COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of:	)	
	)	
ELECTRONIC ANNUAL COST	)	
RECOVERY FILING FOR DEMAND	)	Case No. 2017-00427
SIDE MANAGEMENT BY	)	
DUKE ENERGY KENTUCKY, INC.	)	

DUKE ENERGY KENTUCKY, INC.'S BRIEF

Comes now Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the Company), by counsel, pursuant to the Commission's May 23, 2018 Order setting a schedule for the filing of briefs in the above-styled case and other applicable law, and for its brief in support of retaining its existing portfolio of Demand Side Management (DSM) programs and appropriate cost recovery related thereto, does hereby respectfully state as follows:

I. INTRODUCTION

The Commission has for many years encouraged utilities to develop and implement DSM programs and tariffs. The Company has dutifully complied with the Commission's Orders and its DSM portfolio presently includes sixteen (16) programs, each Commission-approved and publicly filed as part of Duke Energy Kentucky's tariff.[1] The Company's practice of formally offering DSM programs dates to the mid-1990's, following the enactment of KRS 278.285, and it has regularly sought Commission approval to revise and update its DSM portfolio to adjust to market changes and customer needs. Extensive information about the Company's existing DSM offerings, as well as detailed descriptions of amendments to certain programs proposed by the

[1] Duke Energy Kentucky's individual DSM programs are set forth in separate tariffs. *See e.g.* K.Y.P.S.C. Electric No. 2, Original Sheet No.'s 102- 218.

Company, form a part of the record of this proceeding as a result of the Commission's Order consolidating Case Nos. 2017-00427, 2017-00324 and 2018-00009.

DSM plays an impactful role in multiple facets of the Company's operations. Along with many other factors, DSM considerations shape the way the Company trains its employees, interacts with its customers, and plans for its future needs. Duke Energy Kentucky's DSM practices meaningfully influence the way the Company does business at present; most notably, as a member of PJM Interconnection LLC (PJM) operating in PJM's capacity market within the Fixed Resource Requirement (FRR) construct, the Company relies on demand-response capacity benefits to both reduce and meet its load obligations each PJM planning year by lowering peaks during times of increased demand and as a capacity resource to meet its generation requirements.

The February 18, 2018 Order ("Order") entered in this case suspended the operation of Duke Energy Kentucky's DSM programs and has caused a significant hardship for many of the Company's customers who acted in reliance upon the existence of such offerings when making energy efficiency and demand response investments in their homes, businesses and churches. Likewise, the Company has been placed in a precarious position as it fulfills its obligations and plans for future delivery years in the PJM capacity market. For all the reasons set forth herein, Duke Energy Kentucky respectfully requests the Commission to vacate and set aside the Order and reinstate all of the Company's existing DSM programs.

II. BACKGROUND

The Commission's February 14, 2018 Order consolidated three pending cases and directed Duke Energy Kentucky to "take all reasonable steps to suspend all existing DSM programs, except for the Low Income Services and Neighborhood Programs, until sufficient information is filed to clearly demonstrate that all ratepayers benefit from being charged the costs of programs that are

designed to reduce consumption."[2] The Commission also stated, in ordering paragraph 1, that Duke Energy Kentucky "should take all reasonable steps to suspend additional expenditures on its DSM programs, except for the Low Income Services and Neighborhood Programs, until the Commission is able to determine that ratepayer benefits exceed ratepayer costs."[3]

In light of these directives, Duke Energy Kentucky took several affirmative steps to comply with the Commission's Order, including:

- Ceasing all advertising of its DSM programs on its website and through bill usage messages;
- Notifying all vendors and trade allies of the Commission's Order and directing them to cease scheduling new installations;
- Ceasing the processing of new residential incentive applications;
- No longer accepting any incentive applications for the Company's existing non-residential Smart Saver Prescriptive DSM program tariff;
- Accepting, on a limited basis, non-residential incentive applications that are submitted within 90 days of installation, for any installation that is verified as having been completed on or before February 15, 2018;
- Only completing any previously scheduled audits, school programs and other DSM program events for the remainder of the fiscal year;
- Declining to schedule any new DSM program events, audits or school programs;

[2] Order, at 3.

[3] *Id.*

- Honoring only those PowerShare® contracts entered into with customers for the PJM delivery year 2018/2019 and that have already been contemplated to be part of the Company's FRR Plan; and
- Completing evaluation, measurement, and verification (EMV) analysis projects that are already in progress, but refraining from undertaking any new EMV analysis.

The reaction from Duke Energy Kentucky's customers came swiftly. Excerpts from the public comments received by the Commission illustrate the extent to which customers appreciate and rely upon Duke Energy Kentucky's DSM portfolio to manage their energy consumption and lower electric bills.

> Duke energy has made efforts to make it simpler for customers to decrease energy consumption through its online savings program. I recently took advantage of this program and began converting light sources to LED. It has been very helpful to my family, and all of society, to begin the transfer to more efficient light sources. I went online to order LEDs for candelabra type lighting at a good discount, and wanted to change out this type of lighting. But because of your order on February 14, I am unable to do this. I oppose this action. And would like an explanation. Can you help me understand the reasoning and specifically the action and when the issue will be resolved?[4]

> These programs fund a critical service to schools and science programs through their support of the Kentucky NEED Program. I have attended several Teacher workshops through the NEED program and have received many wonderful free supplies to be used in my classroom with my students. My students are much more knowledgeable about alternative energy sources, energy transformations, and energy conservation as a result of these materials. Our school and parents also participated in the Home Energy Efficiency Kit Program which helps many families reduce energy consumption. I highly recommend that funding to this

[4] Email from Susan Fuerst to Andrew Melnykovych (Feb. 23, 2018).

program is resyored [*sic*] for the benefit of schools, teachers, and students all across the state.[5]

Let me take this opportunity to side with green energy and any efforts to stifle it. Any efforts to curb carbon emissions is [*sic*] are worthwhile.[6]

I am writing to express my concern about the suspension of the Duke Energy DSM programs. This is my 13th year teaching in Kentucky public school. For 11 of those years I have been actively involved in the Kentucky NEED (National Energy Education Development) Project. Northern Kentucky NEED is funded through Duke Energy (DSM program) and has done so much for both myself and hundreds of my students over the last decade.

...

The students were able celebrate their hard work, as well as to collaborate/network with other like-minded students each spring at the Kentucky NEED Youth Awards Luncheon thanks to funding from Duke Energy. Many of the students at Tichenor and Lloyd that participated in the Energy Club projects are from families that struggle financially. Duke Energy funding has allowed dozens of these students to represent Kentucky at the National NEED Youth Awards Conference in Washington D.C. This trip has meant so much to so many of these students. Several had not travelled beyond the Greater Cincinnati area prior to this opportunity. Duke Energy and KY NEED provided a truly life changing opportunity for these young people.[7]

It is in the best interest of our state, our country and our world to save energy, and by providing LED bulbs at a reasonable price Duke Energy is helping me do my part in saving energy in my home. I hope that this case is resolved quickly so that I can purchase the bulbs that I need. Conserving energy is a priority for me and my household.[8]

We really hope you are planning to reinstate [the Smart Saver Incentive] program, it has been a great help to our parish and school,

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[5] Email from Anita M. France to Andrew Melnykovych (Feb. 23, 2018).

[6] Email from John Breidert to PSC – Public Information Officer (Feb. 21, 2018).

[7] Email from Jennifer Davis, Ockerman Energy Club Sponsor to PSC – Public Information Officer (Mar. 1, 2018).

[8] Email from Beth Talbert to PSC – Public Information Officer (Mar. 3, 2018).

> especially since we do not benefit from state, county or federal monies. Our funding is strictly from tuition and Sunday collection and donations.[9]

> I am becoming very frustrated by the lack of helpful services to help me save energy when if I lived 5 miles away in Ohio I could easily get this energy audit. Please send this request to whoever has the power to rescind the hold....[10]

The Company filed a Petition for Rehearing of the February 14, 2018 Order, which was granted on March 22, 2018. During the rehearing process, Duke Energy Kentucky responded to written data requests from Commission Staff and the Attorney General. In addition, the Company appeared before the Commission in a hearing held on May 22, 2018. The hearing resulted in two sets of post-hearing data requests, which the Company answered in a filing made on June 1, 2018. The administrative record in this case is complete and ready for a decision by the Commission.

III. ARGUMENT

A. Kentucky Law and Commission Precedent Encourage the Deployment of Reasonable, Cost-Effective DSM Programs

KRS 278.285 was originally enacted in 1994 as House Bill 240 (HB 240). As introduced, the legislation only provided for an opportunity for utilities to propose DSM programs for review by the Commission, however, as HB 240 moved through the legislative process, the ability for industrial customers to opt-out and the advisory role of the Attorney General in the collaborative process were added.[11] HB 240 passed both chambers of the General Assembly without a single dissenting vote.

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[9] Email from Rich Steffe to PSC – Public Information Officer (Mar. 8, 2018).

[10] Email from Susan Vogt to PSC – Public Information Officer (May 8, 2018).

[11] *See* 1994 Ky. Acts Chapter 238, Section 2.

During the 2001 Regular Session of the General Assembly, House Bill 305 added language to KRS 278.285 to include home energy assistance programs as part of the DSM statute.[12] The statute was amended again in 2008 as part of House Bill 2 (HB 2), the follow-up to Kentucky's landmark energy bill, House Bill 1. Recognizing that House Bill 1 had not fully addressed the importance of energy efficiency, HB 2 directed the Commonwealth to implement many of the same energy efficiency measures that would be available through DSM program offerings.[13] In addition, the legislation directed the Commission to consider how advanced metering technologies could achieve efficiencies as well.[14] The legislation passed 93-0 in the Kentucky House and 38-0 in the Kentucky Senate. In 2010, the General Assembly repealed and re-enacted KRS 278.285 in order to fix an unrelated drafting error in HB 2.[15]

In its current form, the DSM statute provides a list of eight (8) non-exclusive factors that the Commission must consider when evaluating whether a DSM program is reasonable:

> (a) The specific changes in customers' consumption patterns which a utility is attempting to influence;
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> (b) The cost and benefit analysis and other justification for specific demand-side management programs and measures included in a utility's proposed plan;
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> (c) A utility's proposal to recover in rates the full costs of demand-side management programs, any net revenues lost due to reduced sales resulting from demand-side management

[12] *See* 2001 Ky. Acts Chapter 11, Section 2.

[13] *See* Kentucky Educational Television (KET) Video Record, Kentucky State Senate Appropriations and Revenue Committee Hearing (Apr. 15, 2008).

[14] *See id*; 2008 Ky. Acts Chapter 139, Section 19.

[15] *See* 2010 Ky. Acts Chapter 5, Section 18; KET Video Record, Kentucky House of Representatives (Jan. 27, 2010).

programs, and incentives designed to provide positive financial rewards to a utility to encourage implementation of cost-effective demand-side management programs;

(d) Whether a utility's proposed demand-side management programs are consistent with its most recent long-range integrated resource plan;

(e) Whether the plan results in any unreasonable prejudice or disadvantage to any class of customers;

(f) The extent to which customer representatives and the Office of the Attorney General have been involved in developing the plan, including program design, cost recovery mechanisms, and financial incentives, and if involved, the amount of support for the plan by each participant, provided however, that unanimity among the participants developing the plan shall not be required for the commission to approve the plan;

(g) The extent to which the plan provides programs which are available, affordable, and useful to all customers; and

(h) Next-generation residential utility meters that can provide residents with amount of current utility usage, its cost, and can be capable of being read by the utility either remotely or from the exterior of the home.[16]

[16] KRS 278.285(1).

However, KRS 278.285(1) is written broadly enough to allow the Commission to consider other factors as well.[17] In return for encouraging customers to purchase less energy, a utility is statutorily entitled to recover "the full costs of commission-approved demand-side management programs and revenues lost by implementing these programs" as well as "incentives designed to provide financial rewards to the utility for implementing cost-effective demand-side management programs."[18] The costs of a DSM program must be assigned to the class or classes of customers which benefit from the program.[19] The statute also includes an opt-out provision for "individual industrial customers with energy intensive processes" that implement their own cost-effective energy efficiency measures.[20]

The Commission's long-standing policy to support and approve reasonable and cost-effective DSM programs is simple and straightforward: "...[T]he Commission believes that...conservation of energy in general is a worthwhile endeavor that should be encouraged."[21] That policy is embedded within the fabric of dozens of Orders and reports to the Kentucky General

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[17] *In the Matter of: Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Review, Modification, and Continuation of Existing, and Addition of New, Demand-Side Management and Energy-Efficiency Programs*, Order, p. 24, Case No. 2014-00003 (Ky. P.S.C. Nov. 14, 2014).

> The statute is permissive, not prescriptive. While the statute specifies certain factors to be considered, it expressly states that the "[f]actors to be considered in this determination [of reasonableness] include, but are not limited to," those enumerated in KRS 278.285(1). Thus, the Commission may exercise its discretion in considering and weighing the factors enumerated in KRS 278.285(1), as well as any other relevant factors. The statute also does not restrict the Commission's consideration to the factors specified in the statute.

[18] KRS 278.285(2).

[19] *See* KRS 278.285(3).

[20] *See* KRS 278.285 (3); *See In the Matter of: Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company for Review, Modification, and Continuation of Existing, and Addition of New, Demand-Side Management and Energy-Efficiency Programs*, Order, p. 30, Case No. 2014-00003 (Ky. P.S.C. Nov. 14, 2014) ("First, the industrial customer must be an energy-intensive customer, and second, the energy-intensive customer must have adopted cost-effective energy-efficiency measures. Thus, there is no justification for a categorical opt-out.").

[21] *See In the Matter of: Consideration of the New Federal Standards of the Energy Independence and Security Act of 2007*, Order, p. 79, Case No. 2008-00408 (Ky. P.S.C. Oct. 6, 2011).

Assembly that have been entered over the nearly twenty-five (25) years that KRS 278.285 has been in effect. In fact, fourteen (14) years following the enactment of KRS 278.285, the Commission commented in 2008, "DSM has considerable untapped potential to help meet Kentucky's future energy needs."[22] Indeed, the Commission lamented at that time that it did not have greater authority to mandate the deployment of more and more DSM programs.

> Under current statutes, DSM programs exist only through the initiative of utility companies. The Commission's authority extends only to the review and approval or denial of such DSM programs and the recovery of costs through associated surcharges. The Commission recommends the existing DSM statute (KRS 278.285) be amended to broaden the Commission's authority to require utilities to implement specific DSM programs. With such authority, the Commission could insure that proven and cost-effective programs are not being overlooked by any given utility. KRS 278.285 as currently written actually limits the Commission's ability to authorize various DSM programs. As DSM becomes more important, the Commission's ability to play a more meaningful role in the development of DSM programs should be enhanced.[23]

Despite the statutory limitations on the Commission's authority, it has historically approved DSM programs that are cost-effective, recognizing that such efforts ultimately benefit customers by decreasing energy usage and lowering utility bills.[24] The direct, positive impact of lower energy bills resulting from more efficient energy consumption is just one aspect of the favorable nature of DSM programs, however. As the Commission has noted, DSM programs also tend to delay the need for a utility to incur significant and long-lasting costs associated with capacity additions, which provides additional benefits to customers.[25] Moreover, the Commission

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[22] *See Electric Utility Regulation and Energy Policy in Kentucky – A Report to the Kentucky General Assembly Prepared Pursuant to Section 50 of the 2007 Energy Act*, Report, p. 3, (Ky. P.S.C. Jul. 1, 2008).

[23] *See id.*

[24] *See In the Matter of: Application of Atmos Energy Corporation to Modify Its Demand-Side Management Program and Cost Recovery Mechanism*, Order, pp. 4-5, Case No. 2010-00305 (Ky. P.S.C. June 21, 2011).

[25] *See In the Matter of: The Joint Application of Louisville Gas and Electric Company and Kentucky Utilities Company Demand-Side Management for the Review, Modification, and Continuation of Energy Efficiency Programs and DSM Cost Recovery Mechanisms*, Order, pp. 8-9, Case No. 2007-00319 (Ky. P.S.C. Mar. 31, 2008) ("KRS 278.285 requires

has found that reasonable DSM programs, in effect, help hedge the risks and costs of compliance with future environmental mandates for electric generating utilities relying primarily upon coal-fired generation.[26] And the Commission has cited the positive benefits attributed to reducing energy consumption in light of increased fuel costs,[27] as well as positive overall environmental impacts.[28] As a result, the Commission requires DSM options to be "a critical part of any evaluation of [a utility's] resources needs."[29]

The process for developing and implementing DSM programs in Kentucky is a model of inclusiveness and cooperation, involving continuous evaluation of programs by utilities,[30] regular coordination with stakeholders through DSM collaboratives,[31] and periodic consultations with energy policy makers.[32] For its part, the Commission has taken into account a variety of factors when evaluating new DSM programs, including conservation of energy, the optimal efficient use

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that the recovery of the full costs of DSM programs, including lost revenues and incentives, are to be borne by ratepayers. While ratepayers will be bearing a larger cost due to the expansion and addition of programs, they will benefit in that LG&E and KU will be able to delay the addition of new generating resources").

[26] *See In the Matter of: Consideration of the New Federal Standards of the Energy Independence and Security Act of 2007*, Order, pp. 21-23, Case No. 2008-00408 (Ky. P.S.C. Oct. 6, 2011) ("The Commission recognizes the importance of greater deployment of energy efficiency initiatives to Kentucky's electric generating utilities due to the reliance on low-cost coal-fired base load generation....The Commission also notes that Kentucky's reliance on coal-fired generation will face increasing pressure as costs are incurred to meet proposed and potential new federal environmental regulations.").

[27] *See Kentucky's Electric Infrastructure: Present and Future – An Assessment Conducted Pursuant to Executive Order 2005-121*, Report, p. 47, (Ky. P.S.C. Aug. 22, 2005).

[28] *See id.*

[29] *See In the Matter of: A Review of the Adequacy of Kentucky's Generation Capacity and Transmission System*, Order, p. 42, Administrative Case No. 387 (Ky. P.S.C. Dec. 20, 2001).

[30] *See id.*

[31] The role of the collaborative is advisory in nature and serves as a resource and sounding-board for utilities. A collaborative does not have any independent authority. *See In the Matter of: The Joint Application of the Members of the Louisville Gas and Electric Company Demand-Side Management Collaborative for the Review, Modification, and Continuation of the Collaborative, DSM Programs, and Cost Recovery Mechanism*, Order, pp. 2 and 19, Case No. 1997-00083 (Ky. P.S.C. Apr. 27, 1998) ("The Commission has no authority to intervene in or referee matters relating to the internal processes and operations of the Collaborative or to resolve internal Collaborative disputes.").

[32] *See In the Matter of: A Review of the Adequacy of Kentucky's Generation Capacity and Transmission System*, Order, p. 42, Administrative Case No. 387 (Ky. P.S.C. Dec. 20, 2001).

of resources, equitable rates for consumers, rate continuity, revenue stability and billing literacy.[33] It is clear throughout over two (2) decades of precedent that the Commission has been careful to balance the overall benefit of a program against the needs of customers "for whom an investment in cost-effective DSM would result in the greatest improvement in living conditions and financial situations."[34] The Commission has characterized this process as finding "the proper balance between the needs of consumers for reliable power at fair, just and reasonable rates and the ability of utilities to generate, transmit and distribute that power."[35] Stated another way, it has been the Commission's goal to implement KRS 278.285 in a fair and balanced manner:

> We believe that the DSM statute, combined with greater movement toward cost-based rates, should provide a reasonable balance between providing incentives to the LDCs to promote energy efficiency and encouraging customers to conserve....[36]

The principal analytical framework for the Commission's review of proposed DSM programs has been the four (4) tests specified in the California Standard Practice Manual (the California Tests). The Participant Cost Test (PCT) evaluates cost effectiveness from the perspective of the customer participating in the program and compares the benefits to the participant through bill savings and incentives from the utility, relative to the costs to the participant for implementing the energy efficiency measure.[37] By contrast, the Utility Cost Test (UCT) compares a utility's investment in EE/DSM versus traditional supply side investments as it

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[33] *See In the Matter of: Consideration of the New Federal Standards of the Energy Independence and Security Act of 2007*, Order, p. 126-127, Case No. 2008-00408 (Ky. P.S.C. Oct. 6, 2011).

[34] *See In the Matter of: Application of Atmos Energy Corporation to Modify Its Demand-Side Management Program and Cost Recovery Mechanism*, Order, pp. 4-5, Case No. 2010-00305 (Ky. P.S.C. June 21, 2011).

[35] *See Electric Utility Regulation and Energy Policy in Kentucky – A Report to the Kentucky General Assembly Prepared Pursuant to Section 50 of the 2007 Energy Act*, Report, p. 3, (Ky. P.S.C. Jul. 1, 2008).

[36] *See In the Matter of: Consideration of the New Federal Standards of the Energy Independence and Security Act of 2007*, Order, p. 97-98, Case No. 2008-00408 (Ky. P.S.C. Oct. 6, 2011).

[37] *See* Hearing Video Record (HVR) 10:02:57 (May 22, 2018).

compares utility benefits (avoided energy, transmission and distribution capacity and generation capacity related costs) to utility costs incurred to implement the program such as marketing, customer incentives, and implementation costs.[38] In the UCT, external benefits such as participant savings or societal impacts are not taken into account. A UCT greater than 1.0 indicates that the total costs to realize the energy savings associated with the EE and DR programs are less than the utility's costs to deliver the energy with supply side resources.[39] The UCT is the primary analytical tool for evaluating cost-effectiveness.[40] The Total Resource Cost (TRC) compares the total benefits to the utility and participants, relative to the costs to the utility to implement the program plus the incremental costs to the participant.[41] The benefits to the utility are the same as those computed under the UCT and the benefits to the participant are the same as those computed under the PCT, however, customer incentives are considered a pass through benefit to customers. As such, incentives or rebates to the customer are not included in the TRC.[42] Finally, the Ratepayer Impact Measure (RIM) Test is a more theoretical analytical method that is designed to indicate if rates are expected to increase or decrease over the long run as a result of implementing the program.[43] The RIM Test compares the benefits to the utility, the same benefits as included in the

[38] *See* HVR 10:03:48. The UCT is also valuable in that it is consistent with the analysis performed by Duke Energy Kentucky in preparation of it triennial IRP. *See* Duke Energy Kentucky Response to Staff-DR-03-005.

[39] *See* Duke Energy Kentucky Response to Staff-DR-03-005.

[40] *See* HVR 10:06:42; 1:59:15.

[41] *See* HVR 10:04:33.

[42] While the TRC test looks at the same avoided costs on the benefit side, the cost side of the test is different and does not represent what the utility will expect to recover through rates. Instead, the TRC test excludes the cost of the measure level incentives that the utility provides to its customers to encourage participation. The TRC replaces this utility-paid customer incentive with the customer's incremental cost to install the more efficient equipment. For this reason it is less consistent with viewing cost effectiveness through the lens of the IRP. *See* Duke Energy Kentucky Response to Staff-DR-03-005.

[43] *See* HVR 10:05:07.

UCT, to the costs required to implement a program including lost revenues. The RIM Test is limited, however, in that it fails to take into account all of the factors used in the UCT Test.[44]

Under each of these cost-effectiveness tests, a score of 1.0 or above indicates the program is cost-effective. By evaluating a proposed DSM program from four (4) unique perspectives, the California Tests have provided a consistent and thorough method for objectively evaluating the cost-effectiveness of a DSM program.

The Commission has not hesitated to express its concerns with DSM programs that fail to be cost-effective,[45] but it has also placed great emphasis on the need for utilities to promote their DSM program offerings and to actively encourage customers to take advantage of such opportunities. For instance, in Case No. 2011-00300, the Commission stated:

> Therefore, the Commission strongly encourages Kentucky Power to promote its DSM programs, educate applicable customers who would qualify for DSM program participation, and work to increase participation levels in its DSM programs. The Commission, also, strongly encourages Kentucky Power to educate its customers about the need for greater energy efficiency due to the rising cost of electric energy and the strain that the demand of electric usage at peak times places on both the Kentucky Power and the American Electric Power systems. We believe that Kentucky Power should make every effort to educate its customers that participation in demand-side programs represents one way in which the customers can impact the extent to which ever-increasing energy costs increase their electric bills.[46]

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[44] *See* HVR 10:09:46.

[45] *See In the Matter of: The Joint Application Pursuant to 1994 House Bill No. 501 for the Approval of the Kentucky Power Company ("KPCO") Collaborative Demand-Side Management Programs, and for Authority for KPCO to Implement a Tariff to Recover Costs, Net Lost Revenues and Receive Incentives Associated With the Implementation of the KPCO Collaborative Demand-Side Management Programs*, Order, p. 4, Case No. 1995-00427 (Ky. P.S.C. Feb. 28, 2000) (The Commission "has previously expressed serious concerns about continuing DSM programs that are not cost-effective or appear incapable of being made cost-effective."); *In the Matter of: Demand Side Management Programs and Cost Recovery Filing for Demand Side Management Programs by The Union Light, Heat and Power Company*, Order, Case No. 1999-00414 (Ky. P.S.C. June 29, 2000).

[46] *See In the Matter of: Application of Kentucky Power Company for Collaborative Demand-Side Management Programs and for Authority to Implement a Tariff to Recover Costs and Net Lost Revenues and Receive Incentives Associated With the Implementation of The Kentucky Power Company Collaborative Demand-Side Management Programs*, Order, p. 9, Case No. 2011-00300 (Ky. P.S.C. Jan. 23, 2012).

But make no mistake about it: the Commission's suggestion that regulated utilities should actively develop and implement cost-effective and reasonable DSM programs has been given repeatedly, consistently and emphatically.[47] All of this, of course, is to fulfill the Commission's goal that "[s]uccessful DSM programs should result in lower electricity and gas usage by participating customers."[48] The Attorney General's Office has also consistently supported cost-effective DSM programs.[49]

B. Duke Energy Kentucky's DSM Portfolio is Cost-Effective and Reasonable

1. Overview of Duke Energy Kentucky's DSM Portfolio

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[47] *See In the Matter of the Application of Blue Grass Energy Cooperative Corporation for an Adjustment of Rates*, Order, p. 6, Case No. 2014-00339 (Ky. P.S.C. May 29, 2015) ("The Commission commends Blue Grass Energy for its DSM/EE programs and encourages it to aggressively pursue new or expanded programs of that nature."); *In the Matter of Consideration of the New Federal Standards of the Energy Independence and Security Act of 2007*, Order, p. 18, Case No. 2008-00408 (Ky. P.S.C. July 24, 2012) ("The five major LDCs shall develop policies and procedures that ensure that cost-effective energy efficiency is given the same priority as all other cost-effective resources"); *In the Matter of: Consideration of the New Federal Standards of the Energy Independence and Security Act of 2007*, Order, p. 79, Case No. 2008-00408 (Ky. P.S.C. Oct. 6, 2011) ("[T]he Commission strongly encourages the LDCs to make greater efforts to consider and offer cost-effective energy efficiency programs."); *In the Matter of the Application of Grayson Rural Electric Cooperative Corporation for an Adjustment in Rates and in Increase in Retail Electric Rates Equal to Increase in Wholesale Power Costs*, Order, p. 4, Case No. 2008-00254 (Ky. P.S.C. June 3, 2009) ("Although Grayson has a number of demand-side management programs in place, the Commission believes that it is appropriate to encourage Grayson, and all other electric energy providers, to make a greater effort to offer cost-effective demand-side management and other energy efficiency programs."); *In the Matter of Consideration of the Requirements of the Federal Energy Policy Act of 2005 Regarding Time-Based Metering, Demand Response, and Interconnection Service*, Order, p. 11, Administrative Case No. 2006-00045 (Ky. P.S.C. Dec. 21, 2006) ("While recognizing the different characteristics of each utility's service territory, the Commission strongly encourages the jurisdictional electric utilities to consider broadening the array of DSM programs available"); *In the Matter of An Assessment of Kentucky's Electric Generation, Transmission, and Distribution Needs*, Order, p. 47, Administrative Case No. 2005-00090 (Ky. P.S.C. Sep. 15, 2005) ("However, as the incremental cost of new generation continues to increase, as fuel costs increase and as new environmental requirements increase the cost of all generation, the Commission believes that utilities will need to give greater consideration to energy efficiency measures, DSM programs, and conservation programs as tools for addressing a larger portion of their customers' demand....").

[48] *See In the Matter of: The Joint Application Pursuant to 1994 House Bill No. 501 for the Approval of the 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 to Recover Costs, Lost Revenues and Receive Incentives Associated With Demand Side Management Programs*, Order, p. 5-6, Case No. 1995-00312 (Ky. P.S.C. Dec. 1, 1995).

[49] *See e.g. In the Matter of: Duke Energy Kentucky, Inc.'s Annual Cost Recovery Filing for Demand Side Management*, Attorney General's Comments, p. 2, Case No. 2015-00368 (Ky. P.S.C. Mar. 17, 2016) ("The Attorney General supports cost-effective DSM programs, and pursuant to KRS 278.285(1)(f) works through [Duke Energy Kentucky]'s DSM collaboratives to participate in the development of, *inter alia*, program design, cost recovery mechanisms, and budgets for each program").

Duke Energy Kentucky's DSM portfolio is administered under the terms of Rider DSM, which enables the Company to use a variety of energy efficiency and demand response programs that incentivize and facilitate customers' implementation of cost-effective measures in a manner that does not penalize the Company or unreasonably erode its earnings.[50] In the absence of Rider DSM, Duke Energy Kentucky would have a "through put" incentive to sell as many kilowatt-hours (kWh) as possible in order to cover its operating costs and earn a reasonable return on capital.[51] As Company witness Timothy J. Duff testified, "programs such as the Company's Rider DSM help to align the utility's interest in selling more electricity with the customer's desire to use less."[52] By reducing load through cost-effective DSM programs, Duke Energy Kentucky has the ability to delay investments in costly generating resources, while also allowing the Company to maximize sales of any excess generation through wholesale markets.[53] Duke Energy Kentucky currently offers a variety of DSM programs, which may be briefly described as follows.[54]

a. Residential Smart $aver® Energy Efficient Residences Program

The Residential Smart $aver® Program consists of two separate components – the Energy Efficient Residences Program and the Energy Efficient Products Program.[55] The purpose 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 of

[50] *See* Timothy J. Duff Direct Testimony, p. 5 (Apr. 12, 2018).

[51] *See id.*

[52] *Id.*

[53] *See id.*

[54] More in-depth descriptions of the various programs with the Company's DSM portfolio are set forth in the Annual Statement in Case No. 2017-00427. They are incorporated herein by reference.

[55] *See* Annual Statement, p. 5, Case No. 2017-00427.

energy efficient home improvements. Equipment and services to be incentivized include: 1) installation of high efficiency air conditioning (AC) and heat pump (HP) systems; 2) performance of AC and HP tune-up maintenance services; 3) implementation of attic insulation and air sealing services; 4) implementation of duct sealing and insulation services; and 5) installation of efficient heat pump water heaters.[56] Additional measures in this program include high efficiency lighting including property manager lighting, high efficiency water measures for single and multi-family residences, and pool pumps.[57] The program has been jointly implemented with Duke Energy Kentucky's Indiana, Ohio and Carolinas affiliates.[58] During 2016-2017, the program exceeded forecasted results due primarily to higher than expected customer participation rates.[59]

b. Residential Energy Assessments Program (Residential Home Energy House Call)

This program is offered to Duke Energy Kentucky residential customers that own a single-family home with at least four (4) months usage history and have an electric water heater and/or electric heat, or central air. The primary goal is to empower customers, so they can better manage energy usage and costs. Duke Energy Kentucky partners with several key vendors to administer the program in 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.[60] The customer receives an audit report that 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 also receives an efficiency kit containing a variety of energy saving measures such as energy efficient lighting,

[56] *See id.*, pp. 8-9.

[57] *See id.*, pp. 10-13.

[58] *See id.*, p. 9.

[59] *See id.*, p. 14.

[60] *See id.*, p. 17.

using a programmable thermostat, installing a low flow showerhead, low flow faucet aerators, outlet/switch gaskets and weather stripping.[61] 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. The installation of additional high efficiency lighting options is also available.

c. Energy Efficiency Education Program for Schools Program

The Energy Efficiency Education Program for Schools offers two (2) 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).[62] 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, are provided to teachers for use in their classrooms. 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 with implementing behavioral changes that reduce energy consumption.[63] 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.

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[61] *See id.*.

[62] *See id.*, p. 18.

[63] *See id.*

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.[64] 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.[65] 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 2016/2017 school year with 46 teachers representing 31 schools in the September training and 14 teachers representing 8 schools participating in the March training.[66]

In addition to the NEED portion of the program, Duke Energy Kentucky also includes a live, theatrical production category to the program. Each performance is performed by two professional actors and lasts approximately 25 minutes. The performances enforce lessons learned in the classroom. Students and their families will continue to be encouraged to order and employ the Home Energy Efficiency Starter Kit.

d. Low Income Services Program

The Low Income Services Program consists of two subprograms – the Weatherization Program and the Payment Plus Plan. While Low Income Services Programs traditionally score lower in the California Tests than other elements of Duke Energy Kentucky's DSM portfolio, they nevertheless are exceedingly valuable to those customers who participate in them.

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[64] *See id.*

[65] *See id.*, p. 19.

[66] *See id.*

(i) Weatherization Program

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 percent of the federal poverty level).[67] 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.[68] The program is structured so that homes needing the most work and having the highest energy use per square foot, receive the most funding.[69] The program accomplishes this by placing each home into one of two "tiers," which allows the agencies to be cost effective while spending the limited budgets where there is the most significant potential for savings.[70] The total amount of program dollars that may be spent on a home for Tier One service[71] is $600 per home.[72] The total amount of program dollars that may be spent on a home for Tier

[67] *See id.*, p. 20.

[68] *See id.*

[69] *See id.*, p. 21.

[70] *See id.*

[71] *See e.g.* K.Y.P.S.C. Electric No. 2, Original Sheet No.'s 106. Weatherization Tier 1. Homes with energy usage up to 7 kWh or 1 therm per square foot of conditioned space can receive up to $600 for weatherization measures.

[72] *See id.*, p. 22.

Two[73] service is $4,000 for weatherization measures. The program also offers equipment replacement for refrigerator replacement and furnace replacements at cost of replacement.[74]

(ii) Payment Plus Program

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 (3) components: 1) Energy Education & Budget Counseling to help customers understand how to control their energy usage and how to manage their household bills using a combined education/counseling approach; 2) Weatherization Services 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 3) 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.[75] Payment assistance credits are provided to each customer once they complete each aspect of the program. The credits are: $200 for participating in the energy efficiency counseling, $150 for participating in the budget counseling, and $150 for participating in the Residential Conservation and Energy Education program (weatherization services). If all the requirements are completed, a household could receive up to a total of $500 towards their arrearage.[76] This allows approximately 200 homes to

[73] *See e.g.* K.Y.P.S.C. Electric No. 2, Original Sheet No.'s 106. Weatherization Tier 2. Homes with energy usage more than 7 kWh or 1 therm per square foot of conditioned space can receive assistance of up to $4,000 for weatherization measures.

[74] *Id.*

[75] *See id.*, p. 25.

[76] *See id.*

participate per year. Some customers do not complete all three steps or may have already had weatherization services completed prior to the program.

e. Residential Direct Load Control- Power Manager® Program

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. Customers selecting the option that moderately cycles their air conditioner, receive a $25 credit at installation. Customers selecting the longer cycling option, receive a $35 credit at installation. Customers also receive annual credits during the months of May-September depending on the program.

f. Smart $aver® Prescriptive Program

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.[77] 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.[78] In addition, the program encourages dealers and distributors

[77] *See id.*, pp. 28-29.

(or market providers) to stock and provide these high efficiency alternatives to meet increased demand for the products. The program promotes prescriptive incentives for the following technologies - lighting, HVAC, pumps, variable frequency drives, food services, process equipment, and IT measures.[79]

During the fiscal year of 2016-2017, 518 applications, consisting of 1,325 measures, were paid for Duke Energy Kentucky prescriptive incentives.[80] Application activity was 133% higher than the previous fiscal year. Much of this increase has been attributed to the continued interest in high efficiency LED lighting measures that were added to the program at the end of 2015.[81] The average payment per paid application was $6,812 (double the average payment per application in the previous period).[82] The Company is willing to move the Smart $aver Prescriptive Program to a reservation based process in order to better control spending to budget.[83]

g. Smart $aver® Custom Program

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

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[78] *See id.*, p. 29.

[79] *See id.*

[80] *See id.*, p. 30.

[81] *See id.*

[82] *See id.*

[83] *See* HVR 9:49:24 (May 22, 2018).

[84] *See* Annual Statement, p. 33.

promotion.[85] The high level of participation in this program is being driven primarily by high customer interest in LED lighting upgrades as well as industrial process upgrade projects.[86] This resulted in the program exceeding filed costs by approximately 16%, while surpassing filed impact goals by 44%.[87]

h. Smart $aver® Energy Assessments Program

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.[88] The program may provide up to a 50% subsidy for an energy efficiency audit completed in partnership with Duke Energy contracted professional engineering organization or a third-party engineering firm of the customer's choice.[89] This program is also jointly implemented within the Duke Energy Indiana, Duke Energy Ohio, and Duke Energy Carolinas territories to reduce administrative costs and leverage resources.[90]

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.[91] Other varieties of assessments are available that focus on specific types of buildings or systems. Examples include critical facilities assessments (data centers, labs, and

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[85] *See id.*

[86] See id., p. 34.

[87] *See id.*

[88] *See id.*, p. 35.

[89] *See id.*

[90] *See id.*

[91] *See id.*

hospitals), compressed air assessments, refrigeration system assessments, and chilled water assessments.[92] Each customer receives two items by completing the program. First, the customer is given an energy report complete with details on how energy is being used and how efficiently the energy infrastructure operates.[93] The report provides Energy Conservation Measures (ECM) that recommends 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.[94]

i. Peak Load Manager (Rider PLM) - PowerShare® Program

PowerShare® is the brand name given to Duke Energy Kentucky's Peak Load Management Program.[95] 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.[96] 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.[97] There are two product options offered for PowerShare® - CallOption® and QuoteOption®.

Under CallOption®, a customer agrees, upon notification by the Company, to reduce its demand by a contracted amount.[98] Each time the Company exercises its option under the agreement, the Company will provide the customer a credit for the energy reduced. Additionally,

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[92] *See id.*

[93] *See id.*

[94] *See id.*

[95] *See* Rider PLM, Peak Load Management Program KY P.S.C. Electric No. 2, Sheet No. 77.

[96] *See* Annual Statement, p. 36.

[97] *See id.*

[98] *See id.*, pp. 36-37.

emergency events may be implemented due to reliability concerns. Participants are required to curtail during emergency events. In addition to the energy credit, customers on the CallOption® will receive an option premium credit. For the 2018-19 Delivery Year, customers had three (3) CallOption participation program choices: "Limited Summer", "Summer Only" and "Annual". Limited Summer has rules that reflect the PJM Limited Demand Response Program, Summer Only rules are similar to Base Capacity and Annual is designed to reflect Capacity Performance.

Under the QuoteOption® program, 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.[99] The customer will decide whether to reduce demand during the event period. If they decide to do so, the customer will notify the Company and provide an estimate of the customer's projected load reduction. Each time the Company exercises the option, the Company will provide the participating customer who reduces load an energy credit. There is no option premium for the QuoteOption® product since customer load reductions are voluntary. Only customers able to provide a minimum of 100 kW load response qualify for QuoteOption®.

In the current PJM delivery year (June 2018 – May 2019), Duke Energy Kentucky submitted approximately 90% of the Power Manager® program peak capability and approximately 85% of the CallOption® program to PJM in satisfy the Company's FRR capacity plan.[100] Moreover, the level of participation in the Power Manager® program is high enough to assure that only about 40% of the program's total capability will be pledged in fulfillment of the Company's

[99] *See id.*, pp. 37-38.

[100] *See* Duff Direct, p. 18. Beginning with the 2020-2021 delivery year, Power Manger® will need to be updated or paired with another program in order to satisfy PJM's Capacity Performance standards. *See id.*

FRR plan.[101] Altogether, the PowerShare® program accounts for approximately 18 MWs of available capacity and the Power Manager® program accounts for 14 MWs of available capacity.[102]

j. Low Income Neighborhood Program

The Duke Energy Kentucky Residential Neighborhood Program takes a nontraditional approach to serving income-qualified areas of the Duke Energy Kentucky service territory by directly installing energy efficiency measures in customer homes.[103] The program engages targeted customers with personal interaction in a familiar setting while ultimately reducing energy consumption by installing energy efficient measures and educating customers on ways to manage and lower their energy bills.[104] Examples of direct installed measures include energy efficient bulbs, water heater and pipe wrap, low flow shower heads/faucet aerators, window and door air sealing and a year supply of HVAC filter replacements.[105] 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.[106] Duke Energy Kentucky analyzes census and internal data to select and prioritize neighborhoods that have the greatest need and propensity to participate. While the goal is to serve neighborhoods where 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

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[101] *See id.*, p. 19.

[102] *See* Verderame Direct, p. 25.

[103] *See* Annual Statement, p. 40, Case No. 2017-00427.

[104] *See id.*

[105] *See id.*

[106] *See id.*

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.[107]

For fiscal year 2016-2017, the program had a participation goal of 600 homes, however, 689 homes in Duke Energy Kentucky's territory completed the program.[108] Services have been completed in neighborhoods located in Newport and Covington where Duke Energy Kentucky has collaborated with the Northern Kentucky Community Action Council, the Kentucky Housing Authority and other local businesses to rally around our efforts.[109] The program has been well received and neighbors are sharing their experience with others which has produced additional assessments and a 74% participation in the Company's latest neighborhood in Covington.[110]

k. My Home Energy Report Program

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 while also informing a customer of the other energy efficiency programs available if applicable.[111] 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.[112] 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.[113] Currently to

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[107] *See id.*, p. 41.

[108] *See id.*

[109] *See id.*

[110] *See id.*

[111] *See id.*, p. 42.

[112] *See id.*

[113] *See id.*

qualify to receive the MyHER Report, customers must: (1) have an active residential account; (2) have 12 months of usage history; (3) have the same service address as mailing address; (4) not be in an apartment; (5) not be in a multi-family residence (using Experian data); and (6) may only have single meter at the residence.[114] The MyHER program is an opt-out program and the Company provides information on every report as to how a customer may request to stop receiving the reports. Since the program began in 2012, only 144 customers out of approximately 56,000 customers participating in the program have chosen to opt-out.[115]

l. Small Business Energy Saver Program

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.[116] The SBES Program measures address major end-uses in lighting, refrigeration, and HV AC applications and 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.[117] 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.

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[114] *See* Duke Energy Kentucky Response to Staff-DR-03-001.

[115] *See* Annual Statement, p. 42.

[116] *See id.*, p. 43.

[117] *See id.*

The SBES Program is designed as a pay-for-performance offering, meaning that the authorized vendor administering the SBES Program is only compensated for kWh energy savings produced through the installation of energy efficiency measures.[118] The SBES Program is available to existing Duke Energy Kentucky non-residential customer accounts with an actual average annual electric demand of 180 kW or less.[119] An individual business entity's participation is limited to no more than five premises on the Company's system during a calendar year.[120]

While LED lighting measures are expected to remain the primary driver of kWh savings in the Program for the foreseeable future, it is encouraging to see that refrigeration measures continue to increase in participation.[121] HVAC measures, however, continue to struggle due to the kWh savings-based incentive structure, long payback periods and high measure cost to savings ratio.[122] However, Program management is working with the vendor to place more focus on offering programmable Wi-Fi enabled thermostats, which were added to the Program as an incentivized measure in 2016.[123]

m. Smart Saver® Non-Residential Performance Incentive Program

The purpose of this program is to encourage the installation of high efficiency equipment in new and existing non-residential establishments.[124] The program will provide incentive payments to offset a portion of the higher cost of energy efficient installations that are not offered under either the Smart $aver® Prescriptive or Custom programs. The types of measures covered

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[118] *See id.*, p. 44.

[119] *See id.*

[120] *See id.*

[121] *See id.*, p. 45.

[122] *See id.*

[123] *See id.*

[124] *See id.*, p. 46.

by the Program include retro-commissioning and projects with some combination of unknown building conditions or system constraints, coupled with uncertain operating, occupancy, or production schedules.[125] The specific type of measures to be implemented are included in the contract with the Customer. Due to the success of the Smart Saver® Prescriptive and Custom programs, however, the Company has not had to actively market the Smart Saver® Non-Residential Performance Incentive Program since its approval in 2016.[126]

n. Power Manager® for Apartments

Power Manager® for Apartments is a residential load control program focused on Apartment Complexes/Communities. It is used to reduce electricity demand by controlling residential air conditioners and when available, electric water heaters during periods of peak demands.[127] A load control device is attached to the outdoor air conditioning unit and water heater of participating customers, which enables Duke Energy Kentucky to cycle central air conditioning systems off and on when the load on Duke Energy Kentucky's system reaches peak levels during the cooling season.[128] In addition, this program enables Duke Energy Kentucky to cycle the electric water heaters off when the load on the system reaches peak levels-any time of year.[129] The program is not currently being offered to customers.[130]

o. 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

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[125] *See id.*

[126] *See id.*

[127] *See id.*

[128] *See id.*

[129] *See id.*

[130] *See id.*; HVR 9:20:30 (May 22, 2017).

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.[131] Customers first select the type of device from two available options: thermostat or switch. Customers who opt for the thermostat will have the ability to manage their thermostat remotely via computer, tablet or smartphone.[132] The thermostat comes with presets designed to help the business manager/owner set an efficient schedule that works for their business, allowing them to realize additional benefits in the form of energy efficiency impacts/savings.[133] Customers then select one of three levels of summer demand response (DR) participation, and earn an incentive based upon that selection. Both thermostat and switch customers have the same DR participation options and receive the same DR incentives.[134]

2. Duke Energy Kentucky's Portfolio Benefits Both Customers and the Company

Developing and implementing a reasonable, cost-effective DSM portfolio has been a twenty-year process of innovation, evaluation and improvement for Duke Energy Kentucky. The current portfolio is a modest portion of the average residential customer's monthly bill, but that small cost results in a significant number of direct and indirect benefits that are shared both by the Company and the customer. The current suspension of the Company's non-Low Income DSM programs creates a hardship for customers and ignores the meaningful benefits which the portfolio's offerings afford them.

First and foremost, Duke Energy Kentucky's DSM portfolio allows customers to be proactive in reducing their energy consumption and, as a result, lower their monthly electric

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[131] *See* Annual Statement, p. 48.

[132] *See id.*

[133] *See id.*

[134] *See id.*

bills.[135] The most obvious evidence of the success of the Company's DSM programs are found in the number of energy efficiency measured deployed and in the verified kWh and kW savings. The DSM programs offered by Duke Energy Kentucky combined had over 4.85 million recordable instances of energy savings, representing nearly 45 million kWh in energy savings during the most-recent fiscal year (July 2016 – June 2017).[136] In addition to the PowerShare® and Power Manager® programs, Duke Energy Kentucky has verified 13,864 kW of residential efficiencies gained and 24,477 kW of non-residential efficiencies gained.[137] Independent EMV analysis demonstrates that 87% of the energy efficiency savings is directly attributable to the existence of the programs.[138]

Second, many of the Company's DSM programs provide a mechanism for customers to directly fund cost-effective measures and equipment that will lower their overall consumption.[139] Without incentives such as those available through the DSM portfolio, it would be financially difficult for many of Duke Energy Kentucky's customers to invest in the energy efficiency products and treatments that serve to lower their overall energy costs. Making an investment in energy efficiency in the short-term will most certainly pay dividends over a long-term period, thereby affording customers more disposable income and a better standard of living.

Third, customers benefit when reduced consumption, particularly in peak hours, lowers the Company's total load, reducing the capacity obligation assessment from PJM and thereby delaying

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[135] *See* Duff Direct, p. 17.

[136] *See* Annual Statement, p. 7, Case No. 2017-00427; Duke Energy Kentucky Response to Staff DR-01-004(a).

[137] *See* Duke Energy Kentucky Response to Staff DR-01-004(a), Attachment.

[138] *See* Duff Direct, pp. 20-21. The subject of EMV analysis was discussed throughout the hearing and includes home visits, billing analysis and engineering analysis, among other actions. *See e.g.* HVR 9:34:05; 9:41:54; 9:44:07; 11:18:45. While the EMV process varies from one program to another, each independent analyst pulls sufficient data to form a statistically significant sample to achieve a confidence level of 90% or greater. *See* HVR 11:19:50; 1:28:05.

[139] *See* Duff Direct, p. 17.

the need for Duke Energy Kentucky to make costly investments in new electric generation, transmission and distribution resources.[140] Other utilities in Kentucky may have declining or flat load growth, but that is the not the case for Duke Energy Kentucky.[141] The value of avoiding the need to make incremental investments in new utility resources remains valid and valuable for the Company. While only the PowerShare® and Power Manager® Program MWs dedicated to the Duke Energy Kentucky FRR plan are explicitly recognized as capacity resources, the cumulative impact of the entire portfolio of DSM programs is implicit in the actual peaks.[142] One consequence of the Company's DSM programs, unsurprisingly, is a palpable decrease in the customer load the Company must plan to serve. These savings are attributed to Duke Energy Kentucky through PJM's load forecasting processes which takes into account actual historical loads.[143] Any energy efficiency or demand response tool that lowers Duke Energy Kentucky's system peak allows the Company to avoid incremental energy purchases, capacity additions and higher reserve margins. These savings are more difficult to quantify, as they represent future expected customer costs perhaps, but they are no less real.

Fourth, to the extent that energy efficiency measures and demand management tools reduce the total amount of electric load on the system, Duke Energy Kentucky has the opportunity to monetize any existing excess generation capacity and flow the proceeds of resulting wholesale sales back to customers through Rider PSM.[144] The ability of the Company to shave its peak demands allows it to sell any excess energy into the PJM real-time market at the very periods when

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[140] *See id.*, pp. 17-18; HVR 11:03:30 (May 22, 2018).

[141] *See* HVR 11:04:00 (May 22, 2018).

[142] *See* Duke Energy Kentucky Response to Staff Post-Hearing-DR-01-004(a).

[143] *See id.*

[144] *See* Duff Direct, p. 17.

prices are highest.[145] This has the benefit of saving money on energy bills and maximizing the value available to customers under Rider PSM which tracks such off-system sales.[146]

Fifth, as part of one of the largest utilities in the nation, Duke Energy Kentucky leverages resources from within its corporate affiliates to manage its cost and make the DSM program as efficient as possible. For instance, the Company is able to utilize the best practices for DSM programs identified throughout the Duke Energy Corporation footprint to share talent, techniques and methods that gain efficiencies.[147] Likewise, Duke Energy Kentucky is able to leverage its affiliations to obtain better unit pricing from vendors to a degree that would be likely impossible if attempted to be replicated in isolation.[148] While maintaining a robust DSM portfolio, Duke Energy Kentucky has done a good job managing associated costs. Over the period from 2010 through 2018, revenue from Rider DSM has accounted for an average of only 4.4% of the Company's revenues from residential customers.[149]

Finally, in light of the foregoing considerations, it should come as no surprise that Duke Energy Kentucky's DSM portfolio passes the cost-effectiveness evaluations of the California Tests with flying colors. The Company's overall DSM portfolio had a UCT of nearly 2.0 and favorable scores on each of the other three California Tests, using escalated 2016 avoided cost data to project the July 2018 to June 2019 portfolio.[150] Appendix A to the Testimony of Company witness Timothy Duff demonstrates the value of each program under each of the California Tests:

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[145] *See* Verderame Direct, pp. 31-32.

[146] *See id.*, pp. 31-32.

[147] *See* Duff Direct, p. 26.

[148] *See id.*

[149] *See* Duke Energy Kentucky Response to AG-DR-02-001, Attachment, p. 1.

[150] *See* Duff Direct, pp. 24-25, Attachment TJD-1; HVR 10:30:30; 11:23:57 (May 22, 2018).

Appendix A – Based on Updated Avoided Costs
Cost Effectiveness Test Results of Portfolio (July 2018-June 2019)

Program Name	UCT	TRC	RIM	PCT
Residential Programs				
Appliance Recycling Program				
Energy Efficiency Education Program for Schools	1.13	1.38	0.60	
Low Income Neighborhood	0.47	1.39	0.35	
Low Income Services	0.31	1.49	0.25	
My Home Energy Report	1.40	1.40	0.68	
Residential Energy Assessments	1.37	1.47	0.65	
Residential Smart $aver®	1.53	1.34	0.64	3.65
Power Manager®	2.78	4.23	2.78	
Power Manager® for Apartments				
Total		1.67	0.75	5.28
Non-Residential Programs				
Power Manager® for Business	1.10	1.34	0.83	
PowerShare®	2.06	6.09	2.06	
Small Business Energy Saver	2.32	0.99	0.86	2.06
Smart $aver® Non-Residential Performance Incentive Program	3.34	1.23	0.86	2.19
Smart $aver® Custom	2.57	0.69	0.79	1.27
Smart $aver® Prescriptive - Energy Star Food Service Products	3.84	1.84	0.92	3.73
Smart $aver® Prescriptive - HVAC	3.04	1.52	1.26	1.66
Smart $aver® Prescriptive - Lighting	3.28	0.99	0.96	1.46
Smart $aver® Prescriptive - Motors/Pumps/VFD	0.00	0.00	0.00	3.24
Smart $aver® Prescriptive - Process Equipment	0.00	0.00	0.00	4.10
Smart $aver® Prescriptive - IT	0.00	0.00	0.00	5.70
Total	2.61	1.11	0.99	1.63
Overall Portfolio Total	1.97	1.28	0.88	2.28

Each of the active residential and non-residential DSM programs – with the notable exception of the two Low Income programs – has a positive UCT score, which is the most appropriate primary screen for measuring of cost-effectiveness. Even though the Low Income DSM programs are not cost-effective under the California Tests, there is significant societal value in retaining these programs.[151] Though Duke Energy Ohio's Low Income Weatherization Program may be more cost-effective than the Duke Energy Kentucky program, the Kentucky program provides a greater benefit to low income customers.[152]

[151] *See* HVR 11:05:30.

[152] *See id.* 1:09:30.

Duke Energy Kentucky's DSM portfolio of programs, factoring both energy and capacity values, has been, and continues to be cost effective. Mr. Duff's testimony further demonstrates that even if the Company removed the avoided capacity values from its cost-effective analysis on its 2016-2017 portfolio, the portfolio would remain cost effective with an overall UCT of 2.8.[153] Further, the Company analysis shows that the projected portfolio of July 2018 through June 2019 would continue to be cost effective on an energy only basis, with an overall UCT of 1.4.[154] While the Company continues to maintain that these DSM programs provide substantial value in terms of both energy and capacity, particularly as it relates to satisfying the Company's FRR obligation, even if the Commission were to ignore the value of capacity, the Company's DSM portfolio remains cost-effective.[155]

For each of the reasons set forth above, Duke Energy Kentucky's DSM portfolio satisfies the criteria set forth in KRS 278.285(1). The deployment of more energy efficient lighting, appliances and other resources, coupled with the Company's provision of more information about individual energy consumption data through personalized energy reports are all examples of the way in which the Company's DSM programs change customers consumption patterns. The cost and benefits of these programs are well detailed in the California test scores and other metrics relating to the costs of securing alternative power within PJM (more fully discussed below). Duke Energy Kentucky's proposals to recover the program costs, lost revenues and other incentives associated with its DSM portfolio have historically been very modest compared to a customer's total energy bill. Moreover, Duke Energy Kentucky has undertaken the development of its DSM portfolio in a manner that is consistent with and complimentary to both its IRP and FRR resource

[153] Duff Testimony at 25, referencing TJD-1.

[154] *Id.*

[155] *Id.*

planning. The DSM program is non-discriminatory and voluntary in nature. Each customer class has the opportunity to participate in the DSM portfolio, which minimizes the likelihood (with the lone exception of the Low Income programs) that any particular program could cause other customers to socialize and subsidize participants' costs. The DSM portfolio has been constructed over the past quarter century with the active participation and input of the Attorney General, local community interest groups and state energy policymakers. The program is available to all who are willing to participate. The Company's existing DSM portfolio is a cost-effective tool for maximizing the value of the generating fleet for customers and the Company alike, while simultaneously reaping the benefits of delayed or avoided incremental capacity additions, power purchases and higher reserve margins. On the strengths of these benefits alone, the Commission's February 14, 2018 Order suspending the vast majority of the Company's DSM programs should be vacated and set aside.

3. Terminating the Company's DSM Programs will Unreasonably Harm Duke Energy Kentucky and its Customers

Though the benefits of the existing DSM portfolio detailed above are significant in their own right, the harm that results from the Commission's February 14, 2018 Order suspending Duke Energy Kentucky's non-Low Income Program DSM portfolio provides an additional basis for vacating the Order. The February 14, 2018 Order appears to have been based in part upon a misperception as to the amount of electric generating reserve capacity available to the Company.

> Duke Kentucky's response to a data request in Case No. 2017-00427 states that its generating capacity will exceed its projected load by 31 percent in 2018 and 2019, and by 29 percent in 2020.1 These reserve margins far exceed the target range of reserve margins, acknowledged by Duke Kentucky to be 13 percent to 20 percent.[156]

[156] Order, p. 3.

The Commission chiefly relied on accurate, but irrelevant, capacity position information the Company previously submitted in response to a request for information in this proceeding.[157] Specifically, the Commission pointed to Duke Energy Kentucky's response to questions posed by the Attorney General concerning the Company's 2014 Integrated Resource Plan (IRP) and its expected/actual reserve margins.[158] In that response, Duke Energy Kentucky offered the reserve margin calculations it utilizes in connection with its long-term planning, specifically the quotient of "ICAP Generation divided by peak load."[159] While the Order correctly observes that Duke Energy Kentucky's "generating capacity will exceed its projected load by 31 percent in 2018 and 2019, and by 29 percent in 2020," the capacity figures cited do not fully or relevantly reflect the Company's true capacity needs.

As described by Company witness John Verderame, there is a critical distinction between the nameplate (or Installed Capacity (ICAP)) rating assigned to an electric generating unit, the same unit's net rating, and the unit's Unforced Capacity (UCAP) rating used within the PJM capacity market. ICAP ratings are the ratings provided by a generator's manufacturer and represent the total number of MWs that could be generated by the unit.[160] A unit's net rating is the measure of the total number of MW that the unit will deliver to the grid after taking into account the amount of energy needed to power the plant's machinery.[161] An electric generating unit's UCAP is determined by PJM using a methodology that applies the unit's equivalent demand forced

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[157] *Id.*

[158] PSC Case No. 2017-00427, Duke Energy Kentucky's Response to the Attorney General's First Request for Information, Item No. 1 (filed January 11, 2018) (Note: The Attorney General's question references PSC Case No. 2017-00273, but the reference should presumably be to PSC Case No. 2014-00273, *2014 Integrated Resource Plan of Duke Energy Kentucky, Inc.* (Ky. PSC Sep. 23, 2015)).

[159] *Id.* at 2.

[160] *See* Verderame Direct, p. 5.

[161] *See id.*

outage rate (EFORd) to the unit's ICAP.[162] Traditional planning under an Integrated Resource Planning model uses a generator's ICAP to measure capacity whereas PJM uses the UCAP value to assign a different capacity value to the same resource.

When planning for future systems needs Duke Energy Kentucky engages in a carefully-designed and time-tested process that relies upon actual experience and outside, independent expert judgment.[163] Based upon its processes and expert judgment, it projects sustained growth in the demand for capacity and energy in the period from 2018 through 2022.[164] To assure that the system is robust enough to satisfy customer demand, Duke Energy Kentucky targets having a planning reserve margin in 2018 of 14.5%, which is within the range of its long-term planning reserve margin target of 13% - 17%.[165] When ICAP values are used to calculate the Company's current and future reserve margin for 2018-2022, the reserve capacity is 254 MW in 2018 and falls to 223 MW in 2022, giving the Company an overall reserve margin of between 31% and 26%.[166] However, as stated above, ICAP is not the measure of what capacity is actually available at any given moment to serve customer load.

It is the EFORd measure of capacity that is used in PJM to measure the Company's capacity options.[167] Moreover, as an FRR entity within PJM, Duke Energy Kentucky must maintain a reserve margin of approximately 15%, however, because it must designate specific units to supply

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[162] *See* Verderame Direct, pp. 5-6. To illustrate the EFORd principle, if a 600 MW unit such as East Bend were to have an EFORd of 10 percent during the annual year-long pre-delivery year evaluation period, Duke Energy Kentucky would be credited 540 MWs in the P JM capacity market for the following capacity year.

[163] *See id.*, p. 7.

[164] *See id.*, p. 8.

[165] *See id.*, p. 9.

[166] *See id.*, pp. 9-10.

[167] *See id.*, p. 6.

its capacity obligations, it has less flexibility in adjusting its FRR plan.[168] Because the East Bend Station and the Woodsdale Station are not always sufficient to satisfy 100% of the Company's total FRR obligation, Duke Energy Kentucky relies upon its DSM portfolio to provide the incremental capacity necessary to satisfy PJM's reserve margin requirements.[169] As Mr. Verderame's testimony demonstrates, without the ability to use DSM capacity in the FRR plan, Duke Energy Kentucky's initial FRR plan would have been in a capacity deficit position in three of the four most recent PJM delivery years.[170] In the final FRR plan for the same period, Duke Energy Kentucky remained in capacity deficit position for two of the past three delivery years and faces another deficit period in both the 2020/2021 and 2021/2022 PJM delivery years if it is unable to use capacity available through its DSM programs.[171] The Company's actual excess capacity is only 2.2% in the 2018-2017 PJM delivery year when it uses available DSM capacity.[172] Without its DSM capacity, the reserve margins falls to 0.6% before turning negative in the 2020-2021 PJM delivery year.[173]

Failure to secure PJM's approval of the FRR Plan results in significant penalties on the shortfall, further additional reserve margin penalties on the entire load forecast, and forced exit from the FRR construct.[174] As Mr. Verderame explained, if Duke Energy is unable to use its existing DSM capacity to fulfill its FRR obligation and could not purchase unit specific capacity to include in its initial FRR plan, it would be subject to a penalty of two times the planning year's

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[168] *See id.*, pp. 20-21.

[169] *See* Verderame Direct, p. 21.

[170] *See id.*, p. 22, Table 1.

[171] *See* Verderame Direct, p. 24; Duke Energy Kentucky Response to AG-DR-02-005, Table 2.

[172] *See* Verderame Direct, p. 24.

[173] *See id.*

[174] *See id.*, pp. 22-23.

Cost of New Entry (CONE) on the deficiency (41.7 MW), plus an additional 3% of the load obligation penalty (30.2 MWs).[175] Using the CONE for the 2017/2018 planning year yields an illustrative calculation of a $20,298,847 penalty.[176] The possibility of incurring penalties is heightened by the fact that an FRR entity such as Duke Energy Kentucky is more limited in securing replacement capacity, and can only do so through bilateral arraignments and – in the Company's case – during certain delivery years only then from within the PJM Duke Energy Ohio/Kentucky zone.[177] There is virtually no liquidity in this zone, meaning that Duke Energy Kentucky would have very little bargaining power for replacement capacity and would likely have to pay above-market prices for replacement capacity.[178] PJM's transition to a Capacity Performance market will further complicate the Company's ability to secure bilateral replacement capacity.[179] If the situation persisted, Duke Energy Kentucky would be forced to consider adding incremental generating capacity to its portfolio which, ironically, is the very thing that cost-effective DSM programs are intended to delay or prevent.[180] Potential penalties from non-compliance with FRR requirements aside, another potential consequence of an insufficient FRR Plan would be forced entry into full Reliability Pricing Model (RPM) participation.[181] Due to other ongoing litigation regarding PJM's Minimum Offer Price Rule (MOPR) the impact to customers of an untimely move to full RPM would be significant and a material impact on customer rates.[182] Under the current PJM rules Self Supply entities such as Duke Energy Kentucky

[175] *See id.*, pp. 25-26.

[176] *See id.*,

[177] *See id.*, p. 27; Duke Energy Kentucky Response to AG-DR-02-006.

[178] *See* Verderame Direct, pp. 28-31.

[179] *See id.*, p. 36.

[180] *See id.*, p. 31.

[181] *See id.*, p. 32.

[182] *See id.*, p. 39-40.

have lost any exemption to MOPR requirements.[183] As such Duke Energy Kentucky's Woodsdale Station, as a gas-fired unit that has never cleared an RPM auction, would be forced to offer capacity at an administratively mandated level that would be extremely unlikely to clear the auction.[184] The consequence of Woodsdale not clearing the auction is that customers receive no capacity benefit from PJM.[185] Without the offsetting financial benefit of capacity auction revenues, effectively Duke Energy Kentucky customers would be forced to pay twice for capacity, once through cost of service rates and again through a capacity charge from PJM. Exposing customers to this potential financial obligation, while denying customers access to DSM resources that alleviates the risk and helps them better manage consumption cannot be in their best interest.[186] Given the thin actual reserve margins the Company maintains, the compounded impact of the loss of explicit resource megawatts the Company includes in its FRR Plans and the implicit impact of the other Energy Efficiency programs significantly increases the risk to customers of an untimely exit from FRR. Future reserve margins contemplate expected organic growth rates. The Company devotes considerable resources to improving that growth rate. Losing access to potential cost-effective capacity resources to meet that growth potentially handcuffs those development efforts.

If the Commission does not vacate its suspension of the Company's cost-effective DSM programs, it will be paddling against the current of policy changes being considered at PJM which place great value on integrating demand response resources into the PJM Capacity Performance standards.[187] The initial understanding of what PJM is likely to propose indicates that, if anything,

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[183] *See id.*

[184] *See id.*

[185] *See id.*

[186] *See id.*

[187] *See id.*, p. 37.

demand response programs such as those available through the Company's DSM portfolio will become more valuable in future delivery years.[188] Duke Energy Kentucky currently enjoys the benefit of having approximately 32 MWs of capacity available through its PowerShare® and Power Manager® programs,[189] but any lasting suspension of those programs puts these resources in jeopardy. The February 14, 2018 Order prevents the Company and its customers from maximizing the value of investments made in the Duke Energy Kentucky system over the past quarter century.

Significant harm will befall Duke Energy Kentucky and its customers if the February 14, 2018 Order is not vacated. The Company will be forced to rewrite its future year FRR plans by purchasing capacity while existing demand resources lay fallow in the field. The costs of such efforts will unreasonably erode the value of the Company's existing resources and force the unnecessary expenditure of additional sums. Customers will be forced to carry this burden through rates that will be in excess of the amounts collected under the current Rider DSM.

To further illustrate the costs of the February 18, 2018 Order, if allowed to stand, consider that the cost just to remove the Power Manager® control devices from customers' homes will cost in excess of $1 million, which is over three times the cost to maintain the annual resource associated with the program.[190] Unwinding a portfolio that has been carefully and methodically constructed over two decades is itself a costly endeavor and any savings that might be realized by ending a DSM program such as Power Manager® would take many, many years to realize in light

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[188] *See id.*, p. 37.

[189] *See* Note 102, *supra*. The Company is not able to use capacity made available from other DSM programs as part of its FRR plan currently due to the number of customers participating in said programs, the costs of the necessary EMV protocols and the relatively small amounts of efficiencies gained in any particular installation. However, the benefits of these programs are demonstrated in the California Test scores and in the aggregate effect such programs have on the entire Duke Energy Kentucky System. *See* Duke Energy Kentucky Response to Staff-DR-03-008.

[190] *See* Duff Direct, p. 20.

of significant termination expenses and the loss of the clear benefits of the program.[191] Clearly, the concern which the Commission has with regard to DSM programs in general does not fit the facts presented in this proceeding and the February 14, 2018 Order should be vacated and set aside so that neither Duke Energy Kentucky nor its customers are treated unfairly or unreasonably.

4. The Commission Should Approve Reasonable Cost Recovery Through Rider DSMR

Duke Energy Kentucky is authorized to recover the cost of offering and effectuating its DSM portfolio as well as the lost revenue that results from encouraging lower sales.[192] Setting the cost-recovery mechanism Rider DSMR requires a comparison of projected versus actual program expenses, lost revenues, and shared savings, as well as inclusion of the prior year's reconciliation. For the most recent period, as outlined in Case No. 2017-00427, the actual cost of residential and nonresidential program expenditures, lost revenues, and shared savings for this reporting period was $19.23 million.[193] This amount exceeded the projected level of program expenditures, which was $13.68 million.[194] The primary driver of the variance in projections versus the actual costs was due to a higher than expected participation for the Non-Residential Smart $aver® Prescriptive lighting program.[195]

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.[196] The estimate of kWh savings is based upon the results from any recently completed impact evaluation studies and actual customer participation.[197] Lost revenues

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[191] *See* HVR 9:14:30 (May 22, 2018).

[192] *See* KRS 278.285(2).

[193] *See* Annual Statement, p. 49, Case No. 2017-00427.

[194] *See id.*

[195] *See id.*

[196] *See id.*

accumulate over a three-year period from the installation of each measure, unless a general rate case has occurred.[198] 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.[199] The savings are estimated by multiplying the program spending times the Utility Cost Test (UCT) value and then subtracting the program costs.[200] Shared savings are only valued for installation of new DSM measures.

As part of its Annual Statement in Case No. 2017-00421, Duke Energy Kentucky provided information to demonstrate the foregoing calculation.[201] Based on the updated rider amounts, the estimated annual cost for the average residential customer would be a charge of approximately $44.81, a decrease of approximately $50 from current rates for electric, and a refund of about $24.67 for gas.[202] The estimated average annual cost for gas customers decreased due to an over collection for gas of approximately $2.7 million.[203] The non-residential customer charges are calculated similarly.[204]

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

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[197] *See id.*

[198] *See id.*

[199] *See id.*

[200] *See id.*

[201] *See id.*, pp. 50-53.

[202] *See id.*, p. 53.

[203] *See id.*

[204] *See id.*, pp. 54-55.

$aver® Prescriptive, Small Business Energy Saver, Smart $aver® Non-Residential Performance Incentive Program 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 will be charged for the PowerShare® program. The foregoing calculations are reasonable and consistent with KRS 278.285. Accordingly, they should be approved.

IV. CONCLUSION

Duke Energy Kentucky's existing DSM portfolio is fair, just and reasonable. The Commission's February 14, 2018 Order should be vacated and set aside so that the Company can resume its deployment and implementation of cost-effective DSM programs. As set forth herein, these programs maximize the value of Duke Energy Kentucky's existing generating fleet and allow the Company to avoid incremental capacity additions, power purchases and increased reserve margin requirements, among other benefits. If the February 14, 2018 Order is not vacated, the Company will be harmed and its customers will suffer the consequences through higher rates and wasted resources. Duke Energy Kentucky appreciates the Commission's attention and diligence in undertaking the rehearing process and respectfully requests that it be granted appropriate relief.

WHEREFORE, on the basis of the foregoing, Duke Energy Kentucky respectfully request the Commission:

1) Vacate and set aside the February 14, 2018 Order entered in this case;
2) Grant the relief requested in the Annual Statement in Case No. 2017-00427, Application in Case No. 2017-00324 and Application in Case No. 2018-00009; and
3) Award all other relief to which the Company may be entitled.

This 27th day of June, 2018.

Respectfully submitted,

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CERTIFICATE OF SERVICE

This is to certify that foregoing electronic filing is a true and accurate copy of the document being filed in paper medium; that the electronic filing was transmitted to the Commission on June 27, 2018; that there are currently no parties that the Commission has excused from participation by electronic means in this proceeding; and that a copy of the filing in paper medium is being hand delivered to the Commission within two business days.

Counsel for Duke Energy Kentucky, Inc.