a manner
20 that will result in load reduction across all circuits, including those with and without
21 immediate capacity concerns. Therefore, by utilizing a calculation that is an average
22 across the system, it can be relied upon to be reflective of the adoption of DSM programs.

1 Mr. Haselden further argues that certain projects under its TDSIC Plan could impact
2 both current and future T&D capacity issues. This argument ignores the nature of the
3 TDSIC projects and the impacts to the Company's system that can occur over the longer
4 term, which is the focus of the IRP and the EE plan. The purpose of many of the TDSIC
5 projects is to replace assets that have served their useful life. These projects do not
6 necessarily address future load growth or changing demands on the system over time.
7 Finally, Mr. Haselden makes the statement that "DEI is artificially inflating both its
8 generating and T&D avoided capacity cost estimates" with no supporting facts. The
9 Company has been transparent with its calculations and maintained continuity and
10 consistency with approved assumptions in DSM-4.

11 **Q. PLEASE SUMMARIZE YOUR RESPONSE TO MR. HASELDEN'S**
12 **RECOMMENDED ADJUSTMENTS TO THE COMPANY'S FINANCIAL**
13 **INCENTIVES RELATED TO COST EFFECTIVENESS AND SHARED SAVINGS**
14 **INCENTIVES CALCULATIONS.**

15 A. The inputs into the calculations of the Company's shared savings incentive are consistent
16 with those approved in DSM-4. Changing those inputs would make these calculations
17 inconsistent with the 2015 IRP and inconsistent with the Commission's ruling that relied
18 upon the underlying calculations and assumptions of cost effectiveness in the plan.
19 Therefore, the 2018 reconciliation must continue to rely on these approved inputs and
20 assumptions as it has for every other reconciliation under DSM-4.

21 The reliance on the avoided cost assumptions approved in DSM-4 is of
22 tantamount importance. If the Company were to change underlying avoided cost

1 assumptions while executing the portfolio, there would be the potential for continual
2 program disruption which would deprive customers of the opportunity to participate.

3 **Q. DO YOU AGREE WITH THE CONCERNS MR. HASELDEN EXPRESSES**
4 **WITH THE COMPANY'S CALCULATIONS OF BENEFIT/COST TEST**
5 **RESULTS?**

6 A. No, I do not. Mr. Haselden states that there is "no transparency and the modeling results
7 cannot be replicated or verified by any other party." First, the DSMore software is a
8 widely accepted industry standard, which Duke Energy Indiana has used for many years.
9 This program is available for OUCC's review and use onsite at Duke Energy Indiana's
10 offices. It is used in approximately 30 states and by several independent evaluators.
11 Second, the OUCC has not requested access to Duke Energy Indiana's DSMore program
12 for independent validation of the Company's calculations, despite offers of assistance by
13 both Integral Analytics and the Company.

14 **III. THE PROCESS FOR EVALUATION OF DUKE ENERGY INDIANA'S**
15 **LIGHTING PROGRAM AS APPROVED IN DSM-4**

16 **Q. PLEASE DESCRIBE MR. HASELDEN'S CONCERNS WITH THE COMPANY'S**
17 **LIGHTING ASSUMPTIONS IN THIS PROCEEDING.**

18 A. Mr. Haselden takes issue with the benefits used in calculating the UCT and subsequent
19 shared savings incentive for standard General Lamp Shape ("GSL") A-line light emitting
20 diode ("LED") bulbs. In essence, Mr. Haselden argues that there have been significant
21 changes in the lighting market and therefore savings attributable to GSL LED bulbs
22 delivered through DSM programs will cease within the next few years due to this

1 changed baseline.

2 **Q. HOW DO YOU RESPOND TO HIS ARGUMENT?**

3 A. I disagree with Mr. Haselden's proposal to change the useful life and modeling approach
4 for these bulbs to something different than what was used in the 2015 IRP and approved
5 in DSM-4. As explained above, these assumptions were approved in our plan under
6 DSM-4 as well as subsequent reconciliations under this mechanism.

7 Additionally, I disagree with Mr. Haselden's premise that LED lamps have
8 become the baseline due to price and performance as well as the Energy Independence
9 and Security Act EISA backstop. The backstop provision established in EISA essentially
10 said that if the DOE did not issue new energy conservation standards by a certain date, a
11 backstop energy conservation standard of 45 lumens/W would apply, which would
12 effectively eliminate the sale of halogen and incandescent A lamps on January 1, 2020.
13 Retail stores continue to offer incandescent, halogen and CFL bulbs in the Company's
14 service territory. Mr. Haselden attempts to show minimal price differential between
15 halogen and LED bulbs. However, this is misleading in that he is comparing the halogen
16 bulbs to non-Energy Star certified LEDs that do not have the same performance or
17 measure life as Energy Star certified LEDs. The Company's programs offer incentives
18 on the Energy Star certified LEDs only. These bulbs have longer lives, offer greater
19 energy savings, and have a larger price differential than what he is showing in his
20 photograph attached to his testimony as OUCC Attachment JEH-4.

1 **Q. DO YOU AGREE WITH WITNESS HASELDEN'S CONCERN WITH THE**
2 **EXTENDED APPLICATION OF HALOGEN BULBS AS A BASELINE FOR**
3 **RESIDENTIAL GSL MEASURES?**

4 A. No, I do not agree. Mr. Haselden contends that Duke Energy Indiana is inaccurately
5 recognizing a 15-year measure life (which was updated to a 12-year measure life in 2018
6 through the EM&V process) associated with a GSL LED bulb because the GSL baseline
7 has changed. However, many of the facts underlying his position have fundamentally
8 changed due to actions taken by the US Department of Energy ("DOE") regarding the
9 implementation of GSL lighting efficiency standard, as explained below.

10 **Q. PLEASE EXPLAIN WHAT ACTIONS TAKEN BY THE DOE HAVE**
11 **FUNDAMENTALLY CHANGED AND CONTRADICT MR. HASELDEN'S**
12 **CONTENTIONS REGARDING CHANGES TO THE GSL BASELINE.**

13 A. On September 4, 2019, the DOE issued a final Order withdrawing the 2017 DOE
14 expanded definition of GSL that covered specialty bulbs. In the Order, which is a Final
15 Order, not a Notice of Proposed Rulemaking as indicated in Witness Haselden's
16 testimony, the DOE made clear that the backstop requirement that would have prohibited
17 the sale of GSL bulbs that exceed 45 lumens per watt effective January 1, 2020, is not
18 triggered. For this reason, many of the documents cited by Mr. Haselden that assumed
19 the backstop requirement would be triggered on January 1, 2020, are no longer current.
20 The studies referenced by Mr. Haselden refer to the impending January 1, 2020, backstop
21 requirement as a key driver toward the market transformation that he believes justifies a
22 change in the baseline. However, the fact is that backstop requirement will not go in

1 place January 1, 2020, and customers will still be able to purchase GSL bulbs that are
2 below the 45 Lumen per watt efficiency standard.

3 **Q. PLEASE GIVE EXAMPLES OF STUDIES CITED BY MR. HASELDEN THAT**
4 **HAVE BEEN IMPACTED BY THE DOE'S FINAL DECISION TO NOT**
5 **TRIGGER THE JANUARY 1, 2020, BACKSTOP REQUIREMENT FOR GSL**
6 **BULBS.**

7 A. The Uniform Methods Project ("UMP") Chapter 6, Section 4.3.2, referenced on page 14
8 of Mr. Haselden's testimony is a document that was clearly written under the pretense
9 that the January 1, 2020, backstop requirement was going to occur. Section 4.3.2 is
10 actually entitled "Calculating Post 2020 Savings" and begins with the statement, "Bulbs
11 expected to be in use in 2020 and beyond will be affected by the EISA backstop
12 provision mentioned in Section 1." In other words, the UMP recommendation to set a
13 sunset date that was referenced was based on the presumption that the backstop
14 requirement would no longer allow alternatives to LED bulbs to be available for
15 purchase.

16 Additionally, in the very information that Mr. Haselden presents regarding the
17 Illinois Technical Reference Manual v8.0, it states: "that lamps *subject to the EISA*
18 *backstop* provision shall have measure life of two years." (emphasis added). Since the
19 lamps are no longer "subject to the EISA backstop provision" his argument is moot.

20 **Q. DO YOU AGREE WITH MR. HASELDEN'S CONTENTION THAT THE**
21 **MARKET HAS TRANSFORMED, AND THAT WHETHER THE**

1 **GOVERNMENT MANDATE EXISTS OR NOT, THE BASELINE FOR GSLS**
2 **SHOULD CHANGE?**

3 A. I do not agree with Mr. Haselden. Other than the 2018 NEEA Study which appears to be
4 from a different region of the country, and Mr. Haselden's anecdotal evidence and
5 estimate of shelving stock, he has not provided any conclusive evidence that the baseline
6 has shifted. The reality is that both the study performed by Northwest Energy Efficiency
7 Alliance ("NEEA") and his own anecdotal evidence were likely greatly influenced by
8 retailers believing the backstop requirement would be triggered on January 1, 2020. With
9 the DOE ruling, the market transformation that Mr. Haselden believes is occurring could
10 revert to prior market conditions. The DOE ruling that the backstop requirement was not
11 triggered will likely serve as a green light for retailers that had planned on no longer
12 being able to sell bulbs that are below the 45 lumen per watt standard after December 31,
13 2019 to start restocking and selling these bulbs.

14 **Q. PLEASE PROVIDE SUPPORT FOR THIS POTENTIAL REPURCUSSION OF**
15 **THE DOE SEPTEMBER RULING.**

16 A. After the DOE's final rule was issued on September 4, 2019, Noah Horowitz, Director of
17 the Center for Energy Efficiency Standards at the National Resource Defense Council
18 said, "Today's action sets the United States up to become the world's dumping ground
19 for inefficient incandescent and halogen bulbs being phased out around the world."¹
20 Clearly this efficiency expert is concerned that the finding that the backstop requirement

¹ DOE Rollback of Energy Savings Light Bulb Standards is Senseless and Illegal, NRDC Press Release September 4, 2019.

1 not being triggered will lead to low cost inefficient bulbs flooding into the U.S. Market,
2 including Indiana, for sale to the public.

3 **Q. DO YOU AGREE WITH MR. HASELDEN'S CONTENTION THAT THE**
4 **COMPANY SHOULD NOT HAVE BEEN INCENTIVIZING ENERGY STAR**
5 **LEDs?**

6 A. No, I do not agree with his contention. Although I do agree that by incentivizing Energy
7 Star LEDs with longer measure lives the program's UCT benefit is higher, I disagree this
8 is done to increase the utility incentives. Increasing the UCT benefit of a program, by
9 definition, makes the program more cost effective. Therefore, all customers benefit given
10 that approximately 90% of the benefit accrues to the customer base via decreased net
11 system costs. Additionally, Mr. Haselden appears to ignore the fact that there are
12 multiple benefits of installing an Energy Star LED in lieu of a low cost (value line) LED.
13 According to EnergyStar.gov, Energy Star LED lighting must be certified to display the
14 following characteristics:

- 15 • Brightness is equal to or greater than existing lighting technologies (incandescent or
16 fluorescent) and light is well distributed over the area.
- 17 • Light output remains constant over time, only decreasing towards the end of the rated
18 lifetime (at least 35,000 hours or 12 years based on use of 8 hours per day).
- 19 • Excellent color quality. The shade of white light appears clear and consistent over
20 time.
- 21 • Efficiency is as good as or better than fluorescent lighting.
- 22 • Light comes on instantly when turned on.

- 1 • No flicker when dimmed.
- 2 • No off-state power draw. The fixture does not use power when it is turned off, with
- 3 the exception of external controls, whose power should not exceed 0.5 watts in the off
- 4 state.

5 In addition to providing a more cost-effective program than if it incentivized the

6 cheaper non-Energy Star LED, by incentivizing Energy Star LEDs, the Company's

7 program provides an efficient and quality light that will make customers want to continue

8 to adopt LEDs, rather than reverting back to less efficient options. In fact, in Chapter 6,

9 Section 4.4 of the Uniform Methods Project that was referenced by Witness Haselden, it

10 specifically discusses the differences between Value Line and Energy Star LEDs. In the

11 discussion the UMP points out that "the vast majority of program administrators have

12 incented Energy Star LEDs and have not chosen to include non-Energy Star -referred to

13 as "value line" LEDs in their programs." It then goes on to explain, "This is typically in

14 response to some of the earlier quality challenges with CFLs and concern that if

15 customers have a negative experience (due to poor quality or shorter-than-expected

16 lifetimes) as they first try and then increasingly adopt LEDs that this could lead to

17 backsliding and negative impressions of this burgeoning technology." Clearly Duke

18 Energy Indiana's decision to incentivize the more cost-effective Energy Star LEDs is not

19 unique and is intended to benefit customer efficiency and improve the customer

20 experience.

1 **IV. CONCLUSION**

2 **Q. ASIDE FROM THE POLICY POSITIONS DISCUSSED ABOVE, DID THE**
3 **OUCC TAKE EXCEPTION WITH THE RECONCILIATION PROPOSED IN**
4 **THIS PROCEEDING?**

5 A. No. In Mr. Caleb Loveman's testimony, he states that during his review of the
6 Company's exhibits and workpapers, nothing came to his attention that would indicate
7 the Company's calculation (based on its current proposal) is incorrect.

8 **Q. DO YOU HAVE ANY FINAL THOUGHTS?**

9 A. Yes. Duke Energy Indiana is using the same methodology to calculate its avoided costs
10 as was used in the 2015 IRP and as approved in DSM-4. The avoided cost methodology
11 is unchanged from that used in DSM-5 and DSM-6. This reconciliation proceeding is not
12 the appropriate proceeding to argue policy issues such as inputs to the avoided cost
13 calculation. Duke Energy Indiana recently filed its next EE Plan filing for 2020 through
14 2023, and it is currently pending. Mr. Haselden and OUCC can more appropriately raise
15 these issues in that proceeding.

16 **Q. DOES THIS CONCLUDE YOUR REBUTTAL TESTIMONY AT THIS TIME?**

17 A. Yes.

VERIFICATION

I hereby verify under the penalties of perjury that the foregoing representations are true to the best of my knowledge, information and belief.

Signed: 
Karen K. Holbrook

Dated: 12/18/2019