

**COMMONWEALTH OF KENTUCKY  
BEFORE THE  
KENTUCKY PUBLIC SERVICE COMMISSION**

**In the Matter of:**

<b>THE APPLICATION OF DUKE</b>	)
<b>ENERGY KENTUCKY, INC. TO</b>	)
<b>AMEND ITS DEMAND SIDE</b>	) <b>CASE NO. 2015-00277</b>
<b>MANAGEMENT PROGRAMS</b>	)

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**APPLICATION OF DUKE ENERGY KENTUCKY, INC. TO AMEND ITS  
DEMAND SIDE MANAGEMENT PROGRAMS AND FOR APPROVAL TO CONTINUE  
ITS CURRENT PORTFOLIO BEYOND 2016**

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Comes now Duke Energy Kentucky, Inc. (Duke Energy Kentucky” or the “Company), pursuant to KRS 278.285, and other applicable law, and does hereby request the Commission to approve an amendment of the Demand Side Management (DSM) programs as Ordered by this Commission.<sup>1</sup> In support of its Application, Duke Energy Kentucky respectfully states as follows:

**Introduction**

1. Pursuant to 807 KAR 5:001, Section 14(2), Duke Energy Kentucky is a Kentucky corporation that was originally incorporated on March 20, 1901, is in good standing and, as a public utility as that term is defined in KRS 278.010(3), is subject to the Commission’s jurisdiction. Duke Energy Kentucky is engaged in the business of furnishing natural gas and electric services to various municipalities and unincorporated areas in Boone, Bracken, Campbell, Gallatin, Grant, Kenton, and Pendleton Counties in the Commonwealth of Kentucky.

A copy of its articles of incorporation is on file with the Commission in Case No. 2013-00097.

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<sup>1</sup> *In the Matter of the Application of Duke Energy Kentucky, Inc. for the Annual Cost Recovery Filing for Demand Side Management, Case No. 2012-00495, (Order)(April 11, 2013).*

2. Duke Energy Kentucky's business address is 139 East Fourth Street, Cincinnati, Ohio 45202. The Company's local office in Kentucky is Duke Energy Envision Center, 4580 Olympic Boulevard, Erlanger, Kentucky 41018. Duke Energy Kentucky's email address is KYfilings@duke-energy.com.

3. On November 15, 2012, Duke Energy Kentucky filed an application for the cost recovery of demand side management programs. The Company's application was docketed as Case No. 2012-00495. On April 11, 2013, this Commission approved that Application and Ordered Duke Energy Kentucky to file an application requesting program expansion(s) and to include: (1) an Appendix A, setting forth the Cost Effectiveness Test Results of all DSM programs, (2) an Appendix B, setting forth the recovery of program costs, lost revenues, and shared savings that are used in determining the true-up of proposed DSM factors; and (3) a signed and dated proposed Rider DSMR, Demand Side Management rate, for both electric and natural gas customers, by August 15, annually.<sup>2</sup>

#### **Current DSM Programs**

4. Duke Energy Kentucky has a long history of successful DSM implementation and has been a leader in the industry with respect to energy efficiency (EE) and peak demand reduction (DR) programs, having offered such programs since the mid-90's. Its existing portfolio of DSM programs was approved by the Commission in Case No. 2012-00085,<sup>3</sup> by Order dated June 29, 2012. These programs are as follows:

- Program 1: Low Income Services Program
- Program 2: Residential Energy Assessments Program
- Program 3: Energy Efficiency Education for Schools Program

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<sup>2</sup> See Order, para. 4.

<sup>3</sup> In the Matter of the Application of Duke Energy Kentucky, Inc. for an Energy Efficiency Cost Recovery Mechanism and for Approval of Additional Programs for Inclusion in its Existing Portfolio, Case No. 2012-00085.

- Program 4: Residential Smart Saver Efficient Residences Program
- Program 5: Residential Smart Saver Energy Efficient Products Program
- Program 6: Smart Saver Prescriptive Program
- Program 7: Smart Saver Custom Program
- Program 8: Smart Saver Energy Assessments Program
- Program 9: Power Manager Program
- Program 10: PowerShare
- Program 11: Low Income Neighborhood
- Program 12: My Home Energy Report
- Program 13: Appliance Recycling Program
- Program 14: Non-Residential Small Business Energy Saver Program<sup>4</sup>

5. The above-referenced portfolio of programs is approved to continue through December 31, 2016.

**Expansion of Current DSM Programs and Extension of the Portfolio Term**

6. This Application proposes to expand the scope of the Residential Smart Saver Energy Efficient Residences Program, Residential Energy Assessments Program, and the Smart Saver Prescriptive Program, by increasing or changing the available measures within each program to respond to market conditions and enhance the robustness of the Company's offerings.<sup>5</sup> The Company is also providing an update on measures within the Smart Saver Custom Program and an update to the Non-Residential Small Business Energy Saver Program. The Company is further seeking approval to continue the current approved portfolio beyond 2016 with annual amendment updates and the continued flexibility to add cost effective

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<sup>4</sup> Additional program filed and approved in Case No. 2014-00280

<sup>5</sup> Exhibit F lists the complete set of proposed measures for inclusion.

measures to the list of approved programs listed above in Paragraph 4. Finally, the Company requests the approval to commercialize and continue offering the live, theatrical performance portion of the Energy Efficiency Education Program for Schools and to discontinue the annual evaluations for the Energy Education for Schools Program as Ordered in Case No. 2012-00085. The Residential Collaborative<sup>6</sup> and the Commercial and Industrial Collaborative<sup>7</sup> have reviewed the Company's proposed changes. With the exception of the Office of the Kentucky Attorney General, which will indicate its opinion at a later date, the voting members of both the Residential Collaborative and the Commercial & Industrial Collaborative agreed with this Application.

7. New measures and programs:

**Residential Smart Saver Energy Efficient Residences:**

Residential Smart Saver is proposing to expand the scope of the program by increasing the available measures related to HVAC equipment and an additional marketing referral channel. The HVAC equipment measures have been modified to include a tiered incentive structure, based on the efficiency rating of the new unit installed, along with two additional optional efficiency measures customers can choose to combine with equipment replacement that further improve the efficiency of the HVAC system. Three incentive levels will be made available for customers replacing HVAC equipment. The two new measures include a smart thermostat and quality installation. The smart thermostat is a programmable Wi-Fi enabled

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<sup>6</sup> The Residential Collaborative members receiving the information: Jennifer Black Hans and Heather Napier (Office of the Kentucky Attorney General), Jock Pitts and Nina Creech (People Working Cooperatively), Florence Tandy (Northern Kentucky Community Action Commission), Laura Pleiman (Boone County), Peter Nienaber (Northern Kentucky Legal Aid), Karen Reagor and Pam Proctor (Kentucky NEED Project), Bill Lunsford, Lee Colten, John Davies, and Greg Guess (Department of Energy Development and Independence), Jeremy Faust, Andy Holzhauser and Chris Jones (Greater Cincinnati Energy Alliance), and Tim Duff and Trisha Haemmerle (Duke Energy).

<sup>7</sup> The Commercial & Industrial Collaborative members receiving the information were: Jennifer Black Hans and Heather Napier (Office of the Kentucky Attorney General), Jock Pitts (People Working Cooperatively), Karen Reagor and Pam Proctor (Kentucky NEED Project), Bill Lunsford, Lee Colten, John Davies, and Greg Guess (Department of Energy Development and Independence), Chris Baker (Kenton County Schools) and Tim Duff and Trisha Haemmerle (Duke Energy).

thermostat that is programmed at the time of installation. The quality installation encourages proper installation based on manufacturer guidelines and utilization of high efficiency air conditioning systems and electric heat pumps. The tier approach allows customers to add on additional services and/or equipment replacement measures.

The referral component of the Residential Smart Saver Energy Efficient Residences Program is a new delivery channel that provides a free referral service to customers to enhance program awareness and participation. The service simplifies the customer's decision-making around energy efficiency purchases and takes the guesswork out of finding reliable, qualified contractors with competitive offers. This delivery channel supports the Company's role as an energy efficiency program administrator while building trusted partnerships with customers and HVAC and home performance contractors as well as home builders ("Trade Allies") who interface directly with residential customers. Qualifying Trade Allies may elect to participate in the referral component of the program. The referral component defines a structured mechanism for the Company to provide leads to eligible Trade Allies. Trade Allies are important to the program success because they interface with the customer during the HVAC decision-making event which can have a significant impact on annual energy usage. Qualified HVAC contractors, home performance contractors and new home builders that are registered and actively engaged as a Trade Ally in the program network can choose to participate in the referral network.

The primary goal for the program is to provide eligible customers with a broad selection of energy efficiency measures for their homes. The program will reach customers who are replacing their current HVAC equipment or seeking to improve the performance of their home envelope and HVAC systems. The program measures provide a life cycle management opportunity that enables customers to maintain optimal operation of the HVAC equipment

installed through the program. Exhibit D gives a more detailed description of the program and Exhibit J is the revised program tariff.

**Residential Energy Assessments Program:**

The Residential Energy Assessments Program refers to the Home Energy House Call program. The primary goal for Home Energy House Call (HEHC) is to empower customers to better manage their energy usage and cost. The HEHC program provides a walk through assessment by a Building Performance Institute (BPI) Building Analyst to identify energy savings opportunities in the home. At the time of the home audit, the customer receives a free kit containing a variety of energy saving measures. The current kit includes a low-flow showerhead, kitchen faucet aerator, bathroom aerator, outlet gaskets, and two 13 watt compact fluorescent bulbs, and one 18 watt compact fluorescent bulb.

In response to customer demand as well as characteristics such as high efficacy, longer lifetime, controllability, durability, instant-on and no warm-up period the program is proposing an upgrade to the lighting measures from CFL's to LEDs.

The revised kit will include two LEDs in replacement of the current three CFLs. The program would additionally allow for installation of up to an additional six LEDs as the energy specialist is inside the home and will prioritize high use sockets. All other measures in the kit will remain the same.

Exhibit K is the revised program tariff.

**Non-Residential Small Business Energy Saver Program:**

The Small Business Energy Saver (SBES) program has added LED T8 lamps as an eligible program measure. LED T8 lamps allow small business customers who participate in the program an option to replace existing linear fluorescent fixtures with LEDs without the additional expense of a complete LED new fixture upgrade. All LED T8 lamps offered within the program are required to be listed on the Design Lights Consortium (DLC) Qualified Products List. A new ballast replacement is also required for all LED T8 lamp installations. Program costs are not expected to change with the addition of the LED T8 lamp measure, as the program uses a pay for performance design, where the program vendor is paid only for program kWh savings.

SBES has experienced slightly less participation than anticipated from January through June 2015. This is primarily due to the fact that SBES did not launch until late February 2015, after receiving the Order approving the program on January 28, 2015. The vendor worked the first several weeks after program implementation in Duke Energy Kentucky to building program staff and ramping the program up to a fully operational status. Currently however, SBES is fully operational in Duke Energy Kentucky and is experiencing a large amount of interest from Duke Energy Kentucky small business customers. Due to this interest and the upward trending popularity of the program over the last 3 months, Duke Energy Kentucky expects the program to overachieve the stated kWh impact projections for the July 2015 – June 2016 fiscal year. Given the fact the SBES program vendor operates within a “pay-for-performance” agreement wherein Duke Energy Kentucky compensates the vendor on a per kWh-saved basis, the actual achievement of additional kWh savings impacts beyond the amount originally projected means that there likely will be program costs in excess of the original projections associated with the SBES program.

### **Smart Saver Prescriptive:**

The purpose of the Duke Energy Smart Saver Prescriptive program is to provide incentives to influence customers to take action that they would not have absent of the program incentives. Program management routinely reviews current offerings and market standards to determine changes, additions, and deletions needed to the portfolio.

For 2016, the following measure additions were identified for the Food Service technology category:

- Addition of Floating Head Pressure Controls to take advantage of free cooling/external air temperatures for grocery store refrigeration.
- Addition of Floating Suction refrigeration controls to reduce evaporating temperature based on refrigeration load.
- Addition of Zero Energy Doors containing Argon gas to prevent fog for grocery stores without heated doors.

The following food service measures were modified to take into consideration changes in market conditions and energy efficiency standards: ovens, fryers, dishwashers, and icemakers. Energy Star Vending Machines are removed from the portfolio. Most machines are leased rather than owned. Duke Energy Kentucky continues to offer incentives for vending equipment controllers which are a plug and play device that reduces the energy consumption of the vending machines.

Duke Energy Kentucky is revising the format of the incentives for chillers as well as updating the minimum requirements based on current ASHRAE minimum efficiency requirements. Similar updates are included for rooftop/unitary air conditioning and heat pumps systems, mini-split systems, and packaged terminal air conditioners (PTAC) units. The Smart Saver Prescriptive program will introduce incentives for three new HVAC technology measures:



- Automated Rooftop Controls including variable frequency drives (VFDs), economizers, CO2 sensors, fault detection, diagnostic sensors, software, real time energy consumption monitoring.
- Rooftop Unit Tune-ups for customers without prior maintenance contracts. The tune-ups include checking, adjusting, and resetting equipment to factory conditions so that it performs comparable to a new unit.
- Electronically commutated motor (ECMs) for PTAC unit fans.

The Smart Saver Prescriptive lighting technology will expand to include LED tubes replacing fluorescent tubes. These are in addition to the incentives currently offered for LED panels replacing fluorescent fixtures.

The following LED measures are revised to reflect efficiency of products currently available in the market: LED case lighting, canopy and exterior flood lighting, panels, high bay, low bay, task, track, and shelf mounted lighting. LED bollards will be dropped from the Prescriptive offerings.

A review of the information technology offerings resulted in the following portfolio modifications:

- Electronically commutated (EC) plug fans for data centers
- Changes to controlled plug strip, personal computer (PC) power management, and VFDs for data centers to reflect market standards and baseline changes.
- Discontinue Prescriptive incentives for server virtualization, Energy Star 6.0 small scale servers, Energy Star 2.0 servers, and Energy Star 6.0 desktop computers.

**Smart Saver Custom Program:**

In order to make the Smart Saver Custom program more accessible to a wider range of projects as well as to enhance program efficiency, the Smart Saver Custom program has implemented several functional enhancements. The first of these, referred to as “Custom to Go”

involves relatively easy to use, but acceptably accurate calculation tools. Many of these tools have launched, and others will continue to launch throughout 2015. The “Flat Rate” incentive improvement has also launched, which improves program transparency concerning custom incentives. Development continues into improvements enabling participation of customer projects that are on fast track schedules or for which energy savings are difficult to quantify. A separate letter detailing cost effectiveness as well as any potential change in budget will be submitted at a later date once development on this improvement is complete. Lastly, an improvement based on a “Pay for Performance” approach is being evaluated. It is very likely this improvement will result in a separate program, which will be filed at a later date.

Finally, in an effort to increase the number of customers that the Duke Energy Smart Saver Prescriptive and Custom programs can help and motivate to purchase energy efficient equipment, Duke Energy Kentucky plans to increase the incentive cap from 50% to 75%. The maximum incentive that a customer can receive is listed on the application forms. Incentives are currently capped at 50% of the customer’s cost for the equipment. Duke Energy Kentucky proposes to increase this cap to 75% of the customer’s equipment or project costs.

**Continuing the Demand Side Management Portfolio:**

In 2012, Duke Energy Kentucky filed and received approval for a new portfolio with the programs listed above in this application as Programs 1 through 13 for a five year period ending June 30, 2016.<sup>8</sup> Within that Order, Duke Energy Kentucky was also granted a limited automatic approval process for cost effective pilot programs that are not greater than \$75,000. In the 2012 status update filing, Case No. 2012-00495<sup>9</sup>, the Commission Ordered that Duke Energy Kentucky file any DSM program evaluations, proposed program expansion(s), or new programs

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<sup>8</sup> As filed in Case No. 2012-00085.

<sup>9</sup> *In the Matter of the Application of Duke Energy Kentucky, Inc. for the Annual Cost Recovery Filing for Demand Side Management*, Case No. 2012-00495.

in a separate filing due each year by August 15<sup>th</sup>. Duke Energy Kentucky filed the first amendment filing in 2013 and has continued to meet this requirement in 2014 and within this application for 2015. In 2013, new measures were filed and approved for residential and non-residential programs<sup>10</sup>. In Case No. 2014-00280, Duke Energy Kentucky requested and received approval for a new non-residential program (Non-Residential Small Business Energy Saver Program), as well as, automatic approval of cost effective additions to existing programs of measures that do not exceed \$75,000 per program. Based on these orders, Duke Energy Kentucky has been able to continually update and enhance the DSM portfolio in a cost effective manner, essentially filing an updated portfolio on an annual basis.

Duke Energy Kentucky believes that the transparency and efficiency generated by the Commission's approval of this annual portfolio update filing has created a situation where the need for periodic multi-year portfolio filings is unnecessary. For this reason, Duke Energy Kentucky is requesting to continue to operate its existing current portfolio of programs beyond December 31, 2016, along with the associated flexibility and processes including amendment filings reviewed and approved by the collaborative due by August 15<sup>th</sup> each year, the automatic approval of cost effective pilots and measure changes and a status update filing due each November 15<sup>th</sup>. The amendment filings give an annual update of changes to the portfolio and a refreshed look at costs on an annual basis. The Commission has stated in multiple orders that Duke Energy Kentucky continually informs of the progress and status of the DSM programs by timely filing summary status reports of its programs. With the existing process whereby the Company files for program changes and updates by August 15<sup>th</sup> annually, and for annual rider true-up by November 15<sup>th</sup>, the need to also seek periodic approval of the entire portfolio now seems duplicative and unnecessary. Eliminating this third DSM filing process will reduce the

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<sup>10</sup> As filed in Case No. 2013-00313.

administrative burden for both the Company and the Commission. With the current process of two annual DSM filings, the Commission will maintain its current level of regulatory oversight.

In Exhibit E, the evaluation, measurement, and verification schedule for the remaining time of the current portfolio has been provided to outline when each program has or will be evaluated through 2016. In an effort to keep the PSC updated on the Company's evaluation, measurement and verification status, an annual schedule will be filed each year within the amendment filing.

If the Commission denies this request and requires the Company to file an application to approve a new five year DSM portfolio, Duke Energy Kentucky requests an extension of the current portfolio for another year expiring on June 30, 2017 to prepare all the necessary documentation to file a new portfolio.

**Energy Efficiency Education for Schools:**

In 2012, Duke Energy Kentucky filed and received approval to pilot an additional channel to reach K12 students through a live, theatrical production. The live theatrical production category is presented by The National Theatre Company (NTC) and is designed to educate students about energy efficiency via the theatrical production and participating students are eligible to receive a home energy efficiency starter kit that will be sent to the students' homes. As a result of the approval, Duke Energy Kentucky is required to file a process evaluation status report that assesses program operations and student family surveys as to program awareness, satisfaction, and compliance with installations and recommendations. The status report shall also include an evaluation of engineering estimates and billing analysis. For program year 2012 and 2013, Duke Energy Kentucky has provided evaluations reports as filed under Case No. 2012-00085. The 2014 program

year report will be filed August 15, 2015. The theatrical portion of the program has proven a successful way of reaching students and allowing for energy efficiency measures to be installed in the homes based on the energy efficiency kits the student families receive after signing up for a kit. Duke Energy Kentucky is requesting to continue the live, theatrical production with NTC as part of the portfolio approval as stated above. Duke Energy Kentucky will also continue to work with NEED as part of the Energy Efficiency Education Program for Schools.

Duke Energy Kentucky is also requesting to discontinue the annual evaluations and evaluate the program once during a three year period as suggested by the Company's third party evaluator. Evaluating the program on an annual basis is more costly to customers and provides minimal value to enhance the program.

8. Pursuant to KRS 278.285(1)(b) and the Commission's Order, Exhibit A includes the Cost Effectiveness Test Results of all programs.

9. Pursuant to KRS 278.285(1)(c) and the Commission's Order, Exhibit B includes the calculations to recover program costs, lost revenues, and shared shavings, that are used in determining the true-up of proposed DSM factor(s).

10. A signed and dated proposed Rider DSMR, Demand Side Management Rider, for both electric and natural gas customers, is attached hereto as Exhibit C.

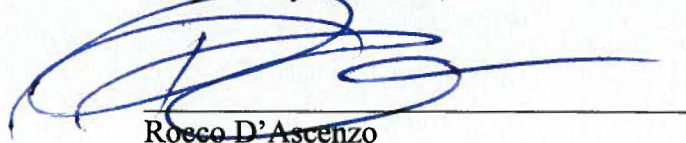
11. Pursuant to KRS 278.285(1)(b) and the Commission's Order, Exhibits E – K includes program evaluations, a list of measure additions and removals and updated program tariffs where applicable.

12. Finally, Duke Energy Kentucky respectfully requests that the Commission's Order in this proceeding approve any tariff modifications to be effective so to align with the

Company's first billing cycle in the month following the Commission's Order. The Company is unable to implement tariff changes immediately upon approval and outside of a billing cycle under its current billing system. The Company needs at least five business days from the issuance of an Order to implement rate changes and appropriately test the calculations.

WHEREFORE, Duke Energy Kentucky respectfully requests that the Commission grant the relief requested herein.

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 ordinary mail, postage prepaid, this 12<sup>th</sup> day of August 2015:

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