COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

In The Matter Of:	)	
	)	
THE ANNUAL COST RECOVERY FILING	)	Case No. 2019-00406
FOR DEMAND SIDE MANAGEMENT BY	)	
DUKE ENERGY KENTUCKY, INC.	)	

FILING OF THE ANNUAL STATUS REPORT, ADJUSTMENT OF THE DSM COST RECOVERY MECHANISM, AND AMENDED TARIFF SHEETS FOR GAS RIDER DSMR (SHEET NO. 62) AND ELECTRIC RIDER DSMR (REVISED SHEET NO. 78)

Now comes Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company) with the consensus of the Residential Collaborative and the Commercial and Industrial Collaborative, and pursuant to prior Orders of the Kentucky Public Service Commission (Commission) relevant to Duke Energy Kentucky's Demand Side Management (DSM) strategy,[1] and hereby files its Annual Status Report, Adjustment of the DSM Cost Recovery Mechanisms for both gas and electric service (DSM Riders), and Amended Tariff Sheets for Gas Rider DSMR and Electric Rider DSMR (Application).

1. Pursuant to 807 KAR 5:001, Section 14(2), Duke Energy Kentucky is a Kentucky corporation that was originally incorporated on March 20, 1901, is in good standing and, as a public utility as that term is defined in KRS 278.010(3), is subject to the Commission's jurisdiction. Duke Energy Kentucky is engaged in the business of furnishing

[1] *See* November 4, 2004 Order in Case No. 2003-00367, February 14, 2005 Order in Case No. 2004-00389, April 4, 2006 Order in Case No. 2005-00402, May 15, 2007 Order in Case No. 2006-00426, May 14, 2008 Order in Case No. 2007-00369, May 12, 2009 Order in Case No. 2008-00473, March 22, 2010 Order in Case No. 2009-00444, June 7, 2011 Order in Case No. 2010-00445, April 13, 2012 Order in Case No. 2011-00448, June 29, 2012 Order in Case No. 2012-00085, April 11, 2013 Order in Case No. 2012-00495, March 28, 2014 in Case No. 2013-00395, May 7, 2015 in Case No. 2014-00388, April 4, 2016 in Case No 2015-00368, March 28, 2017 in Case No. 2016-00382, September 13, 2018 in Case No. 2017-00427, and October 2, 2019 in Case No. 2018-00370 .

natural gas and electric services to various municipalities and unincorporated areas in Boone, Bracken, Campbell, Gallatin, Grant, Kenton, and Pendleton Counties in the Commonwealth of Kentucky.

2. Duke Energy Kentucky's business address is 139 East Fourth Street, Cincinnati, Ohio 45202. The Company's local office in Kentucky is Duke Energy Erlanger Ops Center, 1262 Cox Road, Erlanger, Kentucky 41018. Duke Energy Kentucky's email address is KYfilings@duke-energy.com.

3. On October 30, 2019, the Residential Collaborative[2] and the Commercial & Industrial Collaborative[3] met to review the Application. Unless otherwise stated, the Residential Collaborative and the Commercial & Industrial Collaborative are jointly referred to herein as "Collaborative." The Collaborative has received the Company's proposal and had the opportunity to provide comments.

4. In addition to filing the annual status report in this Application, Duke Energy Kentucky respectfully request a modification of Duke Energy Kentucky's DSM Riders to reflect the reconciliation of planned and actual expenditures, lost revenues, and shared savings.

5. Pursuant to the Commission's Order dated September 13, 2018, in Case No. 2017-00427, the Company's portfolio of programs in effect during the fiscal year covered by this Application were approved. The Company requested and received approval to continue the approved portfolio with the commitment to file the annual cost recovery DSM

[2] The Residential Collaborative members in attendance were: Justin McNeil (Office of the Kentucky Attorney General), Susan Rich (Boone County), Kenya Strump (Office of Energy Policy), and Trisha Haemmerle (Duke Energy).

[3] The Commercial & Industrial Collaborative members in attendance were: Justin McNeil (Office of the Kentucky Attorney General), Christine Baker (Kenton County School District), Kenya Strump (Office of Energy Policy), and Trisha Haemmerle (Duke Energy).

filing and the annual amendment filing.[4] As a result, this Application serves as the annual true-up of the fiscal year ending June 30, 2019 of programs.

Background

6. The Company's offering of DSM programs dates back close to two decades.[5] Throughout the years, the Company has offered many enhancements to its portfolio with the purpose of increasing participation and providing customers new and innovative opportunities to control their consumption and impact their utility bill. The portfolio of programs in place during the fiscal year ending June 30, 2019 and that is the subject of this Application was approved by the Commission's September 13, 2018 Order in Case No. 2017-00427. In its February 14, 2018 Order, the Commission consolidated Case Nos. 2017-00324 and 2017-00427 and suspended the Company's portfolio of programs. In response to the Company's request for Rehearing, on September 13, 2018, the Commission issued an Order modifying the Company's portfolio and lifting the suspension.

7. Like the Company's prior annual DSM filings, this Application specifically addresses the requirements in prior Commission Orders[6] and is being made consistent with the Commission's September 18, 2007 Order in Case 2007-00369 granting Duke Energy Kentucky's request to file annual DSM applications no later than November 15. In the status

---

[4] Order in Case No. 2017-00427

[5] *In the Matter of the Joint Application Pursuant to 1994 House Bill No. 501 For the Approval of Principles of Agreement, Demand Side Management, The Union Light Heat and Power Company, and for Authority for the Union Light Heat and Power Company to Implement Various Tariffs and Receive Incentives Associated the Demand Side Management Programs,* Case No. 95-312, Order December 1, 1995.

[6] November 20, 2003 Order in Case No. 2003-00367, February 14, 2005 Order in Case 2004-00389, April 4, 2006 Order in Case No. 2005-00402, May 15, 2007 Order in Case No. 2006-00426, May 14, 2008 Order in Case No. 2007-00369, March 22, 2010 Order in Case No. 2009-00444, June 7, 2011 Order in Case No. 2010-00445, April 13, 2012 Order in Case No. 2011-00448, April 11, 2013 Order in Case No. 2012-495, March 28, 2014 Order in Case No. 2013-00395, May 7, 2015 Order in Case No. 2014-00388, April 4, 2016 Order in Case No 2015-00368, March 28, 2017 in Case No. 2016-00382, September 13, 2018 in Case No. 2017-00427, and October 2, 2019 in Case No. 2018-00370.

and reconciliation portion of this report, expenses are reported for the fiscal year period July 1, 2018 through June 30, 2019.

8. In this Application, Duke Energy Kentucky also requests an Order approving the proposed adjustments to the DSM riders and the revised rate tariffs and updated program tariffs due to a change in the Company's local office address. (Appendices C – O).

Definitions

For the purposes of this Application, the following terms will have the following meanings:

9. **"DSM Revenue Requirements"** shall mean the revenue requirements associated with all Program Costs, Administrative Costs, Lost Revenues (less fuel savings), and the Shareholder Incentive.

10. **"Program Costs"** shall mean the costs incurred for planning, developing, implementing, monitoring and evaluating the DSM programs that have been approved by the Collaborative

11. **"Administrative Costs"** shall mean the costs incurred by or on behalf of the collaborative process and that are approved by the Collaborative, including, but not limited to, costs for consultants, employees and administrative expenses.

12. **"Lost Revenues"** shall have the same meaning as "LR" as described in Rider DSM - Demand Side Management Cost Recovery Rider, Sheet No. 75.[7]

13. **"Shareholder Incentive"** shall have the same meaning as "PI" as described in Rider DSM - Demand Side Management Cost Recovery Rider, Sheet No. 75.

[7] Pending approval of tariff Sheet No.75 in Case No. 2019-00277

14. **"DSM Cost Recovery Mechanism"** shall refer to Rider DSM - Demand Side Management Cost Recovery Rider, Sheet No. 75.

Status of Prior Portfolio of DSM Programs

15. Through June 30, 2019, Duke Energy Kentucky offered the following programs, the costs of which are recoverable through the DSM Cost Recovery Rider mechanism approved by the Commission in prior proceedings:

- Program 1: Residential Smart $aver® Energy Efficient Residences Program
- Program 2: Residential Smart $aver® Energy Efficient Products Program[8]
- Program 3: Residential Energy Assessments Program (Residential Home Energy House Call)
- Program 4: Energy Efficiency Education for Schools Program
- Program 5: Low Income Services Program
- Program 6: Residential Direct Load Control- Power Manager® Program
- Program 7: Smart $aver® Prescriptive Program
- Program 8: Smart $aver® Custom Program
- Program 9: Peak Load Manager (Rider PLM) - PowerShare® Program
- Program 10: Low Income Neighborhood Program
- Program 11: My Home Energy Report Program

[8] The Smart $aver® Residential Energy Efficient Products Program and the Energy Efficient Residences Program are individual measures that are part of a single and larger program referred to and marketed as Residential Smart $aver®. For ease of administration and communication with customers the two measures have been divided into separate tariffs even though they are a single program.

- Program 12: Small Business Energy Saver Program
- Program 13: Smart $aver® Non-Residential Performance Incentive Program
- Program 14: Power Manager® for Business

16. This section of the Application provides a brief description of each current program, a review of the status of each program, and information on any changes that may have been made to the programs. The following table provides a summary of the load impacts achieved and level of participation obtained during this filing period.

	1	Summary of Load Impacts July 2018 Through June 2019		
Residential Programs		**Incremental Participation**	**kWh**	**kW**
Energy Efficiency Education Program for Schools		5	1,670	0
Low Income Neighborhood		608	227,395	67
Low Income Services		131	207,830	48
My Home Energy Report	2	1,753	38,733	10
Residential Energy Assessments		2,579	386,925	69
Residential Smart $aver®		234,560	5,735,203	674
Power Manager®	3	12,474	-	13,010
Power Manager® for Apartments		-	-	-
Total Residential		**252,110**	**6,597,757**	**13,879**
Non-Residential Programs		**Incremental Participation**	**kWh**	**kW**
Small Business Energy Saver		1,886,689	1,853,242	324
Smart $aver® Custom		3,344	10,977,993	1,369
Smart $aver® Non-Residential Performance Incentive Program		-	-	-
Smart $aver® Prescriptive - Energy Star Food Service Products		86	100,499	12
Smart $aver® Prescriptive - HVAC		311,217	154,721	73
Smart $aver® Prescriptive - IT		-	-	-
Smart $aver® Prescriptive - Lighting		55,356	4,648,344	891
Smart $aver® Prescriptive - Motors/Pumps/VFD		130	45,709	14
Smart $aver® Prescriptive - Process Equipment		-	-	-
Power Manager® for Business		53	872	59
PowerShare®	4	17	-	17,145
Total Non-Residential		**2,256,892**	**17,781,380**	**19,886**
Total		**2,509,002**	**24,379,137**	**33,765**

1 - Impacts are net of freeriders, without losses and reflected at the customer meter point.
2 - Actual participants and impact capability shown as of the June 2019 mailings. Reflects 1 month of program restart.
3 - Cumulative number of controlled devices installed. Impacts reflect average capability over the contract period.
4 - Impacts reflect average capability over the contract period.

17. Results of the current cost-effectiveness test results for each of the programs are provided in Appendix A.

Programs 1 and 2: Residential Smart $aver® Energy Efficient Residences and Products Programs

18. The purpose of the Residential Smart $aver® Energy Efficient Residences portion of the Residential Smart $aver® Program is to offer customers prescriptive incentives for a variety of energy conservation measures designed to increase energy efficiency in their homes. The program utilizes a network of participating contractors to encourage the installation of high efficiency equipment and the implementation of energy efficient home improvements with eligible customers. Equipment and services to be incentivized include:

- Installation of high efficiency air conditioning (AC) and heat pump (HP) systems;
- Implementation of attic insulation and air sealing services;
- Implementation of duct sealing and insulation services; and
- Installation of efficient heat pump water heaters.

19. The Residential Smart $aver® Program received approval in the Commission's June 7, 2011 Order in Case No. 2010-00445. Duke Energy Kentucky launched the Residential Smart $aver® Program into the market on August 15, 2011, but only offered incentives for the installation of the high efficiency AC and HP systems due to an ongoing vendor selection process. Once the vendor selection process and subsequent transition completed in April 2012, the remaining incentives for the additional products and services were launched into the market and offered to residential Kentucky customers.

Note, duct insulation received Commission approval June 29, 2012 and was subsequently added to the program. Heat pump water heaters were approved in December 23, 2013 Order in Case No. 2013-00395, and subsequently launched into the market during third quarter of 2014.

20. The Company filed to implement modifications to the Program in Case No. 2015-00277 and received Commission approval February 12, 2016. These modifications were launched into the market during April 2016 and included adding a tier approach to the level of incentives available for AC and HP systems based on the efficiency rating of the system and delivering the full incentive level to the customer. In addition, two new optional measures, smart thermostat and quality installation, offer customers additional incentives at the time of AC or HP equipment replacement installation. A referral component for eligible trade allies has also been added as a new delivery channel to enhance customer experience. This tier approach to AC and HP systems promotes higher efficiency equipment and allows customers to add on additional services at the time of installation. The referral component of the Program is a new delivery channel service that simplifies the customer's energy decision-making purchases.

21. The Program successfully transitioned to this new incentive structure during 2016 that offered more choices for customers, but also removed a $100 incentive that was previously paid to the trade ally dealers, with the full incentive being directed to the customer. After an initial decline in the number of participating trade ally dealers, the program experienced application volumes similar or greater than the previous program structure, exceeding the expected decline in volumes. Prior to the Program suspension as ordered by the Commission on February 14, 2018, over 1,150 rebate application

submissions had been processed on behalf of eligible customers for the period beginning July 2017. The Program re-launched in January 2019, and processed over 470 rebate application submissions for the period July 2018 through June 2019.

22. Duke Energy Kentucky currently contracts with Blackhawk Engagement Solutions (BES) to administer this program. BES provides services including application processing and fulfillment, data reporting, call center services, and IT support for program tools such as the trade ally portal which allows trade allies to register, check customer eligibility, and submit applications online. These Residential Smart $aver® services are jointly implemented with the Duke Energy Indiana, Duke Energy Ohio, and Duke Energy Carolinas territories to reduce administrative costs and leverage promotion. BES has experience in delivering similar utility energy efficiency programs.

23. The purpose of the Residential Smart $aver® Energy Efficient Products portion of the Residential Smart $aver® Program is to provide high efficiency lighting through various channels, along with other high efficiency products in new or existing residences, including pool pumps, water measures for single family, and water measures for multifamily.

24. The Free Lighting component of the program is designed to increase the energy efficiency of residential customers by offering customers 9-Watt LEDs to install in high-use fixtures within their homes. The LED offer is available through an on-demand ordering platform, enabling customers to request LEDs and have them shipped directly to their homes. Customers may have the ability to order in quantities of 3, 6, 8, 12, and 15 packs. Quantities offered by the platform are dependent on past participation in free

lighting programs that contribute to their free bulb limit.[9]

25. Through the ordering platform, customers have the flexibility to order and track their shipments through three separate channels; telephone, Duke Energy web site and My Account (formally Online Services).

- Telephone
  - Customers may call a toll-free number to access the IVR (Interactive Voice Response) system which provides prompts to facilitate the ordering process. Both English and Spanish speaking customers may easily validate their account, determining their eligibility and place their order over the phone.
- Duke Energy Web Site
  - Customers can go online to complete the ordering process. Eligibility rules and frequently asked questions are available for reference.
- My Account (Formally Online Services (OLS))
  - Customers who are enrolled in the My Account authenticated portal can place their order through this channel if they are eligible. New customer registrations and eligible customers may be intercepted upon logging in to make them aware of the program.

26. The benefits of providing these three distinct channels include; improved customer experience, advanced inventory management, simplified program coordination, enhanced reporting, increased program participation and reduced program costs.

[9] As approved in Case No. 2016-00112.

27. The Residential Smart $aver® lighting program launched an online Saving Store for specialty lighting on April 26, 2013. The Savings Store is an extension of the on-demand ordering platform enabling eligible customers to purchase specialty bulbs and have them shipped directly to their homes. The program offers a variety of LEDs including: Reflectors (indoor and outdoor), Globes, Candelabra, 3 ways, Dimmables and certain A-line type bulbs of wattages not included in the Free LED offer. The incentive levels vary by bulb type and the customer pays the difference, including shipping. The maximum number of incentivized bulbs available for each residential account is 36 lighting products. Customers can check eligibility and shop for specialty bulbs through the Company Web Site and My Account (formally OLS). The Savings Store is managed by a third-party vendor, Energy Federation Inc. (EFI). EFI is responsible for maintaining the Savings Store and fulfilling all customer purchases. The Saving Store landing page provides information about the store, lighting products, account information and order history. Support features include a toll- free number, Live Chat, package tracking and frequently asked questions.

28. Educational information is available to help assist customers with their purchasing decisions. The information discusses bulb types, application types, lighting benefits, understanding watts versus lumens and recycling/safety tips.

29. The Online Savings Store program carefully tracks towards budget by monitoring our marketing activities to customers. The program sold approximately 60,351 bulbs of which 59,707 where incentivized to approximately 5,458 unique orders.

30. The Multifamily Energy Efficiency Program is an extension of the Residential Smart $aver® lighting program and allows Duke Energy Kentucky to use an alternative delivery channel which targets multifamily apartment complexes. The measures

are directly installed in permanent fixtures by the program vendor, Franklin Energy, or the property management staff via the Do It Yourself (DIY) option. The target audience for the program is property managers who have properties that are served on an individually metered residential rate schedule. To receive water measures, apartments must have electric water heating. Properties that have already been served by the Property Manager CFL program are only eligible for water measures and specialty bulbs.

31. The Program helps property managers upgrade lighting with energy efficient LEDs and saves energy by offering water measures such as bath and kitchen faucet aerators, water saving showerheads and pipe wrap. The quantity of lighting measures installed may vary by apartment size but there are no limits on LED installations in permanent fixtures. These measures assist with reducing maintenance costs while improving tenant satisfaction by lowering energy bills.

32. As program implementer, Franklin Energy is responsible for all marketing and outreach for the program. This is primarily done through outbound calls and on-site visits to solicit initial interest in the program from property managers in the Company's service territory. Additionally, program information and supporting documents are available on the Duke Energy web site for Property Managers to learn more about the program and request applications to participate in the program.

33. Duke Energy Kentucky received approval to replace CFLs with LEDs for the lighting offering associated with the Multi-Family Program.[10] Beginning in July 2017, the Program began installing LED lighting. The Program also added two additional bulb types to bring the LED offering to three types with unlimited quantities per unit. The three

[10] *In the Matter of the Application of Duke Energy Kentucky, Inc., to Amend its Demand Side Management Programs,* Case No. 2016-002892, KY. P.S.C. Order May January 24, 2017.

bulbs (A-Line, Candelabras, Globes) provide more options for tenants, are more aesthetically appealing and create more bill savings. Property managers and owners also receive benefits with the longer lasting bulbs, which reduce maintenance costs for the properties and make the units more marketable to tenants.

34. Multifamily activity for the July 1, 2018 through June 30, 2019 fiscal year totaled 8,274 measure installations, achieving 120% of the 2018-2019 fiscal year goal of 6,860 measures.

35. The Save Energy and Water Kit (SEWK) program is designed to increase the energy efficiency of residential customers by offering customers low flow water devices and insulating pipe tape to install within their homes. The SEWK offer is available through a business reply card (BRC) or through direct email solicitation, enabling customers to request a kit and have it shipped directly to their homes. A website has been established to provide customers with additional information about the program and instructional videos to assist in the installation of items from the DIY kit.

36. To be eligible, customers must have an electric water heater, have not already participated in SEWK or another Duke Energy Kentucky program offering water saving devices, and live in a single-family, owner-occupied home. Eligible customers, who respond to the BRC or email offer, will receive a kit free of charge. There are two kit sizes to accommodate homes with one or more full bathrooms. The kit size available to the customer is predetermined based on the square footage of the home. Customers in homes less than or equal to 1,500 square feet receive a one (1) bath kit. Customers in homes greater than 1,500 square feet receive a two (2) bath kit. The kits contain varying quantities of shower heads, bath aerators, kitchen aerators and insulated pipe tape.

37. The Save Energy and Water Kit program is an invitation only program where customers are prequalified and then directly solicited for participation. This allows the program to carefully track performance against budget and adjust marketing efforts as needed. The program shipped 1,103 kits containing 3,309 kitchen and bath aerators, 1,472 showerheads, and 5,515 feet of insulating pipe wrap for a total of 10,296 measures or 124% of a budget of 8,304 measures.

38. Per the September 13, 2018 Order from the Commission Duke Energy Kentucky will not be implementing a Retail Lighting marketing channel as planned. This upstream, buy-down retail-based lighting program would have worked through lighting manufacturers and retailers to offer discounts to Duke Energy customers selecting incentivized LEDs and energy-efficient fixtures at the shelf for purchase at the register.

Program 3: Residential Energy Assessments Program

39. The primary goal for Home Energy House Call (HEHC) is to empower customers to better manage their energy usage and cost. Duke Energy Kentucky partners with several key vendors to administer the program which an energy specialist completes a 60 to 90-minute walk through assessment of the home and analyzes energy usage to identify energy savings opportunities. The Building Performance Institute (BPI) Building certified energy specialist discusses behavioral and equipment modifications that can save energy and money with the customer. The program targets Duke Energy Kentucky residential customers that own a single family has electric water heater and/or electric heat, or central air. The energy specialist analyzes energy usage, checks air infiltration, examines insulation levels, checks appliances and inspects the heating/cooling system(s). The report focuses on the building envelope improvements

as well as low-cost and no-cost improvements to save energy. At the time of the home audit, the customer receives a free efficiency kit containing a variety of energy saving measures energy efficient lighting, low flow shower head, low flow faucet aerators, outlet/switch gaskets and weather stripping. The auditors will install these measures, if approved by the customer, so the customer can begin saving immediately, and to help insure proper installation and use. Example recommendations might include the following:

- Turning off vampire load equipment when not in use;
- Turning off lights when not in the room;
- Using energy efficient lighting in light fixtures;
- Using a programmable/smart thermostat to better manage heating and cooling usage;
- Replacing older equipment with more energy efficient equipment; and
- Adding insulation and sealing the home.

40. The program primarily targets through online channels, electronic mail and direct mail to acquire the proposed participation for this program.

41. Due to the 2018 program freeze, lost appointments and reduced pipeline, the program shifted marketing initiatives and staffing resources more heavily in Q4 2018 and Q1 2019 to ramp up and build the pipeline. Recognizing the ramp up period, the bulk of the appointments were scheduled in Q1 2019. The program completed 457 assessments and installed 1,753 additional bulbs. Expanding offerings in Q2 2019, the program installed 43 additional bathroom aerators and 196 feet of pipe insulation.

Program 4: Energy Efficiency Education Program for Schools Program

42. The Energy Efficiency Education Program for Schools offers two educational interactions: 1) an in-depth classroom curriculum through the National Energy Education Development (NEED) project; and 2) a live theatrical production by The National Theatre for Children (NTC).

43. Both the NEED and Performance aspects of the Energy Efficiency in Education Program have been discontinued going forward, in accordance with the recent order from the KY Commission. However, there were 6 participants this fiscal year before the program was discontinued.

Program 5: Low Income Services Program

Weatherization

44. The Weatherization program portion of Low Income Services is designed to help income-qualified customers that are below 200% of the federal poverty level to reduce their energy consumption and lower their energy cost. The program works with local weatherization agencies using Federal DOE/LIHEAP funds as well as other community outreach initiatives for participation. The program provides the agencies incentives for installing energy efficient measures in qualified customers' homes. Agencies also educate customers on their energy usage and other opportunities that can help reduce energy consumption and lower energy costs. The program has provided weatherization services to the following number of customers:

Fiscal Year	Customers Served
1999 - 2000	251
2000 - 2001	283
2001 - 2002	203
2002 - 2003	252

2003 - 2004	252
2004 - 2005	130
2005 - 2006	232
2006 - 2007	252
2007 - 2008	265
2008 - 2009	222
2009 - 2010	199
2010 - 2011	234
2011 - 2012	220
2012 - 2013	228
2013 - 2014	143
2014 - 2015	203
2015 - 2016	162
2016 - 2017	166
2017 - 2018	127
2018 – 2019	120

45. The program is structured so that homes needing the most work, and having the highest energy use per square foot, receive the most funding. The program accomplishes this by placing each home into one of two "Tiers." For each home, the field auditor uses the National Energy Audit Tool (NEAT) to determine which specific measures are cost effective for that home.

The tier structure is defined as follows:

	Therm / square foot	**kWh use/ square foot**	**Investment Allowed**
Tier 1	0 < 1 therm / ft2	0 < 7 kWh / ft2	Up to $600
Tier 2	1 + therms / ft2	7 + kWh / ft2	All SIR* ≥ 1.5 up to $4K

*SIR = Savings - Investment Ratio

Tier One Services

46. Tier 1 services are provided to customers through weatherization agencies. Customers are considered Tier 1 if they use less than 1 therm per square foot per year or less than 7-kilowatt hour (kWh) per square foot per year, based on a year's usage of Company supplied fuels. Square footage of the dwelling is based on conditioned space

only, whether occupied or unoccupied. It does not include unconditioned or semi-conditioned space (non-heated basements). The total program dollars allowed per home for Tier One services is $600.00 per home. Tier One services are as follows:

- Furnace / Heating system Tune-up & Cleaning;
- Furnace repair up to $600;
- Venting check & repair;
- Water Heater Wrap and Pipe Wrap;
- Cleaning of refrigerator coils;
- Cleaning of dryer vents;
- Energy Efficient Light Bulbs;
- Low-flow shower heads and aerators;
- Weather-stripping doors & windows;
- Limited structural corrections that affect health, safety, and energy up to $150; and,
- Energy Education.

Tier Two Services

47. Duke Energy Kentucky will provide Tier Two services to a customer if they use at least 1 therm or at least 7 kWh per square foot per year based on the annual usage of Duke Energy Kentucky supplied fuels.

Tier Two services are as follows:

- All Tier One services; plus
- Additional cost-effective measures (with SIR $\geq$ 1.5) based upon the results of the NEAT audit. Through the NEAT audit, the agency can

determine if energy saving measures pay for themselves over the life of the measure as determined by a standard heat loss/economic calculation (NEAT audit) utilizing the cost of gas and electric as provided by Duke Energy Kentucky. Such items can include but are not limited to attic insulation, wall insulation, crawl space insulation, floor insulation and sill box insulation. Safety measures applying to the installed technologies can be included within the scope of work considered in the NEAT audit if the SIR is greater than 1.5 including the safety changes; and

- Replacement of heating system if cannot be repaired.

Regardless of placement in a specific tier, Duke Energy Kentucky provides energy education to all customers in the program.

48. Refrigerator replacement is also a component of this program. To determine replacement, the program weatherization provider performs a two-hour meter test of the existing refrigerator unit. If it is a high-energy consuming refrigerator, as determined by this test, the unit is replaced. Replacing with a new Energy Star qualified refrigerator, with an estimated annual usage of 400 kWh, results in an overall savings to the average customer typically more than 1,000 kWh per year.

Refrigerators tested and replaced:

Year	Refrigerators Tested	Refrigerators Replaced
2002 – 2003	116	47
2003 – 2004	163	73
2004 – 2005	115	39
2005 – 2006	116	52
2006 – 2007	136	72
2007 – 2008	173	85
2008 – 2009	153	66

2009 – 2010	167	92
2010 – 2011	112	76
2011 – 2012	107	64
2012 – 2013	206	69
2013 – 2014	112	37
2014 – 2015	42	24
2015 – 2016	60	22
2016 – 2017	92	54
2017 - 2018	48	18
2018 – 2019	43	12

The existing refrigerator being replaced is removed from the home and recycled in an environmentally appropriate manner to assure that the units are not used as a second refrigerator in the home or do not end up in the secondary appliance market.

Payment Plus

49. The Payment Plus portion of Low Income Services program is designed to impact participants' behavior (*e.g.*, encourages utility bill payment and reducing arrearages) and to generate energy conservation impacts.

The program is made up of three components:

- Energy Education & Budget Counseling – to help customers understand how to control their energy usage and how to manage their household bills, a combined education/counseling approach is used;
- Weatherization – to increase the energy efficiency in customers' homes, participants are required to have their homes weatherized as part of the normal Residential Conservation and Energy Education (low-income weatherization) program unless weatherized in past program years; and,
- Bill Assistance – to provide an incentive for these customers to participate in the education and weatherization, and to help them get control of their bills. Payment assistance credits are provided to each

customer once they complete each aspects of the program. The credits are: $200 for participating in the EE counseling, $150 for participating in the budgeting counseling, and $150 for participating in the Residential Conservation and Energy Education program (weatherization services). If all the requirements are completed, a household could receive up to a total of $500 towards their arrearage. This allows for approximately 200 homes to participate per year. Some customers do not complete all three steps or may have already had weatherization services completed prior to the program.

50. This program is offered twice over six winter months per year (October-March).

51. Duke Energy Kentucky utilizes a community action agency to recruit customers to participate in the Payment Plus program. The Payment Plus program is designed to help income-qualified customers that are below 200% of the federal poverty level to reduce their energy consumption and lower their energy cost. Using a list of potential customers provided by Duke Energy Kentucky, the agency sends a letter describing the program to eligible customers. Included in this letter are various dates, times, and locations of scheduled classes. The courses are designed to accommodate customers with varied schedules and widespread locations. The customer contacts the agency to register for a course. Make-up courses are also offered to those customers who may have missed their initial scheduled time.

52. For the filing period, 87 participants attended energy education counseling, 87 participants attended budget counseling and 8 participants' homes have been

weatherized.

53. Consistent with the Commission's September 13, 2018 Order, Duke Energy Kentucky started offering the Weatherization Services and Payment Plus program to all income eligible customers regardless of arrearage or participation within the LIHEAP program. Removing these limitations will allow additional income qualified customers to participate in the programs. The change to the program was discussed with the collaborative during the November 1, 2018 meeting.

Program 6: Residential Direct Load Control - Power Manager® Program

54. The purpose of the Power Manager® program is to reduce demand by controlling residential air conditioning usage during periods of peak demand, high wholesale price conditions and/or generation emergency conditions during the summer months. It is available to residential customers with central air conditioning. Duke Energy Kentucky attaches a load control device to the outdoor unit of a customer's air conditioner. This enables Duke Energy Kentucky to cycle the customer's air conditioner off and on under appropriate conditions.

55. Customers selecting the option that moderately cycles their air conditioner, receive a $25 credit at installation. Customers selecting the longer cycling option, receive a $35 credit at installation.

56. Customers also receive annual credits during the months of May - September depending on the program they signed-up for. Customers that signed-up for the moderate control option receives an annual event credit of $2.40 per month for each year they are on the program and customers that signed-up for the longer control option receive an annual event credit of $3.60 per month each year they are on the program.

57. Duke Energy Kentucky continues to use load control devices manufactured by Eaton's Cooper Power Systems for new installations and replacement of existing load control devices. The load control devices have built-in safe guards to prevent the "short cycling" of the air-conditioning system. The air-conditioning system will always run the minimum amount of time required by the manufacturer. The cycling simply causes the air-conditioning system to run less, which is no different than what it does on milder days. Additionally, the indoor fan will continue to run and circulate air during the cycling event.

58. The Company continued its primary Power Manager® marketing during the past fiscal year through outbound telephone calling. Providing customers with an opportunity to ask questions before deciding to participate has proven to be a significant attribute in making this the most effective sales channel.

59. Ongoing measurement and verification (M&V) is conducted through a sample of Power Manager® customers with devices that record hourly run-time of the air conditioner unit and with load research interval meters that measure the household kWh usage. Operability studies are also used to measure the performance of Power Manager® load control devices in Kentucky. In addition, Duke Energy Kentucky has reviewed the statistical sampling requirements of PJM Interconnection, LLC (PJM) for demand response resources of this type. The Duke Energy Kentucky studies comply with all PJM requirements.

60. There were five Power Manager® events that took place from July 2018 through June 2019 event season. There was a PJM required one-hour test on September 6, 2018.

61. The events on average saved 11 Megawatts per event during peak periods

of demand.

Program 7: Smart $aver® Prescriptive Program

62. The Smart $aver® Non-residential Prescriptive Incentive Program provides incentives to commercial and industrial consumers for installation of high efficiency equipment in applications involving new construction, retrofit, and replacement of failed equipment. The program also uses incentives to encourage maintenance of existing equipment in order to reduce energy usage. Incentives are provided based on Duke Energy Kentucky's cost effectiveness modeling to assure cost effectiveness over the life of the measure.

63. Commercial and industrial consumers can have significant energy consumption, but may lack knowledge and understanding of the benefits of high efficiency alternatives. The Program provides financial incentives to help reduce the cost differential between standard and high efficiency equipment, offer a quicker return on investment, save money on customers' utility bills that can be reinvested in their business, and foster a cleaner environment. In addition, the Program encourages dealers and distributors (or market providers) to stock and provide these high efficiency alternatives to meet increased demand for the products.

64. The program promotes prescriptive incentives for the following technologies – lighting, HVAC, pumps, variable frequency drives, food services, and process equipment. The eligible measures, incentives and requirements for both equipment and customer eligibility are listed in the applications posted on Duke Energy's website.

65. The program has developed multiple approaches to reaching the very broad and diverse audience of business customers. In 2018-19, this consisted of incentive payment

applications, with paper and online options, and instant incentives offered through the Online Energy Savings Store. 2018-19 results include:

- A higher percentage of applicants are using the online application, an easier way to apply;
- Outreach continued to support Trade Allies working with the program;
- Due to funding limitations, marketing activities were limited to program updates only;
- High levels of customer service were provided by a dedicated team of representatives answering customer questions via phone and email; and
- Large account management continues to provide large businesses with personalized relationships to identify and support new EE projects.

Many changes for the program occurred in 2018. More information is provided below.

66. The Non-residential Prescriptive program finished the 2018-2019 fiscal year at 53% of the budget spend limit and 71% of the kWh impacts goal. The program, however, was only operational for roughly 75% of the fiscal year after the program suspension was lifted in September 2018. During the fiscal year, 182 applications, consisting of 304 measures, were paid for Duke Energy Kentucky prescriptive incentives. 69% of applications were submitted via the online application portal this fiscal year. The average payment per paid application was $3,379. New application activity was 36% lower than the previous fiscal year due to the program suspension beginning in February through September 2018. Application activity during the 2017-2018 fiscal year was down 54% from the previous fiscal year (16-17) as well, so the program suspension had a significant negative impact in

program participation overall.

67. In the previous fiscal year, approximately 29% of the Smart $aver® impacts were from participation through the midstream marketing channel. The midstream marketing channel provided instant incentives to eligible customers at a participating distributor's point of purchase. Considering the need to cap program expenditures, the growth provided by the midstream channel was determined to be unsustainable and the channel was ended in 2018. Customers that purchase from distributors that participated in midstream can still work with the distributor to submit an application for incentives.

68. Duke Energy continues to offer the Business Savings Store on the Duke Energy website, with orders fulfilled by the third-party Energy Federation Inc. (EFI). The site provides customers the opportunity to take advantage of a limited number of incentive measures by purchasing qualified products from an on-line store and receiving an instant incentive that reduces the purchase price of the product. The incentives offered in the store are consistent with current program incentive levels. The online application store has been well received by the DIY niche market and allows customer a path for instant incentives without the burden of paperwork.

69. Over the years, the program has worked closely with Trade Allies (TA) to promote the program to our business customers at the critical point in time when customers are considering standard or high efficiency equipment options. The Smart $aver® outreach team provides training and technical support to the TA network. The outreach team also recruits new TAs to participate in the program. TA company names and contact information appears on the TA search tool located on the Smart $aver® website. This tool was designed to help customers who do not already work with a TA, to find someone in their location

who can serve their needs. The Company continues to look for ways to engage the TAs in promotion of the Program as well as more effective targeting of TAs based on market opportunities.

70. Duke Energy Kentucky continues to evaluate changes to existing measures, to take into consideration changes to market conditions and energy efficiency standards, and the addition of measures to offer customers additional options for energy savings. Any future measure changes will be presented to the Commission in accordance with the applicable review and approval processes and procedures.

71. As outlined in Case No. 2017-00427, Duke Energy Kentucky updated the program to include a reservations system, removed several measures, and adjusted some incentives. These efforts were designed to maximize the impact of the limited fiscal year budget and took effect after the program suspension was lifted in September 2018. New application forms applied to the 2018-2019 program year, with the following changes:

- Measure additions and removals: In order to identify a program offer that would help stay within capped program costs, and have the best chance of achieving kWh goals, prior to the 2018-19 fiscal year, the program team analyzed the list of measures offered by the program. The analysis results identified those measures that were highly cost effective, provided the greatest potential for achieving kWh goals, and had lower costs. This resulted in 165 existing measures remaining in the program based on this selection criterion; 19 of these measures now have reduced incentive amounts due to updated data on equipment costs. 221 existing measures were removed from the program based on this criterion. Prior

to the planned program changes, the program team worked with a consultant to identify new cost-effective measures. Of those identified, 36 new measures were selected for addition to the program, bringing the total number of measures offered to 201 in the 2018-19 fiscal year.

- Policy for measure updates: The new policy for changes to incentives and/or equipment eligibility implements an effective date for any changes. The lower incentive (or changed eligibility requirement) applies to all applicable equipment purchased on and after the effective date.
- Reservation system: To ensure that program expenditures will not exceed the budget cap, a reservation system was implemented in 2018. Customers and trade allies seeking a prescriptive reservation can now submit a Pre-Application in advance of starting an energy efficiency project. The Pre-Application determines equipment qualification and reserves program funds, if available. Applications received that were not previously reserved are still reviewed and paid if unreserved funds are available.

72. The Company continues to work with outside consultants and internal resources to develop strategies to understand equipment supply/value chains and increase awareness of these measures going forward.

73. Nonresidential customers are informed of programs via targeted marketing material and communications. Information about incentives is also distributed to TAs, who in turn sell equipment and services to all sizes of nonresidential customers. Large business

or assigned accounts are targeted primarily through assigned Duke Energy Kentucky account managers. Accounts that do not have an assigned account manager typically receive information about the program through direct mail, electronic mail and other direct marketing efforts including outbound call campaigns.

74. The internal marketing channel is comprised of assigned Large Business Account Managers, Segment Managers, and Local Government and Community Relations, and Business Energy Advisors, who all identify potential opportunities as well as distribute program collateral and informational material to customers and TAs. In addition, the Economic and Business Development groups also provide a channel to customers who are new to the service territory.

Program 8: Smart $aver® Custom Program

75. The purpose of this program is to encourage the installation of high efficiency equipment in new and existing nonresidential establishments. The program provides incentive payments to offset a portion of the higher cost of energy efficient equipment.

76. Duke Energy Kentucky contracts with a third party to perform technical review of applications as part of implementation of this program. This program is jointly implemented with the Duke Energy Indiana, Duke Energy Ohio, and Duke Energy Carolinas territories to reduce administrative costs and leverage promotion.

77. During the current reporting period of July 2018 through June 2019, the Kentucky Smart $aver® Custom Incentive program provided incentives totaling $936,260 to approximately 27 customers. The level of participation in terms of incentives and impacts has continued to increase from past reporting periods.

78. This high level of participation is being driven primarily by high customer interest in LED lighting upgrades, industrial process upgrades, and HVAC projects. In response to this high level of participation, the Custom Incentive program has implemented a reservation system to allocate available incentive dollars for a given fiscal year. Currently all available 2019-2020 incentive dollars are reserved due to continued high levels of participation.

79. During the current reporting period of July 2018 through June 2019, the Kentucky Smart Saver® Custom Incentive program was found to have a TRC cost-effectiveness score of 1.73, much improved from the previous fiscal year.

80. Upon receiving a Custom Incentive application, Duke Energy Kentucky reviews the application and performs a technical evaluation as necessary to validate energy savings. Measures submitted by the customer are then modeled to ensure cost effectiveness to the program overall, given the energy savings, and improves a customer's payback to move them to invest in energy efficiency. Third party evaluation follow-up and review includes application review, site visits and/or onsite metering and verification of baseline energy consumption, customer interviews, and/or use of loggers/sub-meters.

Program 9: Peak Load Manager (Rider PLM) - PowerShare® Program

81. PowerShare® is the brand name given to Duke Energy Kentucky's Peak Load Management Program (Rider PLM, Peak Load Management Program KY.P.S.C. Electric No. 2, Sheet No. 77). Rider PLM was approved pursuant as part of the settlement agreement in Case No. 2006-00172. In the Commission's Order in Case No. 2006-00426, approval was given to include the PowerShare® program within the DSM programs. The PLM program is voluntary and offers customers the opportunity to reduce their electric

costs by managing their electric usage during the Company's peak load periods. Customers and the Company will enter into a service agreement under Rider PLM, specifying the terms and conditions under which the customer agrees to reduce usage. There are two product options offered for PowerShare® - CallOption® and QuoteOption®:

- CallOption®:
  - A customer served under a CallOption® product agrees, upon notification by the Company, to reduce its demand;
  - Each time the Company exercises its option under the agreement, the Company will provide the customer a credit for the energy reduced;
  - For the 2018/2019 program year, there was one type of event;
    - Emergency events are implemented due to reliability concerns. Participants are required to curtail during emergency events.
  - In addition to the energy credit, customers on the CallOption® will receive an option premium credit;
  - For the 2018/19 PowerShare® programs associated with the fiscal year of this filing, there were three enrollment choices for customers relative to CallOption. The first choice, "Limited Summer", required participants to be able to curtail during the months of June through September 2018, with a maximum event length of 6 hours and maximum number of curtailments of 10 during the program year. The second choice, "Summer Only", required participants to be able to curtail during the months of June through September

2018, with a maximum event length of 10 hours and no maximum number of curtailment events. The third choice, "Annual", requires participants to be able to curtail during the full contract term of June 2018 through May 2019, with a maximum event length of 12 hours during the months of June through October 2018 and May 2019, and with a maximum event length of 15 hours during the months of November 2018 through April 2019 and no maximum number of curtailment events.

- Only customers able to provide a minimum of 100 kW load response qualify for CallOption®.

- QuoteOption®:
  - Under the QuoteOption® products, the customer and the Company agree that when the average wholesale market price for energy during the notification period is greater than a pre-determined strike price, the Company may notify the customer of a QuoteOption® event and provide a price quote to the customer for each event hour;
  - The customer will decide whether to reduce demand during the event period. If they decide to do so, the customer will notify the Company and provide an estimate of the customer's projected load reduction;
  - Each time the Company exercises the option, the Company will provide the participating customer who reduces load an energy credit;

- There is no option premium for the QuoteOption® product since customer load reductions are voluntary; and
- Only customers able to provide a minimum of 100 kW load response qualify for QuoteOption®.

PowerShare® 2018-2019 Summary

82. Duke Energy Kentucky's customer participation goal for 2018 was to retain all customers that currently participate and to promote customer migration to the CallOption® program. The table below displays monthly account participation levels for July 2018 through June 2019, as well as MWs enrolled in the program.

Kentucky PowerShare® Participation Update				
	CallOption®		QuoteOption®	
Month	Enrolled Customers*	Summer Capability**	Enrolled Customers*	Summer Capability**
Jul-18	18	19.67	0	0
Aug-18	18	19.67	0	0
Sep-18	18	19.67	0	0
Oct-18	18	19.67	0	0
Nov-18	18	19.67	0	0
Dec-18	18	19.67	0	0
Jan-19	18	19.67	0	0
Feb-19	18	19.67	0	0
Mar-19	18	19.67	0	0
Apr-19	18	19.67	0	0
May-19	18	19.67	0	0
Jun-19	17	19.09***	0	0

*Enrolled Customers represents the number of parent accounts participating.

**Summer Capability is consistent with the associated program year. Numbers reported are adjusted for losses.

***Estimated Summer capability

(Note that Duke Energy Kentucky has signed 17 contracts for the 2019/2020 PowerShare® CallOption®. An aggregation of two existing customers resulted in a

reduction in the number of enrolled customers for 2019-2020. Measured and verified MW values for the summer of 2019 will be available and presented in next year's update filing.)

83. During the July 2018 through June 2019 period, there were zero PowerShare® events for economic or emergency reasons. However, there were curtailment tests performed to meet PJM requirements. The table below summarizes event participation.

Duke Energy Kentucky - PowerShare CallOption and QuoteOption
Economic, Emergency, and Test Events
June 2018 - May 2019 Activity - Reduction Values in MWs

Date	Event Hours (EDT)	Event Type	Event Participants	Participants Reducing Load Partially or Fully	Average Hourly Load Reduction Expected - At the Meter	Average Hourly Load Reduction - At the Meter	Average Hourly Load Reduction - At the Plant
9/6/2018	4 pm to 5 pm	PJM Test	13	13	15.709	17.412	18.756
9/18/2018	4 pm to 5 pm	PJM Re-Test	3	3	1.556	2.186	2.355
9/25/2018	4 pm to 5 pm	PJM Re-Test	2	2	1.196	2.339	2.52

(Note that for the summer period of June 2018 through September 2018, zero PowerShare® events have been called. The annual, required, PJM test event was conducted on September 6, 2018 at 4 pm. Information on these events will be available and presented in next year's update filing.)

Program 10: Low Income Neighborhood Program

84. The Duke Energy Kentucky Residential Neighborhood Program takes a non-traditional approach to serving income-qualified areas of the Duke Energy Kentucky service territory by directly installing energy efficiency measures in customer homes. The program engages targeted customers with personal interaction in a familiar setting while ultimately reducing energy consumption by installing energy efficient measures and educating

customers on ways to manage and lower their energy bills. Examples of direct installed measures include energy efficient bulbs, water heater and pipe wrap, low flow shower heads/faucet aerators, window and door air sealing and a year supply of HVAC filter replacements. Targeted low-income neighborhoods qualify for the program if at least 50% of the households are at or below 200% of the federal poverty guidelines. Duke Energy Kentucky analyzes census and internal data to select and prioritize neighborhoods that have the greatest need and propensity to participate. While the goal is to serve neighborhoods where most residents are low income, the program is available to all Duke Energy Kentucky customers within the selected boundary. This program is available to both homeowners and renters occupying single family and multi-family dwellings in the target neighborhoods that have electric service provided by Duke Energy Kentucky.

85. A community-based kick-off event is held in targeted neighborhoods. The kick-off events feature local community leaders, community organizations, weatherization companies, installation vendor and their technical crew. The program manager and vendor provide attendees detailed information on program components and tentative neighborhood schedule. The purpose of the kick-off event is to rally the neighborhood around energy efficiency and educate customers on steps that will contribute to lowering their energy bills. Additionally, attendees have the opportunity to meet technical staff and view measures. Following the kick-off event, customers receive in-home energy assessments (walk-through) and the appropriate energy saving measures are installed if the customer elects to have the work completed. Direct mail and call center support supplement community based outreach.

86. For fiscal year 2018-2019, with a participation goal of 600 homes we have completed 608 homes in Duke Energy Kentucky's Florence territory. Duke Energy Kentucky

has collaborated with the Northern Kentucky Community Action Commission, People Working Cooperatively and other local businesses to rally around our efforts. The program provides residents information about the program and capitalizes on additional services available in their communities. The program has been well received and neighbors are sharing their experience with others.

Program 11: My Home Energy Report Program

87. The My Home Energy Report (MyHER) compares household electric usage to similar, neighboring homes, and provides recommendations and actionable tips to lower energy consumption. The report also informs a customer of the Company's other energy efficiency programs when applicable. These normative comparisons are intended to induce customers to adopt more efficient energy consumption behavior. MyHER is delivered in printed and email form. The reports are distributed up to 12 times per year (2 printed reports and 12 electronic reports if the customer provides their email address). Currently, to qualify to receive the report, customers must be living in a single metered, single family home with 13 months usage history. As of July 1, 2019, there were 1,753 Kentucky MyHER customers receiving reports.

88. The MyHER program, originally an opt out program, has been changed to an opt in program beginning in 2019-2020, the next fiscal term following the Commission's September 13, 2018 Order. The Company provides information on every report as to how a customer may update their information or request to stop receiving the reports. Since the program began in September 2012, only 212 customers (as of July 1, 2019) of roughly 56,000 KY customers participating in the program have chosen to opt out.

89. The Company has designed an interactive portal and enabled email technology to further engage with customers with the intention of increasing the level of engagement with customers and hence their efficiency. This portal is available online and through mobile channels. The portal was rolled out in March 2015 with a small email campaign for MyHER customers for whom we have an email address. As of July 1, 2019, there were 1,748 Kentucky MyHER customers enrolled in the portal.

90. The Company had developed a MyHER program for multifamily dwellings that was available in January 2017. However, the multifamily program was not implemented in KY due to restrictions on program spending.

91. The Company had developed a dual fuel report for Duke Energy Kentucky customers who receive electricity and gas from the Company. Due to restrictions on program spending, KY customers longer receive the dual fuel report and have reverted to receiving the electric usage only report. The Company rolled out a new and improved design of the report including a view of disaggregated usage in third quarter 2017.

Program 12: Small Business Energy Saver Program

92. The purpose of Duke Energy's Small Business Energy Saver program (SBES Program) is to reduce energy usage through the direct installation of energy efficiency measures within qualifying small non-residential Duke Energy Kentucky customer facilities. All aspects of the SBES Program are administered by a single Company-authorized vendor. The SBES Program measures address major end-uses in lighting, refrigeration, and HVAC applications.

93. The SBES Program participants receive a free, no-obligation energy assessment of their facility followed by a recommendation of energy efficiency measures

to be installed in their facility along with the projected energy savings, costs of all materials and installation, and up-front incentive amount from Duke Energy Kentucky. Upon receiving the results of the energy assessment, if the customer decides to move forward with the proposed energy efficiency project, the customer makes the final determination of which measures will be installed. The energy efficiency measure installation is then scheduled at a convenient time for the customer and the measures are installed by electrical subcontractors of the Duke Energy Kentucky-authorized vendor.

94. The SBES Program is designed as a pay-for-performance offering, meaning that the Duke Energy Kentucky-authorized vendor administering the SBES Program is only compensated for kWh energy savings produced through the installation of energy efficiency measures.

95. The SBES Program is available to existing Duke Energy Kentucky non-residential customer accounts with an actual average annual electric demand of 180 kW or less. An individual business entity's participation is limited to no more than five premises on the Company's system during a calendar year.

96. The SBES Program launched in late February 2015, after receiving the Order of Approval from the Commission on January 28, 2015.[11] SmartWatt Energy Inc. (SmartWatt), a company that specializes in administering utility energy efficiency programs nationwide like Small Business Energy Saver, was awarded the contract to administer the Program in the Duke Energy Ohio & Kentucky territories after a lengthy competitive bid and vendor evaluation process. In June of 2019, the contract for the program was transitioned from SmartWatt to Lime Energy. Lime Energy is a leader in the

[11] Case No. 2014-00280

direct install pay for performance market and implements the SBES Program in Duke Energy's other regulated markets.

97. For the July 2018 to June 2019 period, 47 SBES projects were completed in Kentucky, which was a volume lower than what was projected, but those 47 projects resulted in savings of over 851,000 kWh.

98. While LED lighting measures are expected to remain the primary driver of kWh savings in the Program for the foreseeable future, the Company has been actively working with the new vendor Lime Energy to implement initiatives focused on increasing refrigeration and HVAC measure adoption.

99. Duke Energy Kentucky will continue to evaluate the opportunity to add incentivized measures suitable for the small business market to the approved Program which fit the direct install program model. The Company would ultimately like to ensure that small business customers are given the opportunity to maximize their energy savings by being offered a comprehensive energy efficiency project through the SBES Program wherever possible.

Program 13. Smart $aver® Non-Residential Performance Incentive Program

(Formerly filed as Pay for Performance)

100. Duke Energy Kentucky received approval of this non-residential program: Smart $aver® Non-Residential Performance Incentive Program in Case No 2016-00289. The purpose of this program is to encourage the installation of high efficiency equipment in new and existing non-residential establishments. The program will provide incentive payments to offset a portion of the higher cost of energy efficient installations that are not offered under either the Smart $aver® Prescriptive or Custom programs. The types of

measures covered by the program include retro-commissioning and projects with some combination of unknown building conditions or system constraints, coupled with uncertain operating, occupancy, or production schedules. The specific type of measures is included in the contract with the Customer.

101. During the filing period of the fiscal year 2017-2018, the Performance Incentive program was approved to launch in Duke Energy Kentucky and plans to market the program were in place. However, the Company did not market the program due to the high success of our Prescriptive and Custom programs. The result was a lack of participation during the 2018-2019 filing period. Similarly, for 2019-2020, unless participation in other Non-Residential programs declines, the Company does not plan to offer the Performance Incentive program.

Program 14. Power Manager® for Business

102. Power Manager® for Business is a non-residential program that provides business customers with the opportunity to participate in demand response, earn incentives and realize optional energy efficiency benefits. This program is designed as a flexible offer that provides small-to-medium size business customers with options on device types as well as level of demand response participation. Customers first select the type of device from two available options: thermostat or switch. Due to the minimal savings from the program, the program will not continue beyond 2018.

Evaluation, Measurement, and Verification

103. The evaluation, measurement, and verification (EM&V) schedule for each program for program years 2019 – 2021 is available in Appendix P.

Calculation of the 2018 DSM Cost Recovery Mechanism, Rider DSMR

104. The reconciliation of the cost recovery mechanism (Rider DSMR) involves a comparison of projected versus actual program expenses, lost revenues, and shared savings, as well as inclusion of the prior year's reconciliation. The actual cost of residential and non-residential program expenditures, lost revenues, and shared savings for this reporting period was $7.45 million. The projected level of program expenditures was $11.58 million. The primary driver of the variance in projections versus the actual costs was the order in Case No. 2017-00427 requiring a suspension in programs for the filing period.

105. Lost revenues are computed using the applicable marginal block rate net of fuel costs and other variable costs times the estimated kWh savings for a three-year period from installation of the DSM measure. The estimate of kWh savings is based upon the results from any recently completed impact evaluation studies and actual customer participation. Lost revenues accumulate over a three-year period from the installation of each measure, unless a general rate case has occurred.

106. With respect to shared savings, Duke Energy Kentucky utilized the shared incentive of 10% of the total savings net of the costs of measures, incentives to customers, marketing, impact evaluation, and administration. The savings are estimated by multiplying the program spending times the Utility Cost Test (UCT) value and then subtracting the program costs. Shared savings are only valued for installation of new DSM measures.

Home Energy Assistance Program

107. The Company is also offering the Home Energy Assistance (HEA) Program as recently approved by the Commission in its June 4, 2014 Order in Case No. 2014-0094

and approved to continue for a three-year period through December 31, 2017. On June 21, 2017 the program received approval to continue through December 31, 2020.[12] The program reconciliation is in this application in Appendix B, in compliance with the Order[13] received on October 2, 2019. This program was implemented and began collecting funds in November of 2008. During the term of the current reporting period, a total of $263,294 was collected from Duke Energy Kentucky customers ($152,851 electric and $110,443 gas) from July 2018 - June of 2019. For this reporting period, the HEA program provided assistance to approximately 1,450 customers. The total disbursement between electric and gas accounts was approximately $175,331 (electric) and $126,686 (gas) based on the number of electric and gas customers contributing to the fund. These funds are distributed throughout the year by Northern Kentucky Community Action Commission (NKCAC) to assist low income customers' energy bill payments. The administrative costs for this period (2018-2019) totaled $39,394.[14]

2018 DSM Riders

108. Duke Energy Kentucky submits the proposed adjustments to its Rider DSMR for both electric and gas programs (Appendices C and D respectively). The two Rider DSMRs are intended to recover projected July 1, 2020 – June 30, 2021[15] (2021) program costs, lost revenues and shared savings and to reconcile the actual DSM revenue requirement, as previously defined, to the revenue recovered under the riders for the period July 1, 2018 through June 30, 2019. The spreadsheet model contained in Appendix B has

[12] Case No. 2017-00189
[13] Case No. 2018-00370
[14] Administrative costs are based on funds distributed. As NKCAC explained during the hearing (Case No. 2018-00370 on July 31, 2019), the total actual costs for administering the program in previous years was not recorded – Case No. 2018-00370 STAFF-POST HEARING-DR-01-003.
[15] The projected July 1, 2019 – June 30, 2020 program expenditures used in this filing will be trued-up as part of the 2020 annual status report and will be described as 2020 throughout the document.

been used by the Company for a number of years in its Rider DSMR update filings.

109. Appendix B, page 1 of 7, tabulates the reconciliation of the DSM revenue requirement associated with the prior reconciliation, Duke Energy Kentucky's program costs, lost revenues, and shared savings between July 1, 2018 and June 30, 2019, and the revenues collected through the DSMR Riders over the same period. The true-up adjustment is based upon the difference between the actual DSM revenue requirement and the revenues collected during the period July 1, 2018 through June 30, 2019.

110. The DSM revenue requirement for the period July 1, 2018 through June 30, 2019 consists of: (1) program expenditures, lost revenues, and shared savings; and (2) amounts approved for recovery in the previous reconciliation filing.

111. Appendix B, page 6 of 7, contains the calculation of the 2018 – 2019 residential cost allocation factors for gas and electric, as approved in Case No. 2014-00388. These factors are the Electric Percent of Total Percent of Sales, and the Gas Percent of Total Percent of Sales, and are calculated by program. The calculation includes the residential kWh and ccf sales for July 2018 – June 2019, along with the kWh and ccf savings achieved for July 2018 – June 2019. The factors are used in Appendix B, page 1 of 7, columns 5 and 6.

112. Appendix B, page 7 of 7, contains the calculation of the 2020 – 2021 residential cost allocation factors for gas and electric, as approved in Case No. 2014-00388. These factors are the Electric Percent of Total Percent of Sales, and the Gas Percent of Total Percent of Sales, and are calculated by program. The calculation includes the projected Rate RS kWh and ccf sales found in Appendix B, page 4 of 7, along with the projected kWh and ccf savings for July 2020 – June 2021. The factors are used in Appendix B, page 2 of 7, Residential Program Summary, columns G and H (Allocations of Costs).

113. Appendix B, page 5 of 7 contains the calculation of the 2019 Residential DSMR Riders. The calculation includes the reconciliation adjustments calculated in Appendix B, page 1 of 7 and the Residential DSM revenue requirement for 2021. The Projected Residential DSM revenue requirement for 2020 includes the costs associated with the Residential DSM programs: My Home Energy Report, Low Income Neighborhood, Low Income Services, Residential Energy Assessments, Residential Smart $aver®, Power Manager®, and any applicable net lost revenues and shared savings (Appendix B, pages 2 and 3 of 7). Total revenue requirements are incorporated along with the projected electric and gas volumes (Appendix B, page 4 of 7) in the calculation of the Residential DSM Rider.

114. Appendix B, page 5 of 7 also contains the calculation of the 2019 Commercial and Industrial DSM Rider. The calculation includes the reconciliation adjustments calculated in Appendix B, page 1 of 7 and the DSM revenue requirement for 2021. The Commercial & Industrial DSM revenue requirement for 2020 includes the costs associated with the Commercial and Industrial DSM programs: Smart $aver® Custom, Smart $aver® Prescriptive, Small Business Energy Saver, Smart $aver® Non-Residential Performance Incentive Program, and PowerShare® the associated net lost revenues and shared savings (Appendix B, pages 2 and 3 of 7). The 2019 Commercial and Industrial DSMR Rider is calculated in two parts. One part (Part A) is based upon the revenue requirements for Smart $aver® Custom, Smart $aver® Prescriptive, Small Business Energy Saver, Smart $aver® Non-Residential Performance Incentive Program, Power Manager® for Business and PowerShare®. This part is only recovered from all non-residential rate classes except rate TT. The other part (Part B) is based upon the revenue requirements for the PowerShare® program and is recovered from all non-residential rate classes including rate TT.

115. Total revenue requirements are incorporated along with the projected electric volumes (Appendix B, page 4 of 7) in the calculation of the Commercial and Industrial DSM Rider.

116. The Company's proposed DSMR Riders, shown as Appendices C and D, replace the current DSMR Riders. The latest version of DSMR was issued on October 3, 2019 per an Order by the Commission dated October 2, 2019 in Case No. 2018-00370. It was also modified in June 2019 in Case No. 2018-00370. The electric DSMR rider, proposed to be effective with the first billing cycle in the month following Commission approval, is applicable to service provided under Duke Energy Kentucky's electric service tariffs as follows:

- Residential Electric Service provided under:
  - Rate RS, Residential Service, Sheet No. 30.
- Non-Residential Electric Service provided under:
  - Rate DS, Service at Secondary Distribution Voltage, Sheet No. 40;
  - Rate DT, Time-of-Day Rate for Service at Distribution Voltage, Sheet No. 41;
  - Rate EH, Optional Rate for Electric Space Heating, Sheet No. 42;
  - Rate SP, Seasonal Sports, Sheet No. 43;
  - Rate GS-FL, Optional Unmetered General Service Rate for Small Fixed Loads, Sheet No. 44;
  - Rate DP, Service at Primary Distribution Voltage, Sheet No.

45;

- Rate RTP-M, Real Time Pricing – Market-Based Pricing, Sheet No. 59;
- Rate RTP, Experimental Real Time Pricing Program, Sheet No. 99; and,
- Rate TT, Service at Transmission Voltage, Sheet No. 51.

The gas DSM rider is applicable to service provided under the following residential gas service tariff:

- Rate RS, Residential Service, Sheet No. 30.

Calculation of the Residential Charge

117. The proposed residential charge per kWh for 2019 was calculated by dividing the sum of: (1) the reconciliation amount calculated in Appendix B, page 1 of 7; and (2) the DSM revenue requirement associated with the DSM programs projected for 2021, by the projected sales for calendar year 2020. DSM program costs for 2021 include the total implementation costs plus program rebates, lost revenues, and shared savings. The calculations in support of the residential recovery mechanism are provided in Appendix B, page 5 of 7. Based on the updated rider amounts, the estimated annual cost for the average residential customer would be a refund of about $36.41 for electric, and a charge of about $20.75 for gas.[16] The estimated average annual cost for electric per customer decreased due to an over collection for electric of approximately $7.2 million and an under collection for gas of approximately $1.7 million.

[16] The cost for average customer was calculated by using the 2020 forecasted sales of Appendix B page 4 divided by the number of residential electric or gas customers multiplied by the cost per kWh or cost per CCF respectively of Appendix B page 5. The costs are estimates and will vary by customer based on usage.

118. In the 2019 Annual Cost Recovery filing, a new pilot program will be included as part of the 2020 – 2021 program forecast. In Case No. 2016-00152 Duke Energy Kentucky committed to filing a Peak Time Rebate pilot with costs collected through the DSM rider. The Peak Time Rebate pilot was filed[17] for approval on August 15, 2019. Upon approval, Duke Energy Kentucky intends to enroll approximately 1,000 eligible customers. The Company presented the pilot and the EM&V plans to the Collaborative on November 1, 2018.

Calculation of the Non-Residential Charge

119. The proposed non-residential charge per kWh for 2019 was calculated in two parts. The first part (Part A), applicable to all non-residential rate classes except Rate TT, is calculated by dividing the sum of: (1) the reconciliation amount calculated in Appendix B, page 1 of 7; and (2) the DSM revenue requirement associated with the Smart $aver® Custom, Smart $aver® Prescriptive, and Small Business Energy Saver, programs projected for 2020, by the respective projected sales for calendar year 2020. The second part (Part B), applicable to all non-residential rate classes including Rate TT, is calculated by dividing the DSM revenue requirement associated with the PowerShare® program projected for 2021, by total non-residential projected sales for calendar year 2020. DSM program cost for 2021 includes the total implementation costs plus program rebates, lost revenues and shared savings.

120. The rider applicable to all non-residential rate classes except Rate TT is the sum of Part A and Part B. The rider applicable to all non-residential rate classes including Rate TT is only Part B.

[17] Case No. 2019-00277

Allocation of the DSM Revenue Requirement

121. As required by KRS 278.285(3), the DSM Cost Recovery Mechanism attributes the costs to be recovered to the respective class that benefits from the programs. The costs for the Power Manager program are fully allocated to the residential electric class, since this is the class benefiting from the implementation of the program. As required, qualifying industrial customers are permitted to "opt-out" of participation in, and payment for, Smart $aver® Custom and Smart $aver® Prescriptive and Small Business Energy Saver. All of Duke Energy Kentucky's Rate TT customers met the "opt-out" requirements prior to the implementation of the DSM riders in May 1996, and are not subject to this portion of the DSM Cost Recovery Mechanism (*i.e.* Rider DSMR). However, all non-residential customers, including Rate TT customers, will be charged for the PowerShare® program.

WHEREFORE, Duke Energy Kentucky respectfully requests that the Commission review and approve this Application and Duke Energy Kentucky gives notice that the new rates will take effect 30 days from the date of this Application.

Respectfully submitted,

Rocco O. D'Ascenzo (92796)
Deputy General Counsel
Duke Energy Kentucky, Inc.
139 East Fourth Street, 1303-Main
Cincinnati, Ohio 45202
(513) 287-4320
(513) 287-4385 (f)
Rocco.D'ascenzo@duke-energy.com
Counsel for Duke Energy Kentucky, Inc.

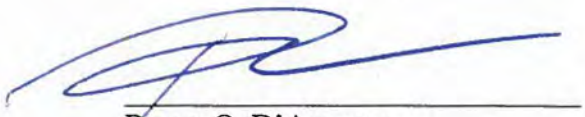
CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing filing was served on the following via overnight mail, this 15th day of November 2019:

Larry Cook
The Office of the Attorney General
Utility Intervention and Rate Division
700 Capital Avenue, Suite 20
Frankfort, Kentucky 40601-8204

Kurt Krahn
Northern Kentucky Community Action Commission
717 Madison Avenue
Covington, Kentucky 41011
kkrahn@nkcac.org

Peter Nienaber
Northern Kentucky Legal Aid, Inc.
302 Greenup
Covington, Kentucky 41011
pnienaber@lablaw.org



Rocco O. D'Ascenzo