## BEFORE THE KENTUCKY PUBLIC SERVICE COMMISSION

In The Matter Of:	)	
THE ANNUAL COST RECOVERY FILING	3	Case No. 2016-00382
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 (TWELFTH REVISED SHEET NO. 62) AND ELECTRIC RIDER DSMR (THIRTEENTH 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, and hereby files its Annual Status Report, Adjustment of the DSM Cost Recovery Mechanism, 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. The Company's articles of incorporation are on file with the Commission in Case No. 2013-00097 and are incorporated by reference herein pursuant to 807 KAR 5:001, Section 14(2). Duke Energy Kentucky is engaged in the business of furnishing natural gas and electric

<sup>&</sup>lt;sup>1</sup> 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 and April 4, 2016 in Case No 2015-00368.

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

- Duke Energy Kentucky's business address is 139 East Fourth Street, Cincinnati,
   Ohio 45202. The Company's local office in Kentucky is Duke Energy Envision Center, 4580
   Olympic Boulevard, Erlanger, Kentucky 41018. Duke Energy Kentucky's email address is KYfilings@duke-energy.com.
- 3. On November 2, 2016, the Residential Collaborative<sup>2</sup> and the Commercial & Industrial Collaborative<sup>3</sup> met to review the Application. With the exception of the Office of the Kentucky Attorney General, which reserves the right to reflect its opinion at a later date, the members of both the Residential Collaborative and the Commercial & Industrial Collaborative had no objections with this Application. Unless otherwise stated, the Residential Collaborative and the Commercial & Industrial Collaborative are jointly referred to herein as "Collaborative."
- 4. In addition to filing the annual status report in this Application, Duke Energy Kentucky and the Collaborative 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. For this filing, Duke Energy Kentucky will be using results of recent impact evaluation studies to provide estimates of lost revenues and shared savings.
- 5. Pursuant to the Commission's Order dated June 29, 2012, in Case No. 2012-00085, the Company's portfolio of programs in effect during the fiscal year covered by this Application were approved through December 31, 2016. As a result, this Application serves as the annual true-up of the fiscal year ending June 30, 2016 of programs.

<sup>&</sup>lt;sup>2</sup> The Residential Collaborative members in attendance were: Jock Pitts (People Working Cooperatively), Peter Nienaber (Legal Aid of the Bluegrass), Kenya Stump (Department of Energy Development and Independence), Florence Tandy (Northern Kentucky Community Action), and Tim Duff and Trisha Haemmerle (Duke Energy).

<sup>&</sup>lt;sup>3</sup> The Commercial & Industrial Collaborative members in attendance were: Jock Pitts (People Working Cooperatively), Kenya Stump (Department of Energy Development and Independence) and Tim Duff and Trisha Haemmerle (Duke Energy).

#### Background

6. The Company's offering of DSM programs dates back close to two decades.<sup>4</sup> 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.<sup>5</sup> The portfolio of programs in place during the fiscal year ending June 30, 2016 and that is the subject of this Application was approved by the Commission's June 29, 2012 Order in Case No. 2012-00085. That Order approved continuation of all programs through December 31, 2016. In Duke Energy Kentucky's 2012 DSM cost recovery Order, Case No. 2012-00495, the Commission ordered that any new program evaluations, program expansions or new programs be filed by August 15<sup>th</sup> each year. Duke Energy Kentucky has been filing this amendment filing since 2013<sup>6</sup> to enhance the DSM portfolio and react to market changes and customer needs. This filing has given Duke Energy Kentucky the opportunity to refresh the portfolio on an annual basis.

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<sup>&</sup>lt;sup>4</sup> 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.

See e.g. December 17, 2002, the Commission issued its Order in Case No. 2002-00358 approving Duke Energy Kentucky's plan to continue the following DSM programs: Residential Conservation and Energy Education, Residential Home Energy House Call, and Residential Comprehensive Energy Education for a three-year period ending December 31, 2005; to continue to fund the expansion and improvement of existing programs and the development of new programs; and to implement a revised low-income home energy assistance program as a pilot through May 31, 2004. These programs were extended through 2009 by the April 4, 2006 Order in Case No. 2005-00402. The Commission, in its November 30, 2003 Order in Case No. 2003-00367, also approved the implementation of Power Manager, a residential direct load control program, through 2007. The Commission's April 4, 2006 Order in Case No. 2005-00402 authorized the Personalized Energy Report (PER) program as a pilot program. The Commission's May 14, 2008, Order in Case No. 2007-00369 approved the Company's Power Manager program through 2012 and approved the PER program for recovery of lost revenues and shared savings.

<sup>&</sup>lt;sup>6</sup> The Commission's December 19, 2013 Order in Case No. 2013-00313 approved residential Heat Pump Water Heaters, Energy Efficiency Pool Pumps, Single Family and Multi-Family Water Measures, and updated the measures available within the Smart \$aver® Prescriptive Program. The Commission's January 28, 2015 Order in Case No. 2014-00280 approved adding additional lighting options to the Smart Saver® Residential Program, offer the My Home Energy Report as an online channel, and approved a new Non-Residential Small Business Energy Saver program. Duke Energy Kentucky also filed for additional program changes in Case No. 2015-00277 and pending case 2016-00289.

- 7. Like the Company's prior annual DSM filings, this Application specifically addresses the requirements in prior Commission Orders<sup>7</sup> 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 and reconciliation portion of this report, expenses are reported for the fiscal year period July 1, 2015 through June 30, 2016.
- In this Application, Duke Energy Kentucky also requests an Order approving the proposed adjustments to the DSM riders and the revised tariffs (Appendices C – D).

#### **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 meaning in Section IV of the Principles of

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 and April 4, 2016 Order in Case No 2015-00368.

Agreement, Demand Side Management, Exhibit 1 to the Application in Case No. 95-312, dated July 15, 1995, (hereinafter referred to as Principles of Agreement, Demand Side Management).

- "Shareholder Incentive" shall have the meaning in Section IV of the Principles of Agreement, Demand Side Management.
- 14. "DSM Cost Recovery Mechanism" shall have the meaning in Section IV of the Principles of Agreement, Demand Side Management.
- 15. "Voucher" shall mean the credit receipt the customer receives from a social service agency. The voucher can be used by the customer as a partial payment toward the utility bill.

#### Status of Prior Portfolio of DSM Programs

- 16. Through June 30, 2016, 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<sup>®</sup> Energy Efficient Products Program;<sup>8</sup>
  - Program 3: Residential Energy Assessments Program (Residential Home Energy House Call);
  - Program 4: Energy Efficiency Education Program 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<sup>®</sup> Custom Program;

<sup>&</sup>lt;sup>8</sup> The Smart \$aver<sup>®</sup> 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.<sup>®</sup> 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 9: Smart \$aver® Energy Assessments Program;
- Program 10: Peak Load Manager (Rider PLM) PowerShare® Program;
- Program 11: Appliance Recycling Program;
- Program 12: Low Income Neighborhood Program;
- Program 13: My Home Energy Report Program; and
- Program 14: Small Business Energy Saver Program.
- 17. This section of the Application provides a brief description of each current program, a review of the current status of each program, and information on any changes that may have been made to the programs. The following table provides a brief summary of the load impacts achieved and level of participation obtained during this filing period.

		Summary of Loa	d impacts July 2015 T	Through June 2016	
Residential Programs		Incremental Participation	kWh	kW	
Appliance Recycling Program	Г	423	172,063	19	
Energy Efficiency Education Program for Schools	1	1,157	361,870	92	
Low Income Neighborhood		618	231,138	68	
Low Income Services		184	244,993	61	
My Home Energy Report	2	56,801	11,639,346	3,435	
Residential Energy Assessments		1,328	429,956	81	
Residential Smart \$aver®		246,942	5,494,950	762	
Power Manager®	3	11,487	-	11,535	
Total Residential	Ι	318,940	18,574,317	16,052	
Non-Residential Programs	Ī	Incremental Participation	kWh	kW	
Smart \$aver® Prescriptive - Energy Star Food Service Products	$\top$	48	109,914	15	
Smart \$aver® Prescriptive - HVAC		199,042	212,557	98	
Smart \$aver® Prescriptive - Lighting		28,778	5,038,750	878	
Smart \$aver® Prescriptive - Motors/Pumps/VFD	1	193	142,480	12	
Smart \$aver® Prescriptive - Process Equipment	П	125	55,054	13	
Smart \$aver® Prescriptive - IT		3	209		
Smart \$aver® Custom		474	1,283,543	153	
Small Business Energy Saver		4,623,189	4,121,864	941	
PowerShare®	4	14	-	40,965	
Total Non-Residential	I	4,851,866	10,964,372	43,074	
Total		5,170,806	29,538,689	59,127	

<sup>1 -</sup> Impacts are net of freeriders, without losses and reflected at the customer meter point.

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

# Program 1 and 2: Residential Smart Saver® Energy Efficient Residences and Products Programs

19. The purpose of the Residential Smart \$aver® Energy Efficient Residences portion of the Residential Smart \$aver® Program is to offer customers a variety of energy conservation measures designed to increase energy efficiency in their homes. The program utilizes a network of contractors to encourage the installation of high efficiency equipment and the implementation

<sup>2 -</sup> Actual participants and impact capability shown as of the June 2016 mailings.

<sup>3 -</sup> Cumulative number of controlled devices installed. Impacts reflect average capability over the contract period.

<sup>4 -</sup> Impacts reflect average capability over the contract period.

of energy efficient home improvements. Equipment and services to be incentivized include:

- Installation of high efficiency air conditioning (AC) and heat pump (HP) systems;
- · Performance of AC and HP tune-up maintenance services;
- Implementation of attic insulation and air sealing services;
- · Implementation of duct sealing and insulation services; and
- Installation of efficient heat pump water heaters.
- 20. 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.
- 21. 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 for AC and HP systems based on the efficiency rating of the system, adding two new optional measures, and a referral component for eligible trade allies as a new delivery channel to enhance customer experience. The two new measures include a smart thermostat and quality

installation. This tier approach 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.

- 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 Compact Fluorescent Lamps (CFLs) component of the program was designed to increase the energy efficiency of residential customers by offering customers CFLs to install in high-use fixtures within their homes. During the first half of 2016, the CFL offer was available through an on-demand ordering platform, enabling customers to request CFLs and have them shipped directly to their homes. In May, the platform was turned off (no longer accepting CFL orders) in preparation of the launch of the free light emitting diode (LED) program and ordering platform in summer 2016.9
  - 25. Through the ordering platform, customers have the flexibility to order and track

<sup>&</sup>lt;sup>9</sup> As approved in Case No. 2016-00112.

their shipments through three separate channels; telephone, Duke Energy web site and 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.

#### • Online Services (OLS):

- Customers who participate in the OLS program are encouraged to log into their account and place their order if they are eligible. New OLS 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.
- 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 CFLs and LEDs including: Reflectors (indoor and outdoor), Globes, Candelabra, 3 ways, Dimmables and A-line type bulbs. The

incentive levels vary by bulb type and the customer pays the difference, including shipping. The maximum number of incentivized bulbs available for each household varies by category but customers may choose to order more bulbs without the Duke Energy Kentucky incentive. Customers can check eligibility and shop for specialty bulbs through the Company Web Site and 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, package tracking and frequently asked questions.

- 28. An educational tool is available to help assist customers with their purchasing decisions. The interactive tool provides information on bulb types, application types, savings calculator, lighting benefits, understanding watts versus lumens and recycling/safety tips.
- 29. The Multifamily Energy Efficiency Program is an extension of the Residential Smart \$aver® lighting program and allows Duke Energy Kentucky to utilize 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 consist of four or more units and are served on an individually metered residential rate schedule. In order 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.
- 30. The Program helps property managers upgrade lighting with energy efficient 13 watt CFLs and also 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 is based on apartment size. Franklin Energy may install up to 12 bulbs in a one bedroom apartment, up to 15 bulbs in a two bedroom apartment and up to 18 bulbs in a three bedroom apartment. These measures assist with reducing maintenance costs while improving tenant satisfaction by lowering energy bills.

31. 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.

Duke Energy Kentucky received approval to replace CFLs with LEDs for the lighting offering associated with the Multi-Family Program.<sup>10</sup>

- 32. 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), enabling customers to request a kit and have it shipped directly to their homes.
- 33. In order to be eligible, customers must have a water heater powered by electricity, have not already participated in SEWK or other Duke Energy Kentucky programs offering low flow water devices and be the resident of a single family home. Eligible customers, who accept the BRC offer, will receive a kit free of charge. There are two kit sizes to accommodate homes

<sup>&</sup>lt;sup>10</sup> In the Matter of the Application of Duke Energy Kentucky, Inc., to Amend its Demand Side Management Programs, Case No. 2016-00112, KY. P.S.C. Order May 10. 2016.

with one or more full bathrooms. The kits contain varying quantities of shower heads, bath aerators, kitchen aerators and insulated pipe tape.

- 34. 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.
- 35. Duke Energy Kentucky also implemented a Retail Lighting marketing channel. This upstream, buy-down retail-based lighting program works 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. Retailers, such as, but not limited to, Home Depot, Lowe's, Sam's Club, Walmart and Costco will be evaluated at the store level for possible inclusion in this program.
- 36. This program encourages customers to adopt energy efficient lighting through incentives on a wide range of LED products, including Reflectors, Globes, Candelabra, 3 Way, Dimmable and A-Line type bulbs, as well as fixtures. Customer education is imperative to ensure customers are purchasing the correct bulb for the application in order to obtain high satisfaction with energy efficient lighting products, ensuring subsequent energy efficient purchases.
- 37. The incentive amount varies by product type and the customer pays the difference as well as any applicable taxes. Pack limits will be in place and enforced to the best of the retailers' ability.
- 38. A vendor will be utilized to implement this program. This vendor will be an industry leader and will leverage their existing relationships and systems established with the participating retailers and manufacturers. Additionally, the vendor will have a field team in place to promote and monitor this program at the participating retail locations. A toll free call center and website will be hosted by the vendor to provide program information to Duke Energy

Kentucky customers. The website will include a retailer locator where customers can enter their zip code and search for retailers and specific bulb and fixture types in their area. A tool available to customers is an interactive savings calculator, which will explain the different types of lighting technologies, help guide customers to the appropriate bulb/s for their application and provide an estimate of energy and monetary savings. Eligible program participants include Duke Energy Kentucky residential customers.

- 39. The primary goals for this program are to help customers lower their energy bills and to remove inefficient equipment from the electric grid. This program educates customers about energy consumption attributed to lighting and how to reduce their consumption by using high efficiency alternatives.
- 40. This program will implement an integrated marketing plan which may include, but is not limited to:
  - Point of Purchase materials at the participating retailer locations
  - Duke Energy and Program website
  - General Awareness Campaigns
    - o Bill Inserts
    - o Email
    - o Digital advertising
    - o Paid advertising/mass media
    - Out of Home advertising
  - Advertised events at key retailers including:
    - o Direct mail
    - o Email

- Paid advertising/mass media (radio, newspaper, etc.)
- Social media
- o In Store materials (fliers, bag stuffers, posters, banners, etc.)
- Community outreach events (home shows, sporting events, cultural events, etc.)
- 41. These marketing efforts are designed to create customer awareness of this program, to educate customers on energy saving opportunities and to emphasize the convenience of Program participation. Additionally, marketing efforts related to advertised in-store events are designed to motivate customer participation.

#### Program 3: Residential Energy Assessments Program

42. 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 home with at least four months usage history and have 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 kit containing a variety of energy saving measures such as 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 thermostat to better manage heating and cooling usage
- Replacing older equipment
- Adding insulation and sealing the home
- 43. In January 2016 the program transitioned lighting technology included in the energy efficiency kit from CFLs to LEDs. During this filing period the primary communication channel included electronic mail and direct mail brochures that were mailed to customers in an effort to acquire the proposed participation for this program process. However, additional channels have been included to offer online awareness via the Duke Energy website as well as through online services.

#### Program 4: Energy Efficiency Education Program for Schools Program

- 44. 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).
- 45. The NEED project provides educators with an engaging and exciting energy curriculum for students in classrooms. The NEED project is designed to teach energy concepts of force, motion, light, sound, heat, electricity, magnetism, energy transformations, and energy

efficiency. Energy curriculum, based upon State standards, and hands-on kits, provided to teachers for use in their classrooms, emphasize science inquiry and application of energy knowledge. Energy workshops are designed to provide educators (teaching grades K-12) with the content knowledge and process skills to return to their classrooms and communities, energize and educate their students, provide outreach to families and conduct energy education programs that assist families in implementing behavioral changes that reduce energy consumption. Teachers can utilize the classroom energy kits and curriculum over many years. In addition, Duke Energy Home Energy Efficiency Kits are delivered to the classrooms to teach students and families how to install energy efficiency measures in their homes and to record energy savings.

- 46. Kentucky NEED manages the overall implementation for the Duke Energy Kentucky program and works with individual schools, teachers, and students to gain the maximum impact for the program. Kentucky NEED has received numerous accolades for its support of energy efficiency and conservation in local schools, for its support of Energy Star's Change the World Campaign, and for the integration of a student/family approach to conservation education. To support, recognize and encourage student energy leadership, Kentucky NEED hosts the annual Kentucky NEED Youth Awards for Energy Achievement in Washington, D.C., honoring teams of students who have successfully planned and facilitated energy projects in their schools and communities. NEED held two teacher workshops in the fall semester of 2015 with 40 teachers representing 18 schools in the September training and 27 teachers participating in the October training.
- 47. To document the energy savings associated with the program, a home survey is provided for use in the classroom and with the Saving Energy at Home and School Kit, which serves as a companion to the Home Energy Efficiency Kits delivered to families in the Duke

Energy Kentucky service area. Data collected from the home survey is collected and provided to Duke Energy Kentucky annually. The data shows that the measures included in the Home Energy Efficiency Kits are being installed and utilized. Pursuant to a notification letter provided to the Kentucky Public Service Commission in March 2016, the Program began providing LEDs in its Home Energy Efficiency Kit in April 2016. The LEDs replace CFLs and offer more advanced lighting technology and greater savings. In addition to LEDs, the Duke Energy Kentucky kit includes an energy efficient shower head, faucet aerators, a hot water temperature gauge card, outlet insulation pads, and a water flow meter bag. During the 2015-16 school year, the NEED program distributed 111 kits to classrooms for Duke Energy Kentucky qualified customers.

- 48. The live theatrical production presented by NTC is designed to educate students about energy efficiency. Participating students are eligible to receive a home energy efficiency starter kit that will be sent to the students' homes. This is the same kit offered through NEED in the classrooms. The NTC program provides principals and teachers with innovative curricula that educate students about energy, electricity, ways energy is wasted and how to use resources wisely. Education materials focus on concepts such as energy, renewable fuels, and energy conservation through classroom and take home assignments, enhanced with a live 25 minute theatrical production by two professional actors. NTC performances target students in grades K-8. During the school year 2015-2016, NTC performed at 49 Kentucky schools, gave 66 performances and reached over 17,000 students. As a result, over 1,000 kits were delivered to Duke Energy Kentucky qualified customers from participating schools.
- 49. Appendix E is the evaluation for the NEED portion of the Energy Efficiency Education for Schools Program. The evaluation was to be completed by the end of the year and

was not finalized at the time the Company made its August 15<sup>th</sup> amendment filing, Case Number 2016-00289. The evaluation is included in this filing to alleviate the need to file a separate case for the report.

**Program 5: Low Income Services Program** 

#### Weatherization

50. The Weatherization program portion of Low Income Services is designed to help the Company's income-qualified customers reduce their energy consumption and lower their energy cost. This program specifically focuses on LIHEAP (Low Income Home Energy Assistance Program) customers that meet the income qualification level (*i.e.*, income below 150% of the federal poverty level). This program uses the LIHEAP intake process as well as other community outreach initiatives to improve participation. The program provides direct installation of weatherization and energy-efficiency measures and educates Duke Energy Kentucky's income-qualified 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

51. 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." The tiered process allows the agencies to be cost effective while spending the limited budgets where there is the most significant potential for savings. For each home in Tier 2, 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**

- 52. Tier 1 services are provided to customers by Duke Energy Kentucky, through its subcontractors. 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 last year's usage (weather adjusted) 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;
- · Pipe Wrap;
- Cleaning of refrigerator coils;
- · Cleaning of dryer vents;
- Compact Fluorescent Light (CFL) 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

53. 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 last year of usage of Duke Energy Kentucky supplied fuels.

Tier Two services are as follows:

- Tier One services; plus
- Additional cost-effective measures (with SIR ≥ 1.5) based upon the results of the NEAT audit. Through the NEAT audit, the utility 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 as long as 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.

54. 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 in excess of 1,000 kWh per year.

Refrigerators tested and replaced:

Refrigerators Tested	Refrigerators Replaced	
116	47	
163	73	
115	39	
116	52	
136	72	
173	85	
153	66	
167	92	
	116 163 115 116 136 173	

112	76	
107	64	
206	69	
112	37	
42	24	
60	22	
	107 206 112 42	107 64 206 69 112 37 42 24

The existing refrigerator being replaced is removed from the home and destroyed 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

55. 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 includes both the early participants and new participants each year.

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 of 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.

- 56. This program is offered over six winter months per year.
- 57. Duke Energy Kentucky utilizes a community action agency to recruit customers to participate in the Payment Plus program. Using a list of potential customers provided by Duke Energy Kentucky, the agency removes any customer who has participated in the program in years past and sends a letter describing the program to the remaining 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 is asked to contact the agency to register for a course. Make-up courses are also offered to those customers who may have missed their initial scheduled time.
- 58. For the filing period beginning in the Fall of 2015, 140 participants attended energy education counseling, 115 participants attended budget counseling and 19 participants' homes have been weatherized.

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

- 59. 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.
- and a bill credit for each Power Manager event. Customers, who select to have their air conditioner cycled to achieve a 1 kilowatt (kW) reduction in load, receive a \$25 credit at installation. Customers selecting to have their air conditioner cycled to achieve a 1.5 kW load reduction, receive a \$35 credit at installation. Customers also receive annual credits depending on the program they signed-up for. In the past we have applied a pro-rated amount for each event called during the month. The pro-rated credit amount appeared on the monthly bill for the month that the events were called. In 2016, we apply an equal amount of their minimal event credit to the first 5 months of the event season (May September). A customer that signed-up for the 1.0 KW option receives an annual, minimal event credit of \$1.00 per month for each year they are on the program and customers that signed-up for the 1.5 KW option receive an annual event credit of \$1.60 per month each year they are on the program. This change was communicated through a Seasonal reminder that was mailed out in May, 2016.
- 61. 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.

- 62. The Company continued promotion of Power Manager during the past fiscal year via email to customers who had opted to receive communications from the Company, direct mail and outbound telemarketing. With telemarketing bringing in the vast majority of enrollments, there were 768 new Power Manager switches installed in the past fiscal year. There were 11,487 air conditioners on the program as of the end of June, 2016; a net increase of 768 during the past year.
- 63. 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.
- 64. There were four Power Manager events that took place from July 1, 2015 through the end of the 2015 event season. There was also a PJM required 1 hour test on September 1, 2015. The events on average saved 11 Megawatts per event during peak periods of demand. There were no events in 2016 through the end of June outside of the general test of the system conducted on May 4, 2016. The test event was successfully conducted to verify the switch and paging system functionality.

65. Duke Energy Kentucky filed to include electric water heaters to the program on August 15, 2016 as well as offering a program to Duke Energy Kentucky customers living in apartments – Power Manager for Apartments.<sup>11</sup>

## Program 7: Smart \$aver® Prescriptive Program

- 66. 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.
- 67. 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.
- 68. The program promotes prescriptive incentives for the following technologies lighting, HVAC, pumps, variable frequency drives, food services, process equipment, and IT measures. The eligible measures, incentives and requirements for both equipment and customer eligibility are listed in the applications posted on Duke Energy's Business and Large Business websites for each technology type.

<sup>&</sup>lt;sup>11</sup>See In the Matter of Duke Energy Kentucky, Inc., to Amend its Demand Side Management Programs, Case Number 2016-00289, Application (August 15, 2016).

- 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 Trade Ally 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 has launched a midstream marketing channel focused on promotions through distributors. Many TAs participating in the traditional application process reduce their invoice to the customer by the amount of the incentive and then receive reimbursement from Duke Energy Kentucky when the incentive is paid. Many customers prefer this rather than paying the full cost upfront and receiving an incentive check from Duke Energy Kentucky. Many distributors are not staffed to handle the paperwork involved in this process. The midstream marketing channel removes this barrier. Distributors validate eligible customers and products through an online portal, and then reduce the customer's invoice by the amount of the Smart \$aver® Prescriptive incentive. Distributors then provide the sales information to Duke Energy Kentucky electronically for reimbursement.
- 71. Duke Energy Kentucky launched on an online application portal for customers and TAs to submit applications and review the status of applications and payments.
- 72. Duke Energy Kentucky continues to offer the Energy Efficiency Store on the Duke Energy Kentucky website. The site provides customers the opportunity for customers to directly

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.

- 73. Duke Energy Kentucky continues to evaluate additional measures for the Prescriptive portfolio in order to offer customers additional options for energy savings. Existing measures are also modified to take into consideration changes to market conditions and energy efficiency standards. For 2017, measures are currently being evaluated and will be presented to the Commission ten days before going into effective in accordance with Case No. 2014-00280. However, the change in measures will not exceed \$75,000.
- 74. As a result of the measure reviews, the Food Service technology category will have an addition of a measure for demand control ventilation for kitchen exhaust hoods to vary the exhaust rate of kitchen ventilation.
  - 75. The following Process technology measures were identified to be added:
    - For agricultural customers: Creep Heat Pad, Dairy Heat Reclaimer, Dairy Plate
      Cooler, Dairy Scroll Compressor, Engine Block Heater Timer, High Efficiency
      Fans, Low Energy Livestock Waterer, Low Pressure Sprinkler, Milk Vacuum
      Pump VFD, Escalator motor efficiency controller.
    - For industrial customers: Air Receiver Tanks for Load/No Load Compressors,
       Compressed air audit and leak repair, cycling compressed air dryer, low pressure drop filter, and no-loss condensate drain.
- 76. The Smart \$aver® program will introduce incentives for two new HVAC technology measures:
  - · Water source heat pump

- · Variable speed drive for chillers
- 77. The Smart \$aver® Prescriptive lighting technology will expand to include the following measures:
  - LED poultry lights for agricultural end-uses;
  - De-lamping of fluorescent 2', 3', 4', and 8' T8 (with and without reflector), as part
    of a lighting retrofit;
  - · Interior induction lighting;
  - · Indoor sport LED lighting;
  - · Lighting Power Density for New Construction;
  - Indoor and outdoor LED channel signs; and
  - An updated list of automated lighting controls, including occupancy sensors
    (with and without daylighting control), photocells, time clocks and daylight
    sensors.
- 78. The Smart \$aver® Prescriptive lighting technology will modify the following measures:
  - · Updates to the 2' and 4' LED linear tube;
  - LED lamps reclassified into three categories: A-lamp, Decorative/Globe/3-way, and PAR/BR/MR; and
  - Reduced incentives on existing measures for LED equipment that have recently seen significant reductions in costs, including downlights, canopy fixtures, flood lights, refrigerated case lights, and panel fixtures.
- 79. A review of the information technology offerings resulted in the addition of occupancy sensors for plug load to turn off office equipment when the workspace is unoccupied.

- \$0. In an effort to increase the number of customers that the Duke Energy Smart \$aver® program can help and motivate to purchase energy efficient equipment, Duke Energy Kentucky has increased the incentive cap from 50% to 75%. The maximum incentive that a customer can receive is listed on the application forms.
- 81. Duke Energy also continues to reach out to those customers who have not yet participated in the Smart \$aver® program.
- 82. 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.
- 83. 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 receive information about the program through direct mail, electronic mail and other direct marketing efforts including outbound call campaigns.
- 84. The internal marketing channel is comprised of assigned Large Business Account Managers, Segment Managers, and Local Government and Community Relations, 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.
- 85. The Company has two business energy advisors to the team to perform outreach to unassigned small and medium business customers. The business energy advisors follow up on

customer leads to assist with program questions and steer customers to the TA search tool who are not already working with a TA. In addition, the business energy advisors are contacting customers with revenue between \$60,000 and \$250,000 to promote the Smart \$aver<sup>®</sup> programs.

## Program 8: Smart Saver® Custom Program

- 86. 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.
- 87. Duke Energy Kentucky contracts with AESC 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.
- 88. During the current reporting period of July 2015 through June 2016, the Kentucky Smart \$aver® Custom Incentive program provided incentives totaling \$108,462 to approximately 13 customers. While this level of participation was low compared to filed budget for the period, participation levels for the next period have increased considerably. High level of participation and incentives are anticipated during the next fiscal period (July 2016 through June 2017), primarily due to high customer interest in LED lighting.
- 89. 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 in DSMore<sup>TM12</sup> to determine an acceptable incentive that ensures cost effectiveness to the program overall, given the energy savings, and improves a customer's payback to move them to invest in energy efficiency.

<sup>&</sup>lt;sup>12</sup> DSMore™ is a financial analysis tool designed to evaluate the costs, benefits, and risks of DSM programs and measures.

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/submeters.

90. Duke Energy Kentucky has launched a suite of simplified calculation tools. Such tools are intended to provide a relatively easy to use, but accurate means of estimating the savings of small, yet complex scopes of work. Additionally, the Company is pursuing a "Fast Track" application path as well as customer assistance for calculating potential energy savings. "Fast Track" involves a streamlined custom application path which enables participation of customer projects that are on short schedules. A pilot effort testing this approach is currently underway in Indiana. Learnings from this effort will be incorporated into a future Fast Track application review approach for Duke Energy Kentucky customers. Regarding energy savings assistance for participants, the Company is implementing a new channel to the Smart \$aver® Custom Program called Calculation Assistance. This purpose of this channel is to provide assistance with Custom project to eligible customers lacking the means to accurately calculate the energy savings required for successful participation in the Custom Program. Interested customers will work with a third party assigned by the Company and will have associated Calculation Assistance costs deducted from their final incentive. In both the case of Fast Track and Calculation Assistance, a customer-friendly method to deduct associated costs from the customer's final incentive check is being pursued.

## Program 9: Smart \$aver® Energy Assessments Program

91. The purpose of this program is to assist customers with the evaluation of energy usage within a specific building(s) and to provide recommendations for energy savings projects.

The program may provide up to a 50% subsidy for an energy efficiency audit completed in

partnership with a Duke Energy contracted professional engineering organization. This program is jointly implemented within the Duke Energy Indiana, Duke Energy Ohio, and Duke Energy Carolinas territories to reduce administrative costs and leverage resources.

- 92. Various types of assessments are offered and tailored to the customer's needs as well as the type and complexity of the facility to be audited. The standard assessment offered mirrors the ASHRAE (American Society of Heating, Refrigeration, and Air-Conditioning Engineers) Level II energy audit criteria. Additionally, ASHRAE Level III assessments (Investment Grade) are also offered when warranted. Other varieties of assessments are available that focus on specific types of buildings or systems. Examples include critical facilities assessments (data centers, labs, and hospitals), compressed air assessments, refrigeration system assessments, and chilled water assessments.
- 93. There are two main customer deliverables for all assessments. The first is an energy report complete with details on how energy is being used and how efficiently the energy infrastructure operates. The report provides Energy Conservation Measures (ECM) that recommend specific projects that can save energy. Each ECM includes estimated energy savings, estimated cost to implement, and estimated payback period. The second deliverable provided by the assessment is the engineering data that is collected and can be utilized to support a Smart \$aver® Prescriptive or Smart Saver® Custom Incentive application. The Duke Energy Kentucky contracted professional engineering firm will assist the customer in completing the Smart \$aver® application.
- 94. During the current reporting period, July 2015 to June 2016, there is currently one customer participating and one customer considering participation in the program.

## Program 10: Peak Load Manager (Rider PLM) - PowerShare® Program

95. 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<sup>®</sup> 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;
- o For the 2015/2016 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<sup>®</sup> will receive an option premium credit;
- For the 2015/16 PowerShare® programs associated with the fiscal year of this filing, there was one enrollment choice for customers relative to

CallOption. The choice required curtailment availability for up to ten emergency events per PJM requirements for capacity participation.

 Only customers able to provide a minimum of 100 kW load response qualify for CallOption<sup>®</sup>.

## QuoteOption<sup>®</sup>:

- O 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;
- o 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<sup>®</sup> product since customer load reductions are voluntary; and
- Only customers able to provide a minimum of 100 kW load response qualify for QuoteOption<sup>®</sup>.

## PowerShare® 2015-2016 Summary

96. Duke Energy Kentucky's customer participation goal for 2015 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 2015 through June 2016, as well as MWs enrolled in the program.

Kentucky PowerShare® Participation Update								
	Call	Option	QuoteOption					
Month	Enrolled Customers*	Summer Capability**	Enrolled Customers*	Summer Capability**				
Jul-15	22	27.05	0	0				
Aug-15	22	27.05	0	0				
Sep-15	22	27.05	0	0				
Oct-15	22	27.05	0	0				
Nov-15	22	27.05	0	0				
Dec-15	22	27.05	0	0				
Jan-16	22	27.05	0	0				
Feb-16	22	27.05	0	0				
Mar-16	22	27.05	0	0				
Apr-16	22	27.05	0	0				
May-16	22	27.05	0	0				
Jun-16	14	18.27***	0	0				

<sup>\*</sup>Enrolled Customers represents the number of parent accounts participating.

(Note that Duke Energy Kentucky has signed 14 contracts for the 2016/2017 PowerShare® CallOption®. Measured and verified MW values for the summer of 2016 will be available and presented in next year's update filing.)

97. During the July 2015 through June 2016 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.

<sup>\*\*</sup>Summer Capability is consistent with the associated program year. Numbers reported are adjusted for losses.

<sup>\*\*\*</sup> Estimated Summer capability

# Duke Energy Kentucky - PowerShare CallOption and QuoteOption Economic, Emergency, and Test Events

July 2015 - June 2016 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
9/1/2015	4 pm to 5 pm	PJM Test	22	21	26.0	28.4	29.8
9/23/2015	4 pm to 5 pm	PJM Re-Test	3	3	1.2	1.7	1.8

<sup>\*</sup> PJM Test Event

(Note that for the summer period of June 2016 through September 2016, zero PowerShare® events have been called. The annual, required, PJM test event was conducted on September 1, 2016 at 4 pm. Information on these events will be available and presented in next year's update filing.)

98. In August 2016, Case Number 2016-00289, the Company filed for Power Manager® for Business. 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. The Company is awaiting approval of this program.

# Program 11: Appliance Recycling Program

99. The Appliance Recycling program encourages customers to responsibly dispose of older, functioning but inefficient refrigerators and freezers. Customers will have the old unit picked up at their home at no charge and will receive an incentive for participating. Disposed units will have 95 percent of material recycled with only 5 percent entering landfills. Program marketing

<sup>#</sup> PJM Re-test Event

consisted of direct mail, social media, and community media events, web site, digital media, broadcast, and publications like newsletters. Point of sale messaging may also be pursued with prominent appliance retailers. On November 19, 2015, JACO, the implementation vendor, abruptly discontinued operations. The impact included delayed and bounced incentive payments to customers who participated in the program and cancellations for customers with appointments scheduled through December. While this program offering is currently suspended, Duke Energy Kentucky continues to analyze the program and determine if submitting an RFP to evaluate the future of the Program is appropriate.

### Program 12: Low Income Neighborhood Program

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 directly installing measures and educating customers on ways to manage and lower their energy bills. Examples of direct installed measures include CFLs, 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 electric usage data and previous program participation to prioritize neighborhoods that have the greatest need and propensity to participate. While the goal is to serve neighborhoods where the majority of 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.

- 101. A community-based kick-off event is held in targeted neighborhoods. The kick-off events feature local community leaders, energy experts, vendor and technical crew. The program manager and vendor provide attendees detailed information on program components and 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.
- 102. For fiscal year 2015-2016, with a participation goal of 600 homes we have completed 618 homes in Duke Energy Kentucky's territory. Services have been completed in neighborhoods located in Newport and Dayton. Duke Energy Kentucky has collaborated with the Northern Kentucky Community Action Commission, the Kentucky Housing Authority and other local businesses to rally around our efforts, provide residents information about the program and capitalize on additional services available in their communities. The program has gained momentum and neighbors are sharing their experience with others, which has produced additional assessments and a 73 percent participation in our latest neighborhood in Newport. Starting January of 2017, the program will be expanded to include LED lighting.

# Program 13: My Home Energy Report Program

103. The My Home Energy Report (MyHER Report) compares household electric usage to similar, neighboring homes, and provides recommendations and actionable tips to lower energy consumption. The report also informs customers 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. The MyHER Report will be delivered in printed or online form to targeted customers with desirable characteristics who are likely to respond to the information. The printed reports are distributed up to 12 times per year; however delivery may be interrupted during the off-peak energy usage months in the fall and spring. Currently to qualify to receive the MyHER Report, customers must be living in a single metered, single family home with 13 months usage history.

- 104. The MyHER program is an opt out program and the Company provides information on every report as to how a customer request to stop receiving the reports. Since the program began in September 2012, only 118 customers (29 in this reporting timeframe) out of roughly 56,000 KY customers participating in the program have chosen to opt out.
- 105. 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 June 30, 2016, there were 998 KY MyHER customers enrolled in the portal.
- 106. The Company has developed a MyHER program for multifamily dwellings that will be available in January 2017.
- 107. The Company is in the process of testing an element of the report targeted at reducing peak demand. This new targeted messaging intended to reduce peak demand uses day-ahead customer notification and a customized post-event home energy email in order to encourage energy demand savings through the principles of social norming.

- 108. The program will target all eligible customers that meet designated criteria. Rather than requiring people to sign up for this demand response program, eligible customers will be automatically enrolled into the program. As a result, this will be an opt-out type of offer. The opt out enrollment method is considered appropriate because the reports contain useful information specific to each customer. For this reason, the reports are deemed to be informational communications about customer accounts rather than solicitations. Customers always retain the ability to opt out at any time with a phone call or email to the contact details listed on every report.
- 109. Duke Energy Kentucky will work with a third party program vendor that uses proprietary methods to analyze the customer's energy usage response to a demand response event and compare it to a peer group. Customers will receive an energy usage report that compares their energy savings during a peak event with similar homes.
- 110. To be eligible, the customer must have an AMI Itron meter where usage data is accessible through EDM and Duke Energy Kentucky must have the customer's e-mail address.
- 111. Duke Energy Kentucky will notify the Commission 10 days before launching this enhancement to the MyHER program. Costs will fall under the \$75,000 threshold.

# Program 14: Small Business Energy Saver Program

- 112. 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.
  - 113. 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-authorized vendor.

- 114. The SBES Program is designed as a pay-for-performance offering, meaning that the Duke Energy-authorized vendor administering the SBES Program is only compensated for kWh energy savings produced through the installation of energy efficiency measures.
- 115. The SBES Program is available to existing Duke Energy Kentucky non-residential customer accounts with an actual average annual electric demand of 100 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.
- Approval<sup>13</sup> from the Kentucky Public Service Commission on January 28, 2015. SmartWatt Energy Inc. (SmartWatt), a company that specializes in administering utility energy efficiency programs nationwide similar to 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.
- 117. The current reporting period, July 2015 to June 2016, marks the first full year of the SBES Program being fully operational, after launching in late February 2015.

<sup>13</sup> Case No. 2014-00280

- 118. During the July 2015 to June 2016 period, the SBES Program experienced a significant amount of interest from Duke Energy Kentucky small business customers, with a total of 158 SBES projects being completed during the period. Due to this customer interest and popularity of the program, the SBES Program exceeded the stated kWh impact projections for the July 2015 June 2016 reporting period. Given the fact the SBES program vendor operates within a "pay-for-performance" agreement wherein Duke Energy compensates the vendor on a per kWh-saved basis, the achievement of additional kWh savings impacts over the amount projected meant that there were additional dollars devoted to the SBES Program during the period.
- 119. Standards continue to change and new more efficient technologies continue to emerge in the market. This continuing market progress led to the addition of Design Lights Consortium-Qualified T8 LED tubes as an incentivized SBES Program measure in the third quarter of 2015.
- 120. In order to increase HVAC-related SBES Program offerings, Duke Energy Kentucky added programmable Wi-Fi enabled thermostats to the Program as an incentivized measure in Q2 2016.
- 121. 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.
- 122. In order to expand the Program offering to more small and medium business customers who would benefit from the direct install model and turn-key Program process, Duke

Energy Kentucky plans to expand SBES Program availability to include all existing non-residential customer accounts with an average annual demand of 180 kW or less, which is an increase from the current eligibility limit of 100 kW annual average demand per account. This eligibility limit expansion will allow a greater number of customers to participate in the Program as well as increase the Program's kWh savings

- 123. At the time in which the SBES Program was filed with the Kentucky Public Service Commission, Duke Energy Kentucky chose to set the eligibility limit at 100 kW to be consistent with the Small Business Energy Saver program offering in Duke Energy Ohio as well as other Duke Energy Corp. jurisdictions. 100 kW was recommended to be the eligibility limit when the SBES program was originally developed due to industry best practices for small business direct install programs at the time of the Program's development.
- 124. However, after repeatedly hearing from customers interested in the Program who were slightly over 100 kW, the Company performed research and analysis on Program participation rates by customer load size. 180 kW was identified as the point at which Smart \$aver® Program participation rates declined, which is why the Company believes 180 kW is the appropriate eligibility limit for the Program. The Company plans to also propose a Program eligibility limit expansion to 180 kW for Duke Energy Ohio as well.

New Program: Smart \$aver<sup>®</sup> Non-Residential Performance Incentive Program (Formerly filed as Non-Residential Pay for Performance)<sup>14</sup>

125. Duke Energy Kentucky requested approval of this new non-residential program: Smart \$aver® Non-Residential Performance Incentive Program in Case No 2016-00289, currently pending before this Commission. The purpose of this program is to encourage the installation of high efficiency equipment in new and existing non-residential establishments. The

<sup>14</sup> Filed in Case Number 2016-00289

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 that will be covered by the Program will 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 will be included in the contract with the Customer. The Company is awaiting approval of this program.

### Calculation of the 2016 DSM Cost Recovery Mechanism, Rider DSMR

- 126. 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 \$12.39 million. The projected level of program expenditures was \$12.02 million.
- 127. 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.
- 128. 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**

129. 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. The program reconciliation is in this application in Appendix B. This program was implemented and began collecting funds in November of 2008. During the term of the current reporting period, a total of \$255,740 was collected from Duke Energy customers (\$148,249 electric and \$107,491 gas) from July 2015 - June of 2016. For this reporting period, the HEA program provided assistance to approximately 1,331 customers. The total disbursement between electric and gas accounts was approximately \$168,194 (electric) and \$121,952 (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 to assist low income customers' energy bill payments. The administrative costs for this period (2015-2016) totaled \$37,845.15

#### 2016 DSM Riders

Applicants submit 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, 2017 – June 30, 2018<sup>16</sup> (2018) 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, 2015 through June 30, 2016. The spreadsheet model contained in Appendix B has been used by the Company for a number of years in its Rider

<sup>15</sup> Administrative costs are based on funds distributed.

<sup>&</sup>lt;sup>16</sup> The projected July 1, 2017 – June 30, 2018 program expenditures used in this filing will be trued-up as part of the 2018 annual status report and will be described as 2018 throughout the document.

DSMR update filings.

- 131. 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, 2015 and June 30, 2016, 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, 2015 through June 30, 2016.
- 132. The DSM revenue requirement for the period July 1, 2015 through June 30, 2016 consists of: (1) program expenditures, lost revenues, and shared savings; and (2) amounts approved for recovery in the previous reconciliation filing.
- 133. Appendix B, page 6 of 7, contains the calculation of the 2015 2016 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 2015 June 2016, along with the kWh and ccf savings achieved for July 2015 June 2016. The factors are used in Appendix B, page 1 of 7, columns 5 and 6.
- 134. Appendix B, page 7 of 7, contains the calculation of the 2017 2018 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 2017 June 2018. The factors are used in Appendix B, page 2 of 7, Residential Program Summary, columns G and H (Allocations of Costs).

Riders. The calculation includes the reconciliation adjustments calculated in Appendix B, page 1 of 7 and the Residential DSM revenue requirement for 2018. The Projected Residential DSM revenue requirement for 2018 includes the costs associated with the Residential DSM programs: Appliance Recycling Program, Energy Efficiency Education Program for Schools, MyHER, Low Income Neighborhood, Low Income Services, Residential Energy Assessments, Residential Smart \$aver<sup>®</sup>, Power Manager and any applicable net lost revenues and shared savings (Appendix B, pages 2<sup>17</sup> 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.

Industrial DSM Rider. The calculation includes the reconciliation adjustments calculated in Appendix B, page 1 of 7 and the DSM revenue requirement for 2018. The Commercial & Industrial DSM revenue requirement for 2018 includes the costs associated with the Commercial and Industrial DSM programs: Smart \$aver® Custom, Smart \$aver® Prescriptive, Small Business Energy Saver<sup>18</sup>, PowerShare®, and the associated net lost revenues and shared savings (Appendix B, pages 2<sup>19</sup> and 3 of 7). The 2016 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 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.

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<sup>&</sup>lt;sup>17</sup> The DSM revenue requirement for 2018 also includes programs and measures filed in Case Number 2016-00289 currently awaiting approval.

<sup>&</sup>lt;sup>18</sup> As filed for approval in Case No. 2014-00280

<sup>&</sup>lt;sup>19</sup> The DSM revenue requirement for 2018 also includes programs and measures filed in Case Number 2016-00289 currently awaiting approval.

- 137. 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.
- 138. The Company's proposed DSMR Riders, shown as Appendices C and D, replace the current DSMR Riders, which were implemented in the first billing cycle of May 2016. 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;
    - o 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;
    - o Rate RTP-M, Real Time Pricing Market-Based Pricing, Sheet No. 59;
    - o Rate RTP, Experimental Real Time Pricing Program, Sheet No. 99; and
    - o 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

139. The proposed residential charge per kWh for 2016 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 2018, by the projected sales for calendar year 2017. DSM program costs for 2018 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 charge of approximately \$93.53 on an annual basis for electric and a refund of about \$8.69 for gas. <sup>20</sup> Due to an under collection for electric by over \$3.5 million dollars and additional residential electric measures and programs during the filing period the average estimated annual cost for electric per customer increased from last year. The estimated average annual cost for gas per customer decreased due to an over collection for gas of approximately \$1.2 million.

### Calculation of the Non-Residential Charge

140. The proposed non-residential charge per kWh for 2016 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 2018, by the respective projected sales for calendar year 2017. The second part (Part B), applicable to all non-residential

<sup>&</sup>lt;sup>20</sup> The cost for average customer was calculated by using the 2017 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.

rate classes including Rate TT, is calculated by dividing the DSM revenue requirement associated with the PowerShare® program projected for 2018, by total non-residential projected sales for calendar year 2017. DSM program cost for 2018 includes the total implementation costs plus program rebates, lost revenues and shared savings.

141. 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.

## Allocation of the DSM Revenue Requirement

142. 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, Small Business Energy Saver and Power Manager® for Business. 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,

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#### CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing filing was served on the following via electronic mail, this 15th day of November, 2016:

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