



139 East Fourth Street, R. 25 At II
P.O. Box 960
Cincinnati, Ohio 45201-0960
Tel: 513-419-1837
Fax: 513-419-1846
dianne.kuhnell@duke-energy.com

Dianne B. Kuhnell
Senior Paralegal

VIA OVERNIGHT DELIVERY

August 14, 2009

RECEIVED

AUG 17 2009

**PUBLIC SERVICE
COMMISSION**

Mr. Jeff Derouen
Executive Director
Kentucky Public Service Commission
211 Sower Blvd
Frankfort, KY 40601

Re: Case No. 2008-00495

Dear Mr. Derouen:

Enclosed please find an original and twelve copies each of *Motion to Amend and Substitute Testimony of Donald L. Storck* and *Direct Testimony of Donald L. Storck* to be filed in the above captioned case.

Please date-stamp the extra two copies of each filing and return to me in the enclosed envelope.

Sincerely,

Dianne B. Kuhnell
Senior Paralegal

cc: Parties of Record

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED

AUG 17 2009

PUBLIC SERVICE COMMISSION

In the Matter of the Application of Duke)
Energy Kentucky, Inc. For Approval of)
Energy Efficiency Plan, Including an Energy)
Efficiency Rider and Portfolio of Energy)
Efficiency Programs)

Case No. 2008-00495

MOTION TO AMEND AND SUBSTITUTE TESTIMONY
OF DONALD L. STORCK

Duke Energy Kentucky, Inc. (Duke Energy Kentucky or Company) moves the Commission for leave to substitute and file instanter the Direct Testimony of Donald L. Storck in place of the Direct Testimony of Paul G. Smith. Mr. Smith’s testimony was submitted on December 1, 2008 and since that time he has taken another position within the Company and outside of the Rates department. Mr. Storck is currently the Director of Rates Services for Duke Energy Ohio and Kentucky. Through his testimony, Mr. Storck will adopt the testimony of Mr. Smith, correct errors in Mr. Smith’s testimony and attachments. Mr. Storck will testify in place of Mr. Smith at the hearing of this matter.

This substitute testimony includes four attachments, DLS-1, DLS-2, DLS-3 and DLS-4. DLS-1 corrects typographical errors recently discovered in Attachment PGS-1 and shows the corrections in a tracked form. DLS-2 is simply a “clean version” of the DLS-1. DLS-3 is a proposed gas tariff for the new energy efficiency rider as discussed in Mr. Smith’s Direct Testimony that was inadvertently omitted in the initial filing. DLS-4 is

simply a complete copy of Mr. Smith's testimony as originally filed and as adopted by Mr. Storck.

In the interests of efficiency, full disclosure, and expediting the forthcoming hearing, Duke Energy Kentucky is providing intervening parties advance notice of Mr. Storck's substitution. Pre-filing Mr. Storck's testimony allows intervening Parties have his background information available for cross-examination prior to the hearing.

In addition the pre-filing provides the Parties with advance notification of the corrections Mr. Storck will make to the Attachment PGS-1 to correct typographical errors and correct an omission error regarding the gas tariff inadvertently omitted from the initial filing. Mr. Smith's direct testimony discusses the natural gas allocation of programs in the Company's energy efficiency plan. However, the tariff in PGS-1 did not include the natural gas allocation calculation. Mr. Storck's attachment DLS-3 provides this calculation.

Wherefore, Duke Energy Kentucky respectfully requests that it be granted leave to file and substitute Donald L. Stock's testimony for the December 1, 2008 pre-filed testimony of Paul G. Smith, and to substitute the amended pages in Attachment DLS-1, DLS-2 and DLS-3 for the tendered Attachment PGS-1 in the previously filed testimony of Mr. Smith. Mr. Storck's testimony is being served upon all parties of record to the proceeding in order to expedite any cross-examination of the witness at the scheduled hearing.

Respectfully submitted,

DUKE ENERGY KENTUCKY, INC.



Rocco O. D'Ascenzo (92796)
Senior Counsel
Amy B. Spiller (85309)
Associate General Counsel
139 East Fourth Street, Room 25 ATII
P.O. Box 960
Cincinnati, OH 45201-0960
Telephone: (513) 419-1852
Facsimile: (513) 419-1846
E-mail: rocco.d'ascenzo@duke-energy.com

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of Duke Energy Kentucky, Inc.'s Motion to Amend Testimony of Donald L. Storck was served on the following by overnight mail, this 14th day of August 2009.

Dennis G. Howard II
Paul Adams
Assistant Attorneys General
1024 Capital Center Drive, Suite 200
Frankfort, Kentucky 40601-8204

Michael L. Kurtz, Esq,
Kurt J. Boehm, Esq
BOEHM, KURTZ & LOWRY
36 East Seventh Street, Suite 1510
Cincinnati, Ohio 45202



Rocco D'Ascenzo

COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION **RECEIVED**

AUG 17 2009

PUBLIC SERVICE
COMMISSION

In the Matter of the Application of Duke)
Energy Kentucky, Inc. For Approval of)
Energy Efficiency Plan, Including an Energy)
Efficiency Rider and Portfolio of Energy)
Efficiency Programs)

Case No. 2008-00495

DIRECT TESTIMONY OF

DONALD L. STORCK

ON BEHALF OF

DUKE ENERGY KENTUCKY, INC.

August 17, 2009

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ATTACHMENT DLS-1 - Revised Electric Rider SAW with tracked changes
ATTACHMENT DLS-2 – Revised Electric Rider SAW
ATTACHMENT DLS-3 - Gas Rider SAW
ATTACHMENT DLS-4 - Filed Direct Testimony of Paul G. Smith

I. INTRODUCTION AND PURPOSE

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Donald L. Storck. My business address is 139 East Fourth Street,
3 Cincinnati, Ohio 45202.

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

5 A. I am employed by Duke Energy Business Services, Inc., an affiliate service
6 company of Duke Energy Kentucky, Inc. (Duke Energy Kentucky or the
7 Company), as a Director, Rates Services.

8 **Q. PLEASE SUMMARIZE YOUR EDUCATION.**

9 A. I have a Bachelor of Science Degree in Accounting from Ball State University. I
10 completed an executive education program at the University of Michigan.

11 **Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE.**

12 A. I began my employment with PSI Energy, Inc. (PSI), in 1976, as a Staff Accountant
13 in the Corporate Accounting Department. From 1976 through 1994, I held several
14 financial positions at PSI and at various times was responsible for Corporate
15 Accounting, Cash Management, and Corporate Budgeting and auditing of long-
16 term fuel supply contracts. Following the 1994 merger between PSI and The
17 Cincinnati Gas & Electric Company to form Cinergy Corp. (Cinergy), I held
18 positions with the Cinergy affiliated companies, supporting the Gas Business Unit
19 and Cinergy Resources, Inc., a non-regulated retail gas marketing company.

20

1 I became the Financial Reporting Manager for Cinergy's Regulated
2 Business Unit from 1999 until April 2006. I was promoted to my current position
3 in April 2006.

4 **Q. PLEASE DESCRIBE YOUR DUTIES AS DIRECTOR, RATE SERVICES.**

5 A. My responsibilities include developing cost-of-service studies and tariff
6 administration.

7 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE KENTUCKY
8 PUBLIC SERVICE COMMISSION?**

9 A. No.

10 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS
11 PROCEEDING?**

12 A. The purpose of my testimony is to adopt the testimony of Paul G. Smith filed in
13 this case on December 1, 2008, which explains Duke Energy Kentucky's
14 proposed rate-making treatment related to its Energy Efficiency Plan. I also
15 support corrections to Attachment PGS-1, proposed energy efficiency rider
16 ("Rider SAW" or the "Rider"), which is attached hereto as Attachment DLS-1 and
17 DLS-2. I support the mechanics and calculations that are incorporated within the
18 Rider. This revision corrects typographical errors recently discovered. I also
19 sponsor Attachment DLS-3, which is a copy of the Rider SAW tariff showing the
20 gas calculation. Finally, my testimony in this proceeding will incorporate Mr.
21 Smith's filed testimony attached hereto as Attachment DLS-4.

II. DISCUSSION

22 **Q. HAVE YOU REVIEWED THE DIRECT TESTIMONY OF PAUL G.**

DONALD L. STORCK DIRECT

1 **SMITH, INCLUDING ATTACHMENTS THAT WAS FILED IN THIS**
2 **PROCEEDING?**

3 A. Yes.

4 **Q. DO YOU AGREE WITH MR. SMITH'S TESTIMONY INCLUDING**
5 **ATTACHMENTS?**

6 A. I do, with the exception of PGS-1, which I have revised and attached as
7 Attachment DLS-1 to my testimony.

8 **Q. DO YOU ADOPT MR. SMITH'S TESTIMONY, INCLUDING**
9 **ATTACHMENTS AS YOUR OWN FOR THIS PROCEEDING?**

10 A. Yes, with the exception of PGS-1.

11 **Q. PLEASE EXPLAIN ATTACHMENT DLS-1.**

12 A. DLS-1 is a revision to PGS-1 to correct typographical errors. Upon reviewing Mr.
13 Smith's testimony, I discovered that Attachment PGS-1 was a draft version of the
14 Company's proposed Rider SAW based upon the Ohio tariff. When Duke Energy
15 Kentucky filed its Application and testimony, the Company inadvertently included
16 the draft tariff that still had references to the Ohio tariff, rather than the final
17 Kentucky tariff. Duke Energy Kentucky apologizes for any confusion this has
18 caused. DLS-1 is a redlined version of PGS-1 showing the corrections, which
19 remove the references to Ohio and market prices. A clean version of the proposed
20 Rider SAW for Duke Energy Kentucky is attached as DLS-2. None of the
21 corrections I have made affect the calculation of the rider as initially proposed in
22 Mr. Smith's testimony.

23

1 **Q. PLEASE BRIEFLY DESCRIBE THE NATURE OF THE CORRECTIONS**
2 **MADE IN ATTACHMENT DLS-1.**

3 **A.** As I just mentioned the errors are typographical in nature. First, in the
4 Applicability section, as initially filed, the rate schedules that the Rider SAW will
5 be applied to is incomplete. Rider SAW will apply to the same rate schedules that
6 the current Rider DSMR does. Second, the Applicability section as initially filed
7 also states that “[a] non-residential customer, whose total aggregate load in the
8 Company’s certified service territory exceeds 25 MW, may opt out of the tariff.”
9 This inclusion was an error and reflects the status of opt out negotiations at the
10 time of filing in another jurisdiction. In Kentucky, industrial customers with an
11 energy intensive process may opt out of utility sponsored energy efficiency. Duke
12 Energy Kentucky intends to abide by that statute and that its tariff comply with it
13 as well. DLS-1 corrects this error by incorporating the language from Kentucky
14 Revised Statute 278.285(4).

15 There are five deletions and one correction that should be made to the
16 “Charges” section of the tariff. First, in the definition of “S” in the formula, the
17 reference to Ohio should be replaced with Kentucky. Also, there are four
18 instances where the tariff refers to “Market-Based” rates. The reference to market-
19 based should be deleted. That is a carryover from the Ohio tariff where rates are
20 market-based. In addition, the definition of LMR should be clarified to also
21 exclude variable O&M. Finally, in the Demand ratchet section, Rate TT should
22 be added.

23 **Q. PLEASE DESCRIBE DLS-2.**

1 A. DLS-2 is a clean version of DLS-1.

2 **Q. PLEASE DESCRIBE DLS-3**

3 A. DLS-3 is a copy of the proposed gas tariff sheet for Duke Energy Kentucky. In his
4 direct testimony, Mr. Smith describes how gas customers will be allocated a
5 portion of costs for energy efficiency programs that provide gas benefits.
6 Although Duke Energy Kentucky supported this allocation in testimony, the
7 Company inadvertently did not include a copy of the proposed gas tariff.
8 Attachment DLS-3 is simply a copy of the Rider SAW tariff calculation as it
9 pertains to natural gas customer allocations. The Company recently discovered
10 the fact that the gas tariff was not included in Mr. Smith's initial testimony.

11 **Q. PLEASE DESCRIBE DLS-4.**

12 A. DLS-4 is simply a copy of the pre-filed testimony of Paul G. Smith which I am
13 adopting for this proceeding.

14 **Q. WERE ATTACHMENTS DLS-1, DLS-2 AND DLS-3 PREPARED BY YOU
15 OR UNDER YOUR DIRECTION AND SUPERVISION?**

16 A. Yes.

17 **Q. IS ATTACHMENT DLS-4 A TRUE AND ACCURATE COPY OF THE
18 DIRECT TESTIMONY OF PAUL G. SMITH AS FILED IN THIS
19 PROCEEDING?**

20 A. Yes.

III. CONCLUSION

21 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

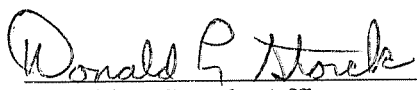
22 A. Yes.

DONALD L. STORCK DIRECT

VERIFICATION


State of Ohio)
) SS:
County of Hamilton)

The undersigned, Donald L. Storck, being duly sworn, deposes and says that he has personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of his knowledge, information and belief.



Donald L. Storck, Affiant

Subscribed and sworn to before me by Donald L. Storck on this 12 day of August,
2009.



NOTARY PUBLIC

My Commission Expires:



ANITA M. SCHAFER
Notary Public, State of Ohio
My Commission Expires
November 4, 2009

Duke Energy Kentucky, Inc.
1697-A Monmouth Street
Newport, Kentucky 41071

KY.P.S.C. Electric No. 2
Original Sheet No. 83
Page 1 of 5

RIDER SAW

ENERGY EFFICIENCY RIDER

APPLICABILITY

Applicable to service rendered under the provisions of Rate RS, DS, DT, EH, SP, GS-FL, DP and Rate-TT. Industrial customers, with an energy intensive load, located in the Company's certified service territory, may opt of the tariff. A non-residential customer, whose total aggregate load in the Company's certified service territory exceeds 25 MW, may opt out of the tariff. The customer must provide written notification which will list all of their accounts to be "opted-out" of this tariff. Customers electing to opt-out of the program will not be credited for any periods previously billed. The written notification can be e-mailed to the Business Service Center at BSCteam@duke-energy.com or sent to Business Service Center c/o Duke Energy, P.O. Box 960, Suite EY575, Cincinnati, OH 45202.

(C)

(D)

If the customer later decides to participate in an energy efficiency program, they must pay the Rider DR-SAW for the entire period they "opted-out" of.

CHARGES

The monthly amount computed under each of the rate schedules to which this rider is applicable shall be increased or decreased by the energy Rider SAW Charge at a rate per kilowatt-hour of monthly consumption and, where applicable, a rate per kilowatt of monthly billing demand, in accordance with the following formula:

Rider SAW (residential) =
ACDRC + ACCOE + ACCOC + LM + TUA, as assigned to the residential class of customers
 $S_{\text{residential}}$

Rider SAW (nonresidential) =
ACDRC + ACCOE + ACCOC + LM + TUA, as assigned to the nonresidential class of customers
 $S_{\text{nonresidential}}$

Where,

Rider SAW = Energy Efficiency Adjustment Amount

ACDRC = Avoided Cost of Capacity for Demand Response Revenue Requirement

ACCOE = Avoided Cost of Energy for Conservation Revenue Requirement

ACCOC = Avoided Cost of Capacity for Conservation Revenue Requirement

LM = Lost Margins

TUA = True-up Adjustment to be included in the fourth year of the rider only

S = Projected kWh Sales for the Rider Period for the class (residential or nonresidential) of Ohio Kentucky retail customers, excluding the sales of those customers that opt out of the Rider.

(T)

Rider SAW is calculated for a 12 month period, referred to as the Rider Period.

Rider SAW will be grossed-up for applicable revenue related taxes.

ACDRC = PDRC x ACC x X%

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Newport, Kentucky 41071

KY.P.S.C. Electric No. 2
Original Sheet No. 83
Page 2 of 5

CHARGES (Cont'd)

Where,

PDRC = Projected Demand impacts for the measure/program for the vintage applicable to the Rider Period

ACC = Annual Avoided Capacity Market-Based-Rate, in \$/year for the year of the Rider Period (D)

X% = Percentage of avoided costs for demand response to be collected through the rider

ACCOE = (NPV at the after-tax weighted average cost of capital of (PCOE x ACE) for each year for the life of the measure/program) x Y%

Where,

PCOE = Projected Energy impacts for the measure/program by year for the life of the measure/program for the vintage applicable to the Rider Period

ACE = Marginal energy cost rate by year for the life of the measure/program from the IRP analysis

Y% = Percentage of avoided costs for conservation to be collected through the rider

ACCOC = (NPV at the after-tax weighted average cost of capital of (PCOC x ACC) for each year for the life of the measure/program) x Y%

Where,

PCOC = Projected Demand impacts for the measure/program by year for the life of the measure/program for the vintage applicable to the Rider Period

ACC = Annual Avoided Capacity Market-Based-Rate, in \$/year by year for the life of the measure/program (D)

Y% = Percentage of avoided costs for conservation to be collected through the rider

LM = PLME x LMR

Where,

PLME = Projected Energy impacts for all measures/programs for the vintage applicable to the Rider Period

LMR = Average Retail tail block \$/kWh excluding fuel and variable O&M (T)

In the fifth Rider Period, a true-up amount will be included in the Rider SAW rate as follows:

TUA = ACT + LMT + ECT

Where,

ACT = Avoided Cost True-up

LMT = Lost Margins True-up

ECT = Earnings Cap True-up

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Newport, Kentucky 41071

KY.P.S.C. Electric No. 2
Original Sheet No. 83
Page 3 of 5

CHARGES (Cont'd)

$$ACT = ADRCT + ACOET + ACOCT$$

Where,

ADRCT = Avoided Demand Response Capacity True-up

ACOET = Avoided Conservation Energy True-up

ACOCT = Avoided Conservation Capacity True-up

$$ADRCT = (\text{Year 1}((ADRC - PDRC) \times ACC) + \text{Year 2}((ADRC - PDRC) \times ACC) + \text{Year 3}((ADRC - PDRC) \times ACC) + \text{Year 4}((ADRC - PDRC) \times ACC)) \times X\%$$

Where,

ADRC = Actual Demand impacts for the measure/program for each vintage year

PDRC = Projected Demand impacts for the measure/program for each vintage year as used in the Rider SAW calculation for each year

ACC = Annual Avoided Capacity Market-Based-Rate, in \$/year for the each vintage year as used in the Rider SAW calculation each year

X% = Percentage of avoided costs for demand response collected through the rider

(D)

$$ACOET = (\text{NPV at the after-tax weighted average cost of capital of (Year 1}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 2}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 3}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 4}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) } \times Y\%$$

Where,

ACOE = Actual Energy impacts for the measure/program by year for the life of the measure/program for years 1-4 and projected Energy impacts for the measure/program for the remaining years of the life of the measure/program by vintage year

PCOE = Projected Energy impacts for the measure/program by year for the life of the measure/program for each vintage as used in the Rider SAW calculation each year

ACE = Marginal energy cost rate by year for the life of the measure/program from the IRP analysis as used in the Rider SAW calculation each year

Y% = Percentage of avoided costs for conservation collected through the rider

$$ACOCT = (\text{NPV at the after-tax weighted average cost of capital of (Year 1}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 2}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 3}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 4}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) } \times Y\%$$

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Newport, Kentucky 41071

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CHARGES (Cont'd)

Where,

ACOC = Actual Demand impacts for the measure/program by year for the life of the measure/program for years 1-4 and projected Demand impacts for the measure/program for the remaining years in the life of the measure/program by vintage year

PCOC = Projected Demand impacts for the measure/program by year for the life of the measure/program for the vintage as used in the Rider SAW calculation each year

ACC = Annual Avoided Capacity Market-Based Rate, in \$/year by year for the life of the measure/program as used in the Rider SAW calculation each year

Y% = Percentage of avoided costs for conservation to be collected through the rider

(D)

$$LMT = \text{Year 1}(\text{ALME} - \text{PLME}) \times \text{LMR} + \text{Year 2}(\text{ALME} - \text{PLME}) \times \text{LMR} + \text{Year 3}(\text{ALME} - \text{PLME}) + \text{Year 4}(\text{ALME} - \text{PLME}) \times \text{LMR}$$

Where,

ALME = Actual Energy impacts for all measures/programs for the vintage

PLME = Projected Energy impacts for all measures/programs for the vintage as used in the Rider SAW calculation each year

LMR = Average Retail tail block \$/kWh excluding fuel and variable O&M, as used in the Rider SAW calculation each year

(T)

ECT = NIC minus (Greater of NIC or CNI) grossed-up for applicable income and revenue related taxes

Where,

NIC = Net Income Cap

CNI = Calculated Net Income

$$NIC = \text{PTCP} \times \text{APC}$$

Where,

PTCP = Performance Target Cap Percentage

APC = Actual Program Costs for the Years 1-4

PTCP is derived from the following table:

Percentage Actual Target Achievement	ROI Cap on Program Costs Percentage
>=90%	15%
80% to 89%	12%
60% to 79%	9%
< 60%	5%

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Page 5 of 5

CHARGES (Cont'd)

PATA = AACS / TACS

Where,

AACS = Actual Avoided Cost Savings

TACS = Targeted Avoided Cost Savings

AACS = (Sum of Years 1-4 (ACDRC + ACCOE + ACCOC)) + ACT

CNI = AACS grossed-up for applicable revenue related taxes – Sum Years 1-4 APC – RRT – IT

Where,

RRT = Revenue related taxes calculated as the appropriate revenue related tax rate x AACS

IT = Income taxes calculated as the appropriate composite income tax rate x (AACS – Sum Years 1-4 APC – RRT)

HOME ENERGY ASSISTANCE PROGRAM

A Home Energy Assistance Program charge of \$0.10 will be applied monthly to residential customer bills through September 2011.

DEMAND RATCHETS

Customer served under the provisions of Rate DS, DP or Rate ~~DP~~-TT may be eligible to have their billing demand re-determined in recognition of a permanent change in load due to the installation of load control equipment or other measures taken by the customer to permanently reduce the customer's demand.

(T)

SERVICE REGULATIONS

The supplying of, and billing for, service and all conditions applying thereto, are subject to the jurisdiction of the Kentucky Public Service Commission, and to Company's Service Regulations currently in effect, as filed with the Kentucky Public Service Commission, as provided by law.

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RIDER SAW

ENERGY EFFICIENCY RIDER

APPLICABILITY

Applicable to service rendered under the provisions of Rate RS, DS, DT, EH, SP, GS-FL, DP and TT. Industrial customers, with an energy intensive load, located in the Company's certified service territory, may opt of the tariff. The customer must provide written notification which will list all of their accounts to be "opted-out" of this tariff. Customers electing to opt-out of the program will not be credited for any periods previously billed. The written notification can be e-mailed to the Business Service Center at BSCteam@duke-energy.com or sent to Business Service Center c/o Duke Energy, P.O. Box 960, Suite EY575, Cincinnati, OH 45202.

If the customer later decides to participate in an energy efficiency program, they must pay the Rider DR-SAW for the entire period they "opted-out" of.

CHARGES

The monthly amount computed under each of the rate schedules to which this rider is applicable shall be increased or decreased by the energy Rider SAW Charge at a rate per kilowatt-hour of monthly consumption and, where applicable, a rate per kilowatt of monthly billing demand, in accordance with the following formula:

$$\text{Rider SAW (residential)} = \frac{\text{ACDRC} + \text{ACCOE} + \text{ACCOC} + \text{LM} + \text{TUA, as assigned to the residential class of customers}}{S_{\text{residential}}}$$

$$\text{Rider SAW (nonresidential)} = \frac{\text{ACDRC} + \text{ACCOE} + \text{ACCOC} + \text{LM} + \text{TUA, as assigned to the nonresidential class of customers}}{S_{\text{nonresidential}}}$$

Where,

- Rider SAW = Energy Efficiency Adjustment Amount
- ACDRC = Avoided Cost of Capacity for Demand Response Revenue Requirement
- ACCOE = Avoided Cost of Energy for Conservation Revenue Requirement
- ACCOC = Avoided Cost of Capacity for Conservation Revenue Requirement
- LM = Lost Margins
- TUA = True-up Adjustment to be included in the fourth year of the rider only
- S = Projected kWh Sales for the Rider Period for the class (residential or nonresidential) of Kentucky retail customers, excluding the sales of those customers that opt out of the Rider.

Rider SAW is calculated for a 12 month period, referred to as the Rider Period.
Rider SAW will be grossed-up for applicable revenue related taxes.

$$\text{ACDRC} = \text{PDRC} \times \text{ACC} \times \text{X\%}$$

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CHARGES (Cont'd)

Where,

PDRC = Projected Demand impacts for the measure/program for the vintage applicable to the Rider Period

ACC = Annual Avoided Capacity Rate, in \$/year for the year of the Rider Period

X% = Percentage of avoided costs for demand response to be collected through the rider

ACCOE = (NPV at the after-tax weighted average cost of capital of (PCOE x ACE) for each year for the life of the measure/program) x Y%

Where,

PCOE = Projected Energy impacts for the measure/program by year for the life of the measure/program for the vintage applicable to the Rider Period

ACE = Marginal energy cost rate by year for the life of the measure/program from the IRP analysis

Y% = Percentage of avoided costs for conservation to be collected through the rider

ACCOC = (NPV at the after-tax weighted average cost of capital of (PCOC x ACC) for each year for the life of the measure/program) x Y%

Where,

PCOC = Projected Demand impacts for the measure/program by year for the life of the measure/program for the vintage applicable to the Rider Period

ACC = Annual Avoided Capacity Rate, in \$/year by year for the life of the measure/program

Y% = Percentage of avoided costs for conservation to be collected through the rider

LM = PLME x LMR

Where,

PLME = Projected Energy impacts for all measures/programs for the vintage applicable to the Rider Period

LMR = Average Retail tail block \$/kWh excluding fuel and variable O&M

In the fifth Rider Period, a true-up amount will be included in the Rider SAW rate as follows:

TUA = ACT + LMT + ECT

Where,

ACT = Avoided Cost True-up

LMT = Lost Margins True-up

ECT = Earnings Cap True-up

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Effective:

CHARGES (Cont'd)

$$ACT = ADRCT + ACOET + ACOCT$$

Where,

ADRCT = Avoided Demand Response Capacity True-up

ACOET = Avoided Conservation Energy True-up

ACOCT = Avoided Conservation Capacity True-up

$$ADRCT = (\text{Year 1}((ADRC - PDRC) \times ACC) + \text{Year 2}((ADRC - PDRC) \times ACC) + \text{Year 3}((ADRC - PDRC) \times ACC) + \text{Year 4}((ADRC - PDRC) \times ACC)) \times X\%$$

Where,

ADRC = Actual Demand impacts for the measure/program for each vintage year

PDRC = Projected Demand impacts for the measure/program for each vintage year as used in the Rider SAW calculation for each year

ACC = Annual Avoided Capacity Rate, in \$/year for the each vintage year as used in the Rider SAW calculation each year

X% = Percentage of avoided costs for demand response collected through the rider

$$ACOET = (\text{NPV at the after-tax weighted average cost of capital of (Year 1}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 2}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 3}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 4}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) } \times Y\%$$

Where,

ACOE = Actual Energy impacts for the measure/program by year for the life of the measure/program for years 1-4 and projected Energy impacts for the measure/program for the remaining years of the life of the measure/program by vintage year

PCOE = Projected Energy impacts for the measure/program by year for the life of the measure/program for each vintage as used in the Rider SAW calculation each year

ACE = Marginal energy cost rate by year for the life of the measure/program from the IRP analysis as used in the Rider SAW calculation each year

Y% = Percentage of avoided costs for conservation collected through the rider

$$ACOCT = (\text{NPV at the after-tax weighted average cost of capital of (Year 1}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 2}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 3}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 4}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) } \times Y\%$$

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CHARGES (Cont'd)

Where,

- ACOC = Actual Demand impacts for the measure/program by year for the life of the measure/program for years 1-4 and projected Demand impacts for the measure/program for the remaining years in the life of the measure/program by vintage year
- PCOC = Projected Demand impacts for the measure/program by year for the life of the measure/program for the vintage as used in the Rider SAW calculation each year
- ACC = Annual Avoided Capacity Rate, in \$/year by year for the life of the measure/program as used in the Rider SAW calculation each year
- Y% = Percentage of avoided costs for conservation to be collected through the rider

$$LMT = \text{Year 1}(\text{ALME} - \text{PLME}) \times \text{LMR} + \text{Year 2}(\text{ALME} - \text{PLME}) \times \text{LMR} + \text{Year 3}(\text{ALME} - \text{PLME}) + \text{Year 4}(\text{ALME} - \text{PLME}) \times \text{LMR}$$

Where,

- ALME = Actual Energy impacts for all measures/programs for the vintage
- PLME = Projected Energy impacts for all measures/programs for the vintage as used in the Rider SAW calculation each year
- LMR = Average Retail tail block \$/kWh excluding fuel and variable O&M, as used in the Rider SAW calculation each year

$$ECT = \text{NIC minus (Greater of NIC or CNI) grossed-up for applicable income and revenue related taxes}$$

Where,

- NIC = Net Income Cap
- CNI = Calculated Net Income

$$\text{NIC} = \text{PTCP} \times \text{APC}$$

Where,

- PTCP = Performance Target Cap Percentage
- APC = Actual Program Costs for the Years 1-4

PTCP is derived from the following table:

Percentage Actual Target Achievement	ROI Cap on Program Costs Percentage
>=90%	15%
80% to 89%	12%
60% to 79%	9%
< 60%	5%

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CHARGES (Cont'd)

PATA = AACS / TACS

Where,

AACS = Actual Avoided Cost Savings

TACS = Targeted Avoided Cost Savings

AACS = (Sum of Years 1-4 (ACDRC + ACCOE + ACCOC)) + ACT

CNI = AACS grossed-up for applicable revenue related taxes -- Sum Years 1-4 APC -- RRT -- IT

Where,

RRT = Revenue related taxes calculated as the appropriate revenue related tax rate x AACS

IT = Income taxes calculated as the appropriate composite income tax rate x (AACS -- Sum Years 1-4 APC -- RRT)

HOME ENERGY ASSISTANCE PROGRAM

A Home Energy Assistance Program charge of \$0.10 will be applied monthly to residential customer bills through September 2011.

DEMAND RATCHETS

Customer served under the provisions of Rate DS, DP or Rate TT may be eligible to have their billing demand re-determined in recognition of a permanent change in load due to the installation of load control equipment or other measures taken by the customer to permanently reduce the customer's demand.

SERVICE REGULATIONS

The supplying of, and billing for, service and all conditions applying thereto, are subject to the jurisdiction of the Kentucky Public Service Commission, and to Company's Service Regulations currently in effect, as filed with the Kentucky Public Service Commission, as provided by law.

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RIDER SAW

ENERGY EFFICIENCY RIDER

APPLICABILITY

Applicable to service rendered under the provisions of Rate RS.

CHARGES

The proportionate gas share of the SAW programs that benefit gas and electric residential customers shall increase or decrease the Rider SAW Charge at a rate per hundred cubic feet (CCF) of monthly consumption. The SAW formula is as follows:

$$\text{Rider SAW (residential)} = \frac{\text{ACDRC} + \text{ACCOE} + \text{ACCOC} + \text{LM} + \text{TUA, as assigned to the residential class of customers}}{S_{\text{residential}}}$$

Where,

- Rider SAW = Energy Efficiency Adjustment Amount
- ACDRC = Avoided Cost of Capacity for Demand Response Revenue Requirement
- ACCOE = Avoided Cost of Energy for Conservation Revenue Requirement
- ACCOC = Avoided Cost of Capacity for Conservation Revenue Requirement
- LM = Lost Margins
- TUA = True-up Adjustment to be included in the fourth year of the rider only
- S = Projected CCF Sales for the Rider Period for the residential class of Kentucky retail customers

Rider SAW is calculated for a 12 month period, referred to as the Rider Period.
Rider SAW will be grossed-up for applicable revenue related taxes.

$$\text{ACDRC} = \text{PDRC} \times \text{ACC} \times \text{X\%}$$

Where,

- PDRC = Projected Demand impacts for the measure/program for the vintage applicable to the Rider Period
- ACC = Annual Avoided Capacity Rate, in \$/year for the year of the Rider Period
- X% = Percentage of avoided costs for demand response to be collected through the rider

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CHARGES (Cont'd)

ACCOE = (NPV at the after-tax weighted average cost of capital of (PCOE x ACE) for each year for the life of the measure/program) x Y%

Where,

PCOE = Projected Energy impacts for the measure/program by year for the life of the measure/program for the vintage applicable to the Rider Period

ACE = Marginal energy cost rate by year for the life of the measure/program from the IRP analysis

Y% = Percentage of avoided costs for conservation to be collected through the rider

ACCOC = (NPV at the after-tax weighted average cost of capital of (PCOC x ACC) for each year for the life of the measure/program) x Y%

Where,

PCOC = Projected Demand impacts for the measure/program by year for the life of the measure/program for the vintage applicable to the Rider Period

ACC = Annual Avoided Capacity Rate, in \$/year by year for the life of the measure/program

Y% = Percentage of avoided costs for conservation to be collected through the rider

LM = PLME x LMR

Where,

PLME = Projected Energy impacts for all measures/programs for the vintage applicable to the Rider Period

LMR = Average Retail tail block \$/kWh excluding fuel and variable O&M.

In the fifth Rider Period, a true-up amount will be included in the Rider SAW rate as follows:

TUA = ACT + LMT + ECT

Where,

ACT = Avoided Cost True-up

LMT = Lost Margins True-up

ECT = Earnings Cap True-up

ACT = ADRCT + ACOET + ACOCT

Where,

ADRCT = Avoided Demand Response Capacity True-up

ACOET = Avoided Conservation Energy True-up

ACOCT = Avoided Conservation Capacity True-up

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CHARGES (Cont'd)

$$\text{ADRCT} = (\text{Year 1}((\text{ADRC} - \text{PDRC}) \times \text{ACC}) + \text{Year 2}((\text{ADRC} - \text{PDRC}) \times \text{ACC}) + \text{Year 3}((\text{ADRC} - \text{PDRC}) \times \text{ACC}) + \text{Year 4}((\text{ADRC} - \text{PDRC}) \times \text{ACC})) \times \text{X}\%$$

Where,

- ADRC = Actual Demand impacts for the measure/program for each vintage year
- PDRC = Projected Demand impacts for the measure/program for each vintage year as used in the Rider SAW calculation for each year
- ACC = Annual Avoided Capacity Rate, in \$/year for the each vintage year as used in the Rider SAW calculation each year
- X% = Percentage of avoided costs for demand response collected through the rider

$$\text{ACOET} = (\text{NPV at the after-tax weighted average cost of capital of (Year 1}((\text{ACOE} - \text{PCOE}) \times \text{ACE}) \text{ for each year for the life of the measure/program)}) + (\text{NPV at the after-tax weighted average cost of capital of (Year 2}((\text{ACOE} - \text{PCOE}) \times \text{ACE}) \text{ for each year for the life of the measure/program)}) + (\text{NPV at the after-tax weighted average cost of capital of (Year 3}((\text{ACOE} - \text{PCOE}) \times \text{ACE}) \text{ for each year for the life of the measure/program)}) + (\text{NPV at the after-tax weighted average cost of capital of (Year 4}((\text{ACOE} - \text{PCOE}) \times \text{ACE}) \text{ for each year for the life of the measure/program)}) \times \text{Y}\%$$

Where,

- ACOE = Actual Energy impacts for the measure/program by year for the life of the measure/program for years 1-4 and projected Energy impacts for the measure/program for the remaining years of the life of the measure/program by vintage year
- PCOE = Projected Energy impacts for the measure/program by year for the life of the measure/program for each vintage as used in the Rider SAW calculation each year
- ACE = Marginal energy cost rate by year for the life of the measure/program from the IRP analysis as used in the Rider SAW calculation each year
- Y% = Percentage of avoided costs for conservation collected through the rider

$$\text{ACOCT} = (\text{NPV at the after-tax weighted average cost of capital of (Year 1}((\text{ACOC} - \text{PCOC}) \times \text{ACC}) \text{ for each year for the life of the measure/program)}) + (\text{NPV at the after-tax weighted average cost of capital of (Year 2}((\text{ACOC} - \text{PCOC}) \times \text{ACC}) \text{ for each year for the life of the measure/program)}) + (\text{NPV at the after-tax weighted average cost of capital of (Year 3}((\text{ACOC} - \text{PCOC}) \times \text{ACC}) \text{ for each year for the life of the measure/program)}) + (\text{NPV at the after-tax weighted average cost of capital of (Year 4}((\text{ACOC} - \text{PCOC}) \times \text{ACC}) \text{ for each year for the life of the measure/program)}) \times \text{Y}\%$$

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CHARGES (Cont'd)

Where,

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Y% = Percentage of avoided costs for conservation to be collected through the rider

$$LMT = \text{Year 1}(\text{ALME} - \text{PLME}) \times \text{LMR} + \text{Year 2}(\text{ALME} - \text{PLME}) \times \text{LMR} + \text{Year 3}(\text{ALME} - \text{PLME}) + \text{Year 4}(\text{ALME} - \text{PLME}) \times \text{LMR}$$

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Where,

RRT = Revenue related taxes calculated as the appropriate revenue related tax rate x AACS

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COMMONWEALTH OF KENTUCKY
BEFORE THE PUBLIC SERVICE COMMISSION

In the Matter of the Application of Duke)
Energy Kentucky, Inc. For Approval of)
Energy Efficiency Plan, Including an Energy)
Efficiency Rider and Portfolio of Energy)
Efficiency Programs)
Case No. 2008-

DIRECT TESTIMONY OF
PAUL G. SMITH
ON BEHALF OF
DUKE ENERGY KENTUCKY, INC.

December 1, 2008

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II. RATE ADJUSTMENT MECHANISM FOR ENERGY EFFICIENCY PLAN.....	3
III. CONCLUSION.....	17

ATTACHMENTS

PGS-1	Rider SAW
PGS-2	Derivation of Rider SAW Rate
PGS-3	Estimated Increase in Customer Rates Due to the Proposed Energy Efficiency Plan

I. INTRODUCTION AND PURPOSE

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Paul G. Smith and my business address is 139 East Fourth Street,
3 Cincinnati, Ohio 45202.

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

5 A. I am employed by the Duke Energy Corporation (“Duke Energy”) affiliated
6 companies as Vice President, Rates – Ohio and Kentucky.

7 **Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL**
8 **QUALIFICATIONS.**

9 A. I received a Bachelor of Science in Industrial Management Degree from Purdue
10 University and a Master of Business Administration Degree, with Honors, from
11 the University of Chicago Graduate School of Business. I am a Certified Public
12 Accountant (“CPA”) in the State of Ohio and a member of the American Institute
13 of Certified Public Accountants. I am also a member of the Edison Electric
14 Institute’s Economic Regulation and Competition, and Budgeting and Financial
15 Forecasting Committees.

16 **Q. PLEASE SUMMARIZE YOUR WORK EXPERIENCE.**

17 A. Upon graduation from Purdue University in 1982, I began my career as a public
18 accountant in the Chicago office of Deloitte and Touche (then Touche, Ross &
19 Co.), and from 1984 to 1987 in the Indianapolis office of Crowe, Chizek & Co.
20 Since 1987, I have held various positions with PSI Energy, Inc., Cinergy Services,
21 Inc., and Duke Energy Business Services, LLC (formerly known as Duke Energy
22 Shared Services, Inc.), including responsibilities in Rates and Regulation, Budgets

1 and Forecasts, Investor Relations, and Corporate Development as well as the
2 International Business Unit.

3 Most recently, in 1998 and 1999, I was Distribution Price Control Program
4 Manager at Midlands Electricity, the regional electric company in the United
5 Kingdom of which Cinergy Corp. ("Cinergy") previously held a 50% equity
6 ownership. In 1999, I was named Revenue Requirements Manager with
7 responsibilities related to the implementation of Ohio's electric restructuring
8 legislation. In 2001, I was appointed General Manager, Budgets and Forecasts
9 with responsibility for Cinergy's financial planning and analysis activities, and
10 from March 2005 to March 2006, I was responsible for strategic and financial
11 planning related to the due diligence and integration of the Cinergy/Duke merger.
12 I was appointed to my current position as Vice President, Rates in April 2006.

13 **Q. PLEASE DESCRIBE YOUR DUTIES AS VICE PRESIDENT, RATES.**

14 A. As Vice President, Rates, I am responsible for all state and federal regulated rate
15 matters including revenue requirements, cost of service and rate design for Duke
16 Energy Ohio, Inc. and Duke Energy Kentucky, Inc. ("Duke Energy Kentucky" or
17 the "Company").

18 **Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE PUBLIC SERVICE
19 COMMISSION OF KENTUCKY?**

20 A. Yes. Most recently, I provided testimony in the Kentucky Public Service
21 Commission's Energy Efficiency Administrative Proceeding, Case No. 2007-00477
22 and in support of Duke Energy Kentucky's electric rate case application in Case No.
23 2006-00172.

1 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY IN THIS**
 2 **PROCEEDING?**

3 A. The purpose of my testimony is to explain Duke Energy Kentucky's proposed
 4 rate-making treatment related to its Energy Efficiency Plan. I will discuss the key
 5 concepts and attributes of the proposed energy efficiency rider ("Rider SAW" or
 6 the "Rider"), which is attached hereto as Attachment PGS-1, as well as the
 7 mechanics and calculations that are incorporated within the Rider. My testimony
 8 also will provide an estimate of the expected jurisdictional rate impacts that will
 9 result from the recovery of energy efficiency¹ costs through the Rider.

10 **II. RATE ADJUSTMENT MECHANISM FOR**
 11 **ENERGY EFFICIENCY PLAN**
 12

13 **Q. PLEASE DESCRIBE THE RIDER SAW RATE ADJUSTMENT**
 14 **MECHANISM THAT DUKE ENERGY KENTUCKY IS PROPOSING IN**
 15 **THIS PROCEEDING.**

16 A. Duke Energy Kentucky is requesting that the Commission authorize the Company
 17 to implement Rider SAW. Rider SAW replaces the existing Rider DSMR cost
 18 recovery mechanism for the Company's energy efficiency programs. The
 19 Company proposes to be compensated for its new portfolio of energy efficiency
 20 programs, as further described in the testimony of Company Witness Theodore E.
 21 Schultz, under Rider SAW. The new compensation rider includes a rate formula
 22 designed to provide the Company with jurisdictional revenues that will provide
 23 for the recovery of costs and a financial incentive applicable to energy efficiency

¹ The term "energy efficiency," as used in my testimony, includes both energy efficiency/conservation and demand response measures.

1 programs administered by the Company. The jurisdictional revenue level
2 recovered under Rider SAW will be determined based on a fixed percentage of
3 verified capacity and energy costs avoided by these programs, which differs
4 slightly from the sharing of the avoided cost savings currently received under
5 Rider DSMR.

6 Jurisdictional revenues recovered via Rider SAW will be calculated under
7 the Company's proposal by combining: (1) the sum of annual avoided capacity
8 cost savings generated by demand response programs multiplied by the Demand
9 Response Sharing Percentage and (2) the net present value ("NPV") of avoided
10 energy and capacity costs applicable to conservation programs multiplied by the
11 Conservation Sharing Percentage. The Demand Response Sharing Percentage is
12 75% and the Conservation Sharing Percentage is 50%. Rider SAW provides for
13 the annual recovery of lost margins incurred for each year of each vintage as a
14 result of the implementation of energy conservation measures for a period of three
15 years. Rider SAW includes a reconciliation feature (*i.e.*, "True-up Adjustment")
16 that captures the difference between amounts billed customers based on projected
17 avoided cost savings and amounts ultimately due the Company based on actual
18 avoided cost savings realized.

19 Rider SAW billing factors are calculated separately for residential and
20 non-residential customers. I have set forth the derivation of the proposed billing
21 factors in Attachment PGS-2 attached to my testimony. The residential charge is
22 calculated based on avoided costs applicable to residential customers, plus the lost
23 margins from residential conservation measures; the non-residential charge is

1 calculated based on the avoided costs of programs applicable to non-residential
2 customers, plus the lost margins from non-residential conservation measures.
3 Although not explicitly discussed in this testimony, all calculations of revenue
4 requirements may require adjustment for revenue-related taxes.

5 **Q. IS THE COMPANY'S PROPOSED RATE ADJUSTMENT MECHANISM**
6 **CONSISTENT WITH THE COMMISSION'S RULES?**

7 A. Yes. The structure of Rider SAW is consistent with Recommendation No. 26 of
8 the Commission's report entitled, "Electric Utility Regulation and Energy Policy
9 in Kentucky, A Report to the Kentucky General Assembly Prepared Pursuant to
10 Section 50 of the 2007 Energy Act" (the "Commission Report"). Specifically, the
11 Commission encouraged the Kentucky General Assembly to consider explicitly
12 affirming its support for incentives for utilities that invest in energy efficiency.²

13 **Q. WHAT IS THE SOURCE OF THE INPUTS USED TO CALCULATE THE**
14 **AVOIDED COST COMPONENT OF THE RIDER?**

15 A. The Company is proposing to use the rate used to quantify the value of avoided
16 capacity and energy costs as described in detail in the testimony of Company
17 Witness Richard G. Stevie. The energy efficiency demand (kW) and energy
18 (kWh) load impacts or savings are determined based on the cost-effectiveness
19 analyses discussed by Dr. Stevie. Load savings are accumulated on a vintage
20 basis that also is explained in Dr. Stevie's testimony and is explained in more
21 detail below.

² Commission Report, at 54.

1 **Q. PLEASE EXPLAIN THE SIGNIFICANCE OF THE “VINTAGE”**
2 **CONCEPT MENTIONED ABOVE.**

3 A. First, a vintage year is defined as the initial year of participation in energy
4 efficiency programs by a group of customers. For example, program offerings to
5 a group of customers that participate in the Company’s Energy Efficiency Plan in
6 2009 are considered to make up the 2009 “vintage year.” Each year, customers
7 can participate in demand response programs or conservation measures. Demand
8 response programs are single-year programs that begin and end in each vintage
9 year. As such, participants are assumed to make a decision each year on whether
10 they will enroll (or re-enroll) in a demand response program for each successive
11 vintage year.

12 Conservation measures, on the other hand, implemented in vintage year
13 2009 will begin to produce savings that year and will continue to produce savings
14 over the assumed life of each measure. An example of such a program would be
15 the installation of energy efficient heat pumps that are expected to generate
16 savings over a fifteen-year period. When new customers install energy efficient
17 heat pumps in the year following “Year 1,” those participants will be considered
18 to be “Year 2” vintage year participants.

19 The significance of the vintage year concept is that, under the Company’s
20 save-a-watt compensation model, the avoided energy and capacity rates for a
21 particular vintage will be fixed based on the initial year of participation (*i.e.*, the
22 vintage year). The pricing of avoided capacity costs will reflect the Demand
23 Response Sharing Percentage for demand response programs and the

1 Conservation Sharing Percentage of the NPV of energy and capacity savings over
2 the life of conservation programs for the specific vintage year. For example, the
3 pricing used to calculate avoided cost savings for each year of savings for the
4 initial vintage year 2009 Rider are the avoided capacity cost rates.

5 **Q. PLEASE DESCRIBE THE CALCULATION OF THE REVENUE**
6 **REQUIREMENT APPLICABLE TO DEMAND RESPONSE PROGRAMS.**

7 A. The determination of annual avoided capacity savings and related revenue
8 requirement applicable to demand response programs is based on a fairly
9 straightforward calculation. Reductions in customer coincident peak loads stated
10 in terms of kW savings that are projected to occur due to implementation of
11 energy efficiency demand response programs are multiplied by the projected
12 avoided capacity rate per kW, as more fully discussed in the testimony of Dr.
13 Stevie. The resulting estimated demand response avoided capacity cost savings
14 are then multiplied by the Demand Response Sharing Percentage in order to
15 determine the amount of revenue requirement to be included in the Rider.

16 **Q. PLEASE DISCUSS HOW THE REVENUE REQUIREMENT IS DERIVED**
17 **FROM ESTIMATED CONSERVATION ENERGY SAVINGS.**

18 A. The projected energy impacts (*i.e.*, kWh reductions) of each energy efficiency
19 measure are obtained from the DSMore analyses described by Dr. Stevie. These
20 impacts represent an estimate of load reductions that will occur on Duke Energy
21 Kentucky's system for each hour of each day of the year. The total kWh
22 reductions over the life of the conservation programs are multiplied by the hourly
23 marginal energy costs taken from the production costing model used by Duke

1 Energy Kentucky in its Integrated Resource Plan analysis in order to estimate the
2 savings that Duke Energy Kentucky customers will realize by the reduction in the
3 consumption of power. Under the Company's proposal, the future stream of
4 projected energy cost savings over the life of the conservation programs will be
5 converted to a net present value amount by discounting the projected savings
6 using the Company's after-tax overall weighted-average cost of capital. The net
7 present value of the conservation energy savings will be multiplied by the
8 Conservation Sharing Percentage to determine the amount of revenue requirement
9 to be included in the Rider.

10 **Q. PLEASE DESCRIBE HOW THE REVENUE REQUIREMENT IS**
11 **DERIVED FROM THE CALCULATION OF CONSERVATION**
12 **AVOIDED CAPACITY SAVINGS.**

13 A. The initial calculation of revenue requirement is very similar to the process used
14 when calculating the revenue requirement applicable to demand response
15 programs. The projected reductions in coincident peak loads (*i.e.*, kW impacts) of
16 each energy efficiency conservation measure are obtained from the DSMore
17 analyses described by Dr. Stevie. The annual kW reductions over the life of each
18 energy efficiency measure are multiplied by the annual estimated avoided cost
19 capacity rates.

20 Under the Company's proposal, the future stream of projected capacity
21 cost savings over the life of a measure will be converted to a net present value
22 amount by discounting the projected savings using the Company's after-tax
23 overall weighted-average cost of capital. The net present value of the

1 conservation capacity savings will be multiplied by the Conservation Sharing
2 Percentage. The Company will use this methodology when calculating the
3 revenue requirement applicable to each vintage included in the four-year cost
4 recovery plan.

5 **Q. PLEASE DESCRIBE THE CALCULATION OF THE LOST MARGIN**
6 **COMPONENT OF THE COMPANY'S PROPOSED ENERGY**
7 **EFFICIENCY RIDER.**

8 A. Duke Energy Kentucky proposes to maintain the current method of calculating
9 lost margins pursuant to the existing Rider DSMR, with a clarification that
10 addresses demand reductions in addition to energy reductions. The applicable lost
11 revenues will be computed by multiplying the estimated reduction in kilowatt and
12 kilowatt-hour sales that will be lost for each twelve-month period rate schedule
13 over a three-year period as a result of the implementation of approved
14 conservation programs by the appropriate rate charge, excluding the variable costs
15 included in the charge, for the applicable rate schedule. The resulting estimated
16 lost margin value by rate schedule will be divided by the expected kilowatt and
17 kilowatt-hour sales for each twelve-month period of the upcoming three-year
18 period. The expected kilowatt and kilowatt hour sales will be reduced by the
19 reduction in sales as a result of the energy efficiency plans for the upcoming three-
20 year period. This projected lost margins amount will be included in the Rider
21 SAW revenue requirement calculation for that year. The recovery of lost margins
22 will be reduced to the extent they are recovered in base rates as part of a future
23 general rate case proceeding.

1 **Q. HOW WILL THE COSTS OF THE COMPANY'S ENERGY EFFICIENCY**
2 **PROGRAMS BE ALLOCATED BETWEEN CUSTOMER CLASSES?**

3 A. The Company has proposed to assign the cost of energy efficiency programs to the
4 class of customers that benefit from the programs. Accordingly, residential
5 customers will pay for programs available to residential customers and non-
6 residential customers will pay for programs available to non-residential
7 customers. As discussed in Company Witness Schultz's testimony, Duke Energy
8 Kentucky also proposes to allocate the revenues (including lost margin revenues)
9 associated with certain programs that are available to both electric and gas
10 customers between the Company's residential gas and electric customers based on
11 the percentage of total customers that each customer group represents. The
12 affected energy efficiency measures that also can have gas impacts are Home
13 Energy House Call, Home Performance, Personalized Energy Report, Reach and
14 Teach Energy Conservation, the Duke Energy Kentucky website tool, and Low
15 Income Weatherization.

16 **Q. PLEASE DESCRIBE THE HOME ENERGY ASSISTANCE PROGRAM**
17 **("HEA") CHARGE RECENTLY APPROVED BY THE COMMISSION IN**
18 **CASE NO. 2008-0010.**

19 A. The HEA charge is a monthly \$0.10 charge per residential electric and gas meter
20 that is assessed to fund a program to assist low income customers in paying their
21 energy bills. This charge is currently included in Rider DSMR and has been
22 approved through September 2011. The Company proposes to continue to apply
23 the \$0.10 charge to residential customer bills under Rider SAW.

1 **Q. WILL THERE BE AN ANNUAL TRUE-UP FOR ACTUAL KW AND**
2 **KWH SAVINGS AND ACTUAL LOST MARGINS?**

3 A. No. The Company proposes that there be a single true-up at the end of the four-
4 year term.

5 **Q. PLEASE DISCUSS THE TRUE-UP MECHANISM.**

6 A. The Rider SAW true-up mechanism will include three components: (1) an
7 avoided cost component that will adjust for the difference between verified actual
8 avoided cost savings and projected avoided cost savings; (2) a *lost margin*
9 *component that will capture the difference between actual lost margins and the*
10 *recovery of lost margins billed customers; and (3) an earnings cap component that*
11 *will ensure that the after-tax incentive retained by the Company does not exceed*
12 *preset levels. The testimony of Company Witness Stevie includes a further*
13 *discussion of the specific items that will be trued up at the end of the four-year*
14 *term.*

15 The true-up process related to actual kW and kWh savings will capture
16 the difference between amounts due the Company based on an “after-the-fact”
17 calculation of recoverable costs and amounts billed customers. This component
18 of the true-up calculation will be calculated as follows:

- 19 a. Actual kW and kWh savings will be determined at the end of the fourth
20 year, using various measurement and verification methods as described by
21 Company Witness Stevie.
- 22 b. The actual kW savings for demand response programs will be multiplied
23 by the avoided capacity rates by year as determined at the time the Rider

1 was initially set for each vintage. The resulting avoided cost savings will
2 be multiplied by the Demand Response Sharing Percentage in order to
3 determine the Company's share of actual avoided capacity cost savings.

4 c. The actual kW savings for conservation programs will be multiplied by the
5 avoided capacity rates by year as determined at the time the Rider was
6 initially set for each vintage, present valued back to each vintage year and
7 then multiplied by the Conservation Sharing Percentage to determine the
8 Company's share of actual conservation-related avoided capacity savings.

9 d. The actual kWh savings will be present valued for each vintage year and
10 then multiplied by the Conservation Sharing Percentage to determine the
11 actual avoided energy costs the Company is entitled to collect as revenues
12 over four years.

13 e. The amount subject to collection in the true-up will be the difference
14 between the actual total four-year revenues collected under the avoided
15 cost component of Rider SAW and the total four-year revenues the
16 Company is entitled to collect for avoided capacity and energy costs
17 calculated in b., c., and d.

18 The true-up process related to lost margins will compare the lost margins
19 recoverable based on verified actual reductions in kWh sales and amounts
20 recovered from customers. This component of the true-up calculation will be
21 calculated as follows:

- 1 a. The actual kWh savings achieved as a result of the energy efficiency
2 measures will be determined through the various measurement and
3 verification processes at the end of the fourth year.
- 4 b. The actual kWh savings will be multiplied times the Company's average
5 tariff rates, excluding the tariff's variable costs in order to determine the
6 actual lost margins the Company is entitled to collect.
- 7 c. The difference between the actual total four year revenues collected under
8 the lost margins component of Rider SAW and the total four year
9 revenues the Company is entitled to collect for lost margins will
10 *determine the lost margins component of the true-up amount.*

11 The true-up process related to the earnings cap will compare the level of
12 after-tax net income calculated based on revenues that reflect actual verified kW
13 and kWh savings versus the preset earnings limit. Any excess earnings as
14 determined by this analysis will be refunded to customers as part of the final true-
15 up process. This earnings cap adjustment will be calculated as follows:

- 16 a. The actual four year total avoided cost savings associated with the actual
17 kW and kWh savings will be compared to the targeted four year total
18 avoided cost savings to determine the percentage of targeted savings
19 achieved.
- 20 b. The appropriate performance target cap percentage based on the percentage
21 actual target achievement will be multiplied by the actual total four year
22 *program costs to determine the appropriate net income cap.*

1 c. The cumulative net income the Company would earn over four years from
2 the save-a-watt program must be calculated and compared to the earnings
3 cap. This calculation equals total revenues the Company is entitled to
4 collect for actual kW and kWh savings plus revenues for lost margins
5 associated with actual kW and kWh savings minus actual program costs
6 minus lost margins associated with actual kW and kWh savings minus
7 revenue-related taxes and income taxes.

8 d. If net income calculated in "c." above exceeds the net income cap, the
9 earnings cap adjustment will be the difference between the net income cap
10 and the net income calculated in "c." grossed up to a revenue requirement.
11 If the net income calculated in "c." is less than the net income cap, the
12 earnings cap adjustment will be zero.

13 The avoided cost component of the true-up amount, the lost margins
14 component of the true-up amount, and the earnings cap component of the true-up
15 amount, if applicable, will be summed in order to determine the total true-up
16 amount. Amounts owed customers or the Company will be refunded to customers
17 or recovered from customers through Rider SAW in the fifth year.

18 **Q. HOW DOES THE COMPANY PROPOSE TO TRANSITION FROM**
19 **RIDER DSMR TO RIDER SAW?**

20 A. In connection with the implementation of the proposed portfolio of energy
21 efficiency programs, the Company has requested that Rider SAW be approved by
22 April 1, 2009. Upon the implementation of Rider SAW effective April 1, 2009,
23 Duke Energy Kentucky will eliminate the existing charge in customers' rates for

1 Rider DSMR. On or before July 1, 2009, Duke Energy Kentucky proposes to file
2 a final report and reconciliation for the period July 1, 2008, through March 31,
3 2009, which represents the period that would not be covered by the November 17,
4 2008 Annual Report filing of programs under Rider DSMR. To finalize the true-
5 up of Rider DSMR, Duke Energy Kentucky would seek the Commission's
6 approval in its July 1, 2009 filing to add or subtract the resulting true-up from the
7 July 2008 – March 2009 period to Rider SAW at that time. The resulting
8 adjustment to Rider SAW would close-out Rider DSMR.

9 The energy efficiency programs approved under Rider DSMR shall
10 continue in effect until Rider SAW is approved, subject to the same annual
11 reporting and program approval requirements currently in effect under Rider
12 DSMR. Further, the Company's proposed Energy Efficiency Plan includes six
13 programs³ that generate energy savings for electric and gas customers. Upon
14 implementation of Rider SAW, the revenue requirements related to these
15 gas/electric programs shall be recovered by allocating⁴ the revenue requirements
16 to customers through separate charges for electric and gas customers in Rider
17 SAW.

18 **Q. HOW IS THE REVENUE REQUIREMENT CONVERTED TO THE**
19 **PROPOSED RATE?**

20 A. Each year the projected avoided cost component and the projected lost margins
21 component will be summed separately for residential and non-residential

³ The six gas/electric programs are Personalized Energy Reports, Online Audit with Energy Efficiency Starter Kit, Home Energy House Call, and Low Income Weatherization, Home Performance, and Reach & Teach Energy Conservation.

⁴ This allocation will be equal to the ratio of gas customers to total customers.

1 customers. The sums will be divided by the projected retail kWh sales less energy
 2 efficiency impacts for the classes to arrive at the Rider SAW value. In the fifth
 3 year of the Rider, the true-up amount will be included in the Rider calculation.

4 **Q. PLEASE PROVIDE AN ESTIMATE OF THE EXPECTED**
 5 **JURISDICTIONAL RATE IMPACTS THAT WILL RESULT FROM THE**
 6 **RECOVERY OF ENERGY EFFICIENCY COSTS THROUGH THE**
 7 **RIDER.**

8 A. Company Witness Schultz estimates the proposed initial Rider SAW billing factor
 9 is \$0.001779/kWh for retail residential electric customers and \$0.000912/kWh for
 10 non-residential customers. At \$0.001779/kWh, the year 1 residential electric Rider
 11 SAW rate represents a 12% increase over the current adjusted Rider DSMR⁵
 12 billing factor of \$0.001596/kWh.⁶ When Rider SAW is adjusted to net out the
 13 effect of the adjusted Rider DSMR, the result is a slight 0.2% increase in total
 14 residential electric rates, which equates to a monthly increase of just \$0.18 to a
 15 typical customer that consumes 1,000 kWh per month. At \$0.000912/kWh, the
 16 year 1 non-residential Rider SAW billing factor represents an 8% increase over
 17 the current adjusted Rider DSMR rate of \$0.000844/kWh.⁷ When Rider SAW is
 18 adjusted to net out the effect of the adjusted Rider DSMR, the result is again a
 19 slight increase of 0.2% in total non-residential electric rates. For the Company's
 20 gas customers, the implementation of Rider SAW will result in a decrease in rates.

21 The proposed year 1 residential gas Rider SAW billing factor is \$0.004828/kWh,

⁵ The true-up component was removed because that represents a reconciliation of past over- or under-collection, and the lost margins were reduced to 1/3 to account for the 36-month collection.

⁶ The as filed residential electric rider is \$0.001416/kWh.

⁷ The as filed nonresidential rider is \$0.001405/kWh.

1 which represents a 65% decrease over the current adjusted Rider DSMR of
2 \$0.014127/ccf.⁸ When Rider SAW is adjusted to net out the effect of the adjusted
3 Rider DSMR, the result is a modest 0.6% decrease in total residential gas rates.

III. CONCLUSION

4 **Q. WERE ATTACHMENTS PGS-1, PGS-2, AND PGS-3 PREPARED BY YOU**
5 **OR UNDER YOUR DIRECTION AND SUPERVISION?**

6 **A. Yes.**

7 **Q. DOES THIS CONCLUDE YOUR PRE-FILED DIRECT TESTIMONY?**

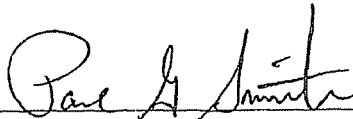
8 **A. Yes, it does.**

⁸ The as filed residential gas rider is \$(0.0109294).

VERIFICATION


State of Ohio)
) SS:
County of Hamilton)

The undersigned, Paul G Smith, being duly sworn, deposes and says that I am employed by the Duke Energy Corporation affiliated companies as Vice-President, Rates; that on behalf of Duke Energy Kentucky, Inc.; says that I have personal knowledge of the matters set forth in the foregoing testimony, and that the answers contained therein are true and correct to the best of my knowledge, information and belief.



Paul G. Smith, Affiant

Subscribed and sworn to before me by Paul G. Smith on this 25th day of November, 2008.



NOTARY PUBLIC

My Commission Expires:



ANITA M. SCHAFER
Notary Public, State of Ohio
My Commission Expires
November 4, 2009

ATTACHMENT PGS-1

RIDER SAW
ENERGY EFFICIENCY RIDER

APPLICABILITY

Applicable to service rendered under the provisions of Rate RS and Rate TT, . A non-residential customer, whose total aggregate load in the Company's certified service territory exceeds 25 MW, may opt out of the tariff. The customer must provide written notification which will list all of their accounts to be "opted-out" of this tariff. Customers electing to opt-out of the program will not be credited for any periods previously billed. The written notification can be e-mailed to the Business Service Center at BSCteam@duke-energy.com or sent to Business Service Center c/o Duke Energy, P.O. Box 960, Suite EY575, Cincinnati, OH 45202.

If the customer later decides to participate in an energy efficiency program, they must pay the Rider DR-SAW for the entire period they "opted-out" of.

CHARGES

The monthly amount computed under each of the rate schedules to which this rider is applicable shall be increased or decreased by the energy Rider SAW Charge at a rate per kilowatt-hour of monthly consumption and, where applicable, a rate per kilowatt of monthly billing demand, in accordance with the following formula.

$$\text{Rider SAW (residential)} = \frac{\text{ACDRC} + \text{ACCOE} + \text{ACCOC} + \text{LM} + \text{TUA, as assigned to the residential class of customers}}{S_{\text{residential}}}$$

$$\text{Rider SAW (nonresidential)} = \frac{\text{ACDRC} + \text{ACCOE} + \text{ACCOC} + \text{LM} + \text{TUA, as assigned to the nonresidential class of customers}}{S_{\text{nonresidential}}}$$

Where,

Rider SAW = Energy Efficiency Adjustment Amount
 ACDRC = Avoided Cost of Capacity for Demand Response Revenue Requirement
 ACCOE = Avoided Cost of Energy for Conservation Revenue Requirement
 ACCOC = Avoided Cost of Capacity for Conservation Revenue Requirement
 LM = Lost Margins
 TUA = True-up Adjustment to be included in the fourth year of the rider only
 S = Projected kWh Sales for the Rider Period for the class (residential or nonresidential) of Ohio retail customers

Rider SAW is calculated for a 12 month period, referred to as the Rider Period.
 Rider SAW will be grossed-up for applicable revenue related taxes.

$$\text{ACDRC} = \text{PDRC} \times \text{ACC} \times \text{X}\%$$

Where,

PDRC = Projected Demand impacts for the measure/program for the vintage applicable to the Rider Period
 ACC = Annual Avoided Capacity Market-Based Rate, in \$/year for the year of the Rider Period
 X% = Percentage of avoided costs for demand response to be collected through the rider

$$\text{ACCOE} = (\text{NPV at the after-tax weighted average cost of capital of } (\text{PCOE} \times \text{ACE}) \text{ for each year for the life of the measure/program}) \times \text{Y}\%$$

Where,

PCOE = Projected Energy impacts for the measure/program by year for the life of the measure/program for the vintage applicable to the Rider Period
 ACE = Marginal energy cost rate by year for the life of the measure/program from the IRP analysis
 Y% = Percentage of avoided costs for conservation to be collected through the rider

$$\text{ACCOC} = (\text{NPV at the after-tax weighted average cost of capital of } (\text{PCOC} \times \text{ACC}) \text{ for each year for the life of the measure/program}) \times \text{Y}\%$$

Where,

PCOC = Projected Demand impacts for the measure/program by year for the life of the measure/program

ATTACHMENT PGS-1

for the vintage applicable to the Rider Period
 ACC = Annual Avoided Capacity Market-Based Rate, in \$/year by year for the life of the measure/program
 Y% = Percentage of avoided costs for conservation to be collected through the rider

$$LM = PLME \times LMR$$

Where,

PLME = Projected Energy impacts for all measures/programs for the vintage applicable to the Rider Period
 LMR = Average Retail \$/kWh excluding fuel

In the fifth Rider Period, a true-up amount will be included in the Rider SAW rate as follows:

$$TUA = ACT + LMT + ECT$$

Where,

ACT = Avoided Cost True-up
 LMT = Lost Margins True-up
 ECT = Earnings Cap True-up

$$ACT = ADRCT + ACOET + ACOCT$$

Where,

ADRCT = Avoided Demand Response Capacity True-up
 ACOET = Avoided Conservation Energy True-up
 ACOCT = Avoided Conservation Capacity True-up

$$ADRCT = (\text{Year 1}((ADRC - PDRC) \times ACC) + \text{Year 2}((ADRC - PDRC) \times ACC) + \text{Year 3}((ADRC - PDRC) \times ACC) + \text{Year 4}((ADRC - PDRC) \times ACC)) \times X\%$$

Where,

ADRC = Actual Demand impacts for the measure/program for each vintage year
 PDRC = Projected Demand impacts for the measure/program for each vintage year as used in the Rider SAW calculation for each year
 ACC = Annual Avoided Capacity Market-Based Rate, in \$/year for the each vintage year as used in the Rider SAW calculation each year
 X% = Percentage of avoided costs for demand response collected through the rider

$$ACOET = (\text{NPV at the after-tax weighted average cost of capital of (Year 1}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 2}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 3}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 4}((ACOE - PCOE) \times ACE) \text{ for each year for the life of the measure/program) } \times Y\%$$

Where,

ACOE = Actual Energy impacts for the measure/program by year for the life of the measure/program for years 1-4 and projected Energy impacts for the measure/program for the remaining years of the life of the measure/program by vintage year
 PCOE = Projected Energy impacts for the measure/program by year for the life of the measure/program for each vintage as used in the Rider SAW calculation each year
 ACE = Marginal energy cost rate by year for the life of the measure/program from the IRP analysis as used in the Rider SAW calculation each year
 Y% = Percentage of avoided costs for conservation collected through the rider

$$ACOCT = (\text{NPV at the after-tax weighted average cost of capital of (Year 1}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 2}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 3}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) + (NPV at the after-tax weighted average cost of capital of (Year 4}((ACOC - PCOC) \times ACC) \text{ for each year for the life of the measure/program) } \times Y\%$$

Where,

ACOC = Actual Demand impacts for the measure/program by year for the life of the measure/program for years 1-4 and projected Demand impacts for the measure/program for the remaining years in the life of the measure/program by vintage year

ATTACHMENT PGS-1

PCOC = Projected Demand impacts for the measure/program by year for the life of the measure/program for the vintage as used in the Rider SAW calculation each year
 ACC = Annual Avoided Capacity Market-Based Rate, in \$/year by year for the life of the measure/program as used in the Rider SAW calculation each year
 Y% = Percentage of avoided costs for conservation to be collected through the rider

$$LMT = \text{Year 1}(\text{ALME} - \text{PLME}) \times \text{LMR} + \text{Year 2}(\text{ALME} - \text{PLME}) \times \text{LMR} + \text{Year 3}(\text{ALME} - \text{PLME}) + \text{Year 4}(\text{ALME} - \text{PLME}) \times \text{LMR}$$

Where,

ALME = Actual Energy impacts for all measures/programs for the vintage
 PLME = Projected Energy impacts for all measures/programs for the vintage as used in the Rider SAW calculation each year
 LMR = Average Retail \$/kWh excluding fuel as used in the Rider SAW calculation each year

$$\text{ECT} = \text{NIC minus (Greater of NIC or CNI) grossed-up for applicable income and revenue related taxes}$$

Where,

NIC = Net Income Cap
 CNI = Calculated Net Income

$$\text{NIC} = \text{PTCP} \times \text{APC}$$

Where,

PTCP = Performance Target Cap Percentage
 APC = Actual Program Costs for the Years 1-4

PTCP is derived from the following table:

Percentage Actual Target Achievement	ROI Cap on Program Costs Percentage
>=90%	15%
80% to 89%	12%
60% to 79%	9%
< 60%	5%

$$\text{PATA} = \text{AACS} / \text{TACS}$$

Where,

AACS = Actual Avoided Cost Savings
 TACS = Targeted Avoided Cost Savings

$$\text{AACS} = (\text{Sum of Years 1-4 (ACDRC} + \text{ACCOE} + \text{ACCOC})) + \text{ACT}$$

$$\text{CNI} = \text{AACS grossed-up for applicable revenue related taxes} - \text{Sum Years 1-4 APC} - \text{RRT} - \text{IT}$$

Where,

RRT = Revenue related taxes calculated as the appropriate revenue related tax rate x AACS
 IT = Income taxes calculated as the appropriate composite income tax rate x (AACS - Sum Years 1-4 APC - RRT)

HOME ENERGY ASSISTANCE PROGRAM

A Home Energy Assistance Program charge of \$0.10 will be applied monthly to residential customer bills through September 2011.

DEMAND RATCHETS

Customer served under the provisions of Rate DS or Rate DP may be eligible to have their billing demand re-determined in recognition of a permanent change in load due to the installation of load control equipment or other measures taken by the customer to permanently reduce the customer's demand.

ATTACHMENT PGS-1

SERVICE REGULATIONS

The supplying of, and billing for, service and all conditions applying thereto, are subject to the jurisdiction of the Kentucky Public Service Commission, and to Company's Service Regulations currently in effect, as filed with the Kentucky Public Service Commission, as provided by law.

ATTACHMENT PGS-2

1

DERIVATION OF RIDER SAW RATE

2

Kentucky residential electric revenue requirement = KY residential revenue requirement /
 (Projected 2009 KY residential retail sales - KY residential EE Impacts), where:

3

4

- Kentucky residential revenue requirement = \$ 2,591,256

5

- Projected 2009 KY residential retail sales = 1,467,175,000 kWh

6

- Projected 2009 KY residential EE Impacts = 10,930,000 kWh

7

8

$$\text{\$X} / (\text{Y} - \text{Z}) = \text{\$}0.001779 \text{ /kWh}$$

9

10

Kentucky non-residential electric revenue requirement = KY non-residential revenue
 requirement / (Projected 2009 KY non-residential retail sales - KY non-residential EE
 Impacts), where:

11

12

13

- Kentucky non-residential revenue requirement = \$ 2,329,025

14

- Projected 2009 KY non-residential retail sales = 2,562,121,000 kWh

15

- Projected 2009 KY non-residential EE Impacts = 6,848,000 kWh

16

17

$$\text{\$X} / (\text{Y} - \text{Z}) = \text{\$}0.000912 \text{ /kWh}$$

18

19

Kentucky residential gas revenue requirement = KY residential revenue requirement /
 (Projected 2009 KY residential retail sales - KY residential EE Impacts) / 10, where:

20

21

- Kentucky residential revenue requirement = \$ 259,123

22

- Projected 2009 KY residential retail sales = 5,367,176 mcf

23

24

$$\text{\$X} / (\text{Y} - \text{Z}) / 10 = \text{\$}0.004828 \text{ / ccf}$$

25

DUKE ENERGY KENTUCKY, INC.

ESTIMATED INCREASE IN CUSTOMER RATES DUE TO THE PROPOSED ENERGY EFFICIENCY PLAN

(DOLLARS IN MILLIONS)

Line No.	Description	Billed Revenues For The Twelve Months Ended December 2007															
		Year 1			Year 2			Year 3			Year 4						
		Projected EE Revenue (B)	DSMR Rider (C)	Net Effect (D)	Percent Increase (E)	Projected EE Revenue (F)	DSMR Rider (G)	Net Effect (H)	Percent Increase (I)	Projected EE Revenue (J)	DSMR Rider (K)	Net Effect (L)	Percent Increase (M)	Projected EE Revenue (N)	DSMR Rider (O)	Net Effect (P)	Percent Increase (Q)
1	Residential (Electric)	\$ 121.4	\$ (2.3)	\$ 0.3	0.2%	\$ 3.7	\$ (2.6)	\$ 1.1	0.9%	\$ 5.0	\$ (2.9)	\$ 2.1	1.7%	\$ 6.8	\$ (2.9)	\$ 3.8	3.2%
2	Residential (Gas)	\$ 86.7	\$ (0.8)	\$ (0.5)	-0.6%	\$ 0.4	\$ (0.8)	\$ (0.4)	-0.4%	\$ 0.5	\$ (0.8)	\$ (0.2)	-0.3%	\$ 0.7	\$ (0.8)	\$ (0.1)	-0.1%
3	Non-Residential	\$ 184.0	\$ (2.0)	\$ 0.3	0.2%	\$ 3.0	\$ (2.2)	\$ 0.8	0.5%	\$ 3.7	\$ (2.4)	\$ 1.3	0.7%	\$ 5.0	\$ (2.4)	\$ 2.6	1.4%
4	Total	\$ 392.0	\$ (5.1)	\$ 0.1	0.0%	\$ 7.1	\$ (5.6)	\$ 1.6	0.4%	\$ 9.2	\$ (6.1)	\$ 3.1	0.8%	\$ 12.5	\$ (6.1)	\$ 6.4	1.6%

1 DSMR Rider amount is from Appendix I, Demand Side Management Cost Recovery Rider (DSMR), January, 2009 through December, 2009, pages 2 and 5

2 DSMR Rider does not include the true up component

3 DSMR Rider includes 1/3 of lost revenues in year 1, 2/3 in year 2, and the entire amount in years 3 and 4. This is meant to approximate the 36 month collection of lost revenues.

4 Exhibit does not include Home Energy Assistance Program charge of \$0.10 per month per residential electric and gas meter