

LAW OFFICE OF  
ROBERT W. KAYLOR, P.A.  
3700 GLENWOOD AVENUE, SUITE 330  
RALEIGH, NORTH CAROLINA 27612  
(919) 828-5250  
FACSIMILE (919) 828-5240

**FILED**  
MAY 02 2011  
Clerk's Office  
N.C. Utilities Commission

May 2, 2011

Ms. Renné C. Vance, Chief Clerk  
North Carolina Utilities Commission  
4325 Mail Service Center  
Raleigh, North Carolina 27699-4325

RE: Docket No. E-100, Sub 128

**OFFICIAL COPY**

Dear Ms. Vance:

Enclosed for filing are the original and thirty (30) copies of Duke Energy Carolinas, LLC's Supplemental Filing in Response to the Initial Comments of the Public Staff Regarding DSM Programs in the above referenced docket.

Sincerely,

*Robert W. Kaylor*

Robert W. Kaylor

Encls.

cc: Parties of Record

Jfm  
AG  
7 comm  
Benminh  
Watson  
Hoover  
Lute  
Hillburn  
Jones  
Sessoms  
Pricson  
Hodge  
Onber  
2 PSECO  
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3 PS legal  
3 PS elect.

**OFFICIAL COPY**  
BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-100, SUB 128

**FILED**  
MAY 02 2011  
Clerk's Office  
N.C. Utilities Commission

In the Matter of Investigation of Integrated Resource Planning in North Carolina – 2010	) ) ) ) ) ) )	DUKE ENERGY CAROLINAS, LLC'S SUPPLEMENTAL FILING IN RESPONSE TO THE INITIAL COMMENTS OF THE PUBLIC STAFF REGARDING DSM PROGRAMS
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On March 1, 2011, Duke Energy Carolinas, LLC (“Duke Energy Carolinas” or “the Company”) filed its comments in reply to the Initial Comments of the North Carolina Public Staff (“Public Staff”) and other intervening parties (“Reply Comments”) on the Company’s 2010 Integrated Resource Plan (“IRP”). In its Reply Comments, Duke Energy Carolinas responded to certain observations made by Public Staff regarding the Company’s calculation of avoided production (energy) costs for its demand-side management (“DSM”) programs<sup>1</sup>. The Company stated that the high level of avoided production cost benefits improperly included an amount of avoided capacity cost benefits, which were embedded in the inputs used to calculate the avoided production cost benefits in the DSMore model. As Public Staff described in its comments, this DSMore calculation methodology error resulted in a “double-counting” of the avoided capacity cost benefits in Duke Energy Carolinas cost-effectiveness evaluations for its Power Share Call Option DSM program. In its comments, the Public Staff requested that any erroneous cost effectiveness test results filed with the Commission in connection with the Company’s previous DSM program applications should be corrected and re-filed in the appropriate dockets, along with an identification from Duke Energy Carolinas of the period during which the double-

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<sup>1</sup> For purposes of this document, all references to DSM programs are intended to only refer to programs traditionally referred to as demand response programs.

counting occurred and an explanation of effect of the issue on any data filed with the Commission.

As the Company noted in its Reply Comments, only dollar amounts related to cost-based avoided production included in certain cost-effectiveness analyses for its DSM programs were impacted by this double-counting error. The resulting impact of the double-counting was that the subject DSM programs were shown to be more cost-effective than they otherwise should have been. Duke Energy Carolinas committed to file with the Commission within sixty (60) days of the date of the filing of its Reply Comments in this docket, a compilation of the dockets, opened since January 1, 2007, in which any information, input data, or output results from the DSMore model were filed and corrections to (1) any documents that contained incorrect avoided production costs benefits and (2) any documents that contained incorrect cost effectiveness test evaluations resulting from the DSMore double counting issue identified by the Public Staff in its Initial Comments. Pursuant to its commitment within its Reply Comments, Duke Energy Carolinas provides the following list of relevant dockets and corrected information:

**LIST OF DOCKETS IMPACTED BY INCORRECT CALCULATION OF AVOIDED  
CAPACITY COST BENEFITS**

**1. Docket No. E-100, Sub 114 – 2007 IRP**

The tables included Appendix I of the Company's 2007 IRP related to the cost-effectiveness evaluations for the Company's Power Manager and PowerShare DSM programs. See Pages 107-112. The cost-effectiveness test information included in the 2007 IRP was superseded by the cost-effectiveness test information relating to the same proposed programs submitted with the Company's Petition for Approval of Save-a-Watt Approach, Energy Efficiency Rider and Portfolio of Energy Efficiency Programs, filed in Docket No. E-7, Sub 831, and the necessary corrections are noted in Paragraph 2 below in reference to that filing.

**2. Docket No. E-7, Sub 831 – Petition for Approval of Save-a-Watt Approach, Energy Efficiency Rider and Portfolio of Energy Efficiency Programs**

The Company included cost-effectiveness evaluations for the PowerShare and Power Manager DSM programs in Attachment B to Exhibit 2 of the Direct Testimony of Theodore E. Schultz. See Pages 3 and 6. The corrected cost-effectiveness evaluation information for Attachment B to Schultz Exhibit 2 is attached hereto as Supplemental Attachment A.

**3. Docket No. E-100, Sub 118 – 2008 IRP**

The Company included cost-effectiveness evaluations for the PowerShare and Power Manager DSM programs in certain tables within its 2008 IRP filed in Docket No. E-100, 118. See tables on pages 147 and 149. The corrected cost-effectiveness evaluation information for tables on pages 147 and 149 of the 2008 IRP is attached hereto as Supplemental Attachment B.

**4. Docket Nos. E-100, Sub 118 and 124 – Direct Testimony of Richard G. Stevie, Ph.D, in support of the Company's 2008 and 2009 IRPs**

Duke Energy Carolinas' witness Richard G. Stevie, Ph.D, included certain cost effectiveness information relating to the Company's PowerShare and Power Manager DSM programs in his direct testimony, filed in support of the Company's 2008 and 2009 IRPs on January 11, 2010. See table between lines 12 and 13 on Page 14. The corrected cost-effectiveness evaluation information for the table within Dr. Stevie's direct testimony is attached hereto as Supplemental Attachment C.

**5. Docket No. E-7, Sub 953 – Petition for Approval of PowerShare CallOption Non-Residential Load Curtailment Program**

Duke Energy Carolinas included the cost effectiveness information relating to the Company's Power Share Call Option Non-Residential Load Curtailment Program ("PowerShare Call Option") within Attachment B of its Application for Approval, filed on June 7, 2010. The Company also included revised avoided cost and cost effectiveness evaluation information in its

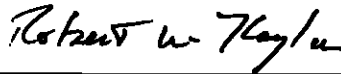
Response to Commission's Order Requesting Further Information, as well as its Revised Attachment B submitted as part of its Response, filed on September 22, 2010.

CUSTOMER EDUCATION INFORMATION

In its comments, Public Staff also noted that Duke Energy Carolinas did not include a specific discussion of its customer education efforts not associated with the individual energy efficiency ("EE") and DSM programs. Public Staff also correctly noted that the Company committed to file additional information regarding its customer education initiatives that are not a part of its specific EE and DSM programs. Pursuant to this commitment, the Company has attached the requested information hereto as Supplemental Attachment E.

Respectfully submitted, this the 2nd day of May 2011.

DUKE ENERGY CAROLINAS, LLC



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Robert W. Kaylor, P.A.  
Law Office of Robert W. Kaylor  
3700 Glenwood Avenue, Suite 330  
Raleigh, North Carolina 27612  
919.828.5250 telephone  
*bkaylor@rwkaylorlaw.com*

Charles A. Castle  
Senior Counsel  
Duke Energy Corporation  
Post Office Box 1006/EC03T  
Charlotte, North Carolina 28201-1006  
704.382.4499 CAC telephone  
*alex.castle@duke-energy.com*

**SUPPLEMENTAL ATTACHMENT A**

**Docket No. E-7, Sub 831**  
**Attachment B to Schultz Exhibit 2**  
**Corrections to Page 3**

	<b>Power Manager</b>			
	UCT	TRC	RIM	Participant
Avoided T&D	\$50,465,877	\$50,465,877	\$50,465,877	\$0
Cost-Based Avoided Production	\$0	\$0	\$0	\$0
Cost-Based Avoided Capacity	\$106,920,781	\$106,920,781	\$106,920,781	\$0
Lost Revenue	\$0	\$0	\$0	\$0
Net Lost Revenue	\$0	\$0	\$0	\$0
Administration Costs	\$734,839	\$734,839	\$734,839	\$0
Implementation Costs	\$1,102,259	\$1,102,259	\$1,102,259	\$0
Incentives	\$33,450,743	\$0	\$33,450,743	\$33,450,743
Other Utility Costs	\$0	\$0	\$0	\$0
Participant Costs	\$0	\$0	\$0	\$0
Total Benefits	\$157,386,658	\$157,386,658	\$157,386,658	\$33,450,743
Total Costs	\$35,287,841	\$1,837,098	\$35,287,841	\$0
Benefit/Cost Ratios	4.46	85.67	4.46	

Data represents present value of costs and benefits over the life of the program.

**Corrections to Page 6**

	<b>PowerShare®</b>			
	UCT	TRC	RIM	Participant
Avoided T&D	\$164,879,815	\$164,879,815	\$164,879,815	\$0
Cost-Based Avoided Production	\$0	\$0	\$0	\$0
Cost-Based Avoided Capacity	\$395,455,252	\$395,455,252	\$395,455,252	\$0
Lost Revenue	\$0	\$0	\$0	\$0
Net Lost Revenue	\$0	\$0	\$0	\$0
Administration Costs	\$1,513,125	\$1,513,125	\$1,513,125	\$0
Implementation Costs	\$2,269,687	\$2,269,687	\$2,269,687	\$0
Incentives	\$218,997,082	\$0	\$218,997,082	\$218,997,082
Other Utility Costs	\$0	\$0	\$0	\$0
Participant Costs	\$0	\$3,813,254	\$0	\$3,813,254
Total Benefits	\$560,335,067	\$560,335,067	\$560,335,067	\$218,997,082
Total Costs	\$222,779,894	\$7,596,067	\$222,779,894	\$3,813,254
Benefit/Cost Ratios	2.52	73.77	2.52	57.43

Data represents present value of costs and benefits over the life of the program.

**SUPPLEMENTAL ATTACHMENT B**

**Docket No. E-100, Sub 118 – 2008 IRP**  
**Corrections to Table on Page 147**

**Proposed Programs**

<b>Power Manager</b>				
	<b>UCT</b>	<b>TRC</b>	<b>RIM</b>	<b>Participant</b>
Avoided T&D	\$50,465,877	\$50,465,877	\$50,465,877	\$0
Cost-Based Avoided Production	\$0	\$0	\$0	\$0
Cost-Based Avoided Capacity	\$106,920,781	\$106,920,781	\$106,920,781	\$0
Lost Revenue	\$0	\$0	\$0	\$0
Net Lost Revenue	\$0	\$0	\$0	\$0
Administration Costs	\$734,839	\$734,839	\$734,839	\$0
Implementation Costs	\$1,102,259	\$1,102,259	\$1,102,259	\$0
Incentives	\$33,450,743	\$0	\$33,450,743	\$33,450,743
Other Utility Costs	\$0	\$0	\$0	\$0
Participant Costs	\$0	\$0	\$0	\$0
Total Benefits	\$157,386,658	\$157,386,658	\$157,386,658	\$33,450,743
Total Costs	\$35,287,841	\$1,837,098	\$35,287,841	\$0
Benefit/Cost Ratios	4.46	85.67	4.46	

Data represents present value of costs and benefits over the life of the program.

**Corrections to Table on Page 149****Proposed Programs**

<b>PowerShare®</b>				
	<b>UCT</b>	<b>TRC</b>	<b>RIM</b>	<b>Participant</b>
Avoided T&D	\$164,879,815	\$164,879,815	\$164,879,815	\$0
Cost-Based Avoided Production	\$0	\$0	\$0	\$0
Cost-Based Avoided Capacity	\$395,455,252	\$395,455,252	\$395,455,252	\$0
Lost Revenue	\$0	\$0	\$0	\$0
Net Lost Revenue	\$0	\$0	\$0	\$0
Administration Costs	\$1,513,125	\$1,513,125	\$1,513,125	\$0
Implementation Costs	\$2,269,687	\$2,269,687	\$2,269,687	\$0
Incentives	\$218,997,082	\$0	\$218,997,082	\$218,997,082
Other Utility Costs	\$0	\$0	\$0	\$0
Participant Costs	\$0	\$3,813,254	\$0	\$3,813,254
Total Benefits	\$560,335,067	\$560,335,067	\$560,335,067	\$218,997,082
Total Costs	\$222,779,894	\$7,596,067	\$222,779,894	\$3,813,254
Benefit/Cost Ratios	2.52	73.77	2.52	57.43

Data represents present value of costs and benefits over the life of the program.

**SUPPLEMENTAL ATTACHMENT C**

**Docket Nos. E-100, Subs 118 and 124 – 2008 and 2009 IRPs  
Corrections to Direct Testimony of Richard G. Stevie  
Table on Page 14, Lines 12-13**

<b>Program Cost Effectiveness Test Results</b>				
	Utility Test	TRC Test	RIM Test	Participant Test
<b>RESIDENTIAL CUSTOMER PROGRAMS</b>				
• Residential Energy Assessments	2.56	2.56	0.74	NA
• Residential Smart Saver© Energy Efficiency	3.33	2.48	0.79	5.32
• Low Income Services Agency Kits	5.74	5.74	0.84	NA
• Low Income Weatherization	0.37	0.37	0.28	NA
• Energy Efficiency Education Program for Schools	3.10	3.10	0.82	NA
• Power Manager	4.46	85.67	4.46	NA
<b>NON-RESIDENTIAL CUSTOMER PROGRAMS</b>				
• Non-Residential Energy Assessments	NA	NA	NA	NA
• Smart Saver© for Non-Residential Customers	2.85	1.79	1.12	2.41
• Power Share©	2.52	73.77	2.52	NA





**SUPPLEMENTAL ATTACHMENT D****Docket No. E-7, Sub 953****Corrections to Attachment B to Application for Approval****Attachment B  
Cost-Effectiveness Evaluation**

	<b>PowerShare® CallOption</b>				
		UCT	TRC	RIM	Participant
1	Avoided T&D	\$14,009,375	\$14,009,375	\$14,009,375	\$0
2	Cost-Based Avoided Production	\$0	\$0	\$0	\$0
3	Cost-Based Avoided Capacity	\$27,200,798	\$27,200,798	\$27,200,798	\$0
4	Lost Revenue	\$0	\$0	\$0	\$0
5	Net Lost Revenue	\$0	\$0	\$0	\$0
6	Administration Costs	\$801,939	\$801,939	\$801,939	\$0
7	Implementation Costs	\$0	\$0	\$0	\$0
8	Incentives	\$9,924,300	\$0	\$9,924,300	\$9,924,300
9	Other Utility Costs	\$0	\$0	\$0	\$0
10	Participant Costs	\$0	\$0	\$0	\$0
11	Total Benefits	\$41,210,173	\$41,210,173	\$41,210,173	\$9,924,300
12	Total Costs	\$10,726,239	\$801,939	\$10,726,239	\$0
13	Benefit/Cost Ratios	3.84	51.39	3.84	

Data represents present value of costs and benefits over the life of the program.

**Corrections to Company Response to Commission's Order Requesting Further Information  
Response to Question 2****ORIGINAL RESPONSE:**

The total benefits include the avoided cost generated from capacity, production and T&D. However, DSM Revenues are based on capacity avoided cost only. Avoided production and T&D costs were calculated using the DSMore model, as described in the response to Question 1.

	Present Value	Year 1	Year 2	Year 3	Year 4	Sum(Nominal)
Avoided Capacity Cost	\$23,645,967	\$2,419,296	\$6,059,327	\$9,212,851	\$9,443,173	\$27,134,647
Avoided Production Cost	\$22,816,836	\$2,644,057	\$5,450,675	\$8,818,004	\$9,262,539	\$26,175,275
Avoided T&D Cost	\$12,178,511	\$1,236,176	\$3,117,517	\$4,756,522	\$4,867,102	\$13,977,317
Total Avoided Cost	\$58,641,314	\$6,299,529	\$14,627,519	\$22,787,377	\$23,572,814	\$67,287,239

Note: Numbers represent updated allocation factor

## **SUPPLEMENTAL ATTACHMENT D**

### **REVISED RESPONSE:**

The total benefits include the avoided cost generated from capacity, production and T&D. However, DSM Revenues are based on capacity avoided cost only. Avoided production and T&D costs were calculated using the DSMore model, as described in the response to Question 1. Pursuant to its commitment within its reply comments filed in Docket No. E-100, Sub 128, Duke Energy Carolinas has removed any cost-based avoided production benefits from all calculations of benefit/cost ratios for DSM (demand response) programs only.

	Present Value	Year 1	Year 2	Year 3	Year 4	Sum(Nominal)
Avoided Capacity Cost	\$23,645,967	\$2,419,296	\$6,059,327	\$9,212,851	\$9,443,173	\$27,134,647
Avoided Production Cost	\$0	\$0	\$0	\$0	\$0	\$0
Avoided T&D Cost	\$12,178,511	\$1,236,176	\$3,117,517	\$4,756,522	\$4,867,102	\$13,977,317
Total Avoided Cost	\$35,824,478	\$3,655,472	\$9,176,844	\$13,969,373	\$14,310,275	\$41,111,964

Note: Numbers represent updated allocation factor

### **Revised Attachment B Cost-Effectiveness Evaluation**

<b>PowerShare® CallOption</b>					
		UCT	TRC	RIM	Participant
1	Avoided T&D	\$12,178,511	\$12,178,511	\$12,178,511	\$0
2	Cost-Based Avoided Production	\$0	\$0	\$0	\$0
3	Cost-Based Avoided Capacity	\$23,645,967	\$23,645,967	\$23,645,967	\$0
4	Lost Revenue	\$0	\$0	\$0	\$0
5	Net Lost Revenue	\$0	\$0	\$0	\$0
6	Administration Costs	\$697,134	\$697,134	\$697,134	\$0
7	Implementation Costs	\$0	\$0	\$0	\$0
8	Incentives	\$8,627,309	\$0	\$8,627,309	\$8,627,309
9	Other Utility Costs	\$0	\$0	\$0	\$0
10	Participant Costs	\$0	\$0	\$0	\$0
11	Total Benefits	\$35,824,478	\$35,824,478	\$35,824,478	\$8,627,309
12	Total Costs	\$9,324,443	\$697,134	\$9,324,443	\$0
13	Benefit/Cost Ratios	3.84	51.39	3.84	

Data represents present value of costs and benefits over the life of the program.

## **SUPPLEMENTAL ATTACHMENT E**

### **Consumer Education Information on Duke Energy Carolinas' EE and DSM Programs**

The Company's consumer education initiatives provide educational information to customers about demand and energy usage. This information may be used by customers to manage their energy consumption. This information is available online in the "Save Energy and Money" section of the Duke Energy website. Consumer education information is available to residential and non-residential customers.

#### **Residential Customers**

##### **Energy Efficiency Videos**

Energy efficiency videos provide customers with information about energy efficiency and why it's good for us all. The videos provide no cost or low cost energy – savings tips that can help save the customer energy and money. The information can be viewed at <http://www.duke-energy.com/north-carolina/savings/energy-efficiency-videos.asp>.

##### **Video Topics:**

##### **Winter Tips**

Basic concepts about your home and how your family uses energy to stay warm in the winter.

##### **Summer Tips**

Basic concepts about your home and how your family uses energy to stay cool in the summer.

##### **Around The House Tips**

Find ways you can lower your energy costs by simply making a few adjustments to your appliances and other energy users around your house.

##### **Humidity Tips**

Find out how humidity and ventilation affect your comfort and what you can do to control it.

##### **Heating, Ventilation and Air-Conditioning Tips**

Learn about your home's heating and air conditioning system – the furnace, air conditioner and other related components.

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##### **Calculate Your Home Energy Savings –**

Duke Energy provides online calculators to help customers estimate energy usage and how much you can save by making new purchases. Duke Energy customers can see how much energy and money one can save by purchasing new appliances, upgrading a heating and cooling system, changing to energy efficient lighting or adjusting your thermostat by a few degrees. The first step to making a home more energy efficient is to understand how and where the house uses energy. This information can be viewed at <http://www.duke-energy.com/north-carolina/savings/calculate-your-savings.asp>

## **SUPPLEMENTAL ATTACHMENT E**

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### **Easy Ways to Lower Your Bill**

Duke Energy provides online tips to educate customers on ways to lower their bill. This information can be viewed at <http://www.duke-energy.com/north-carolina/savings/lower-your-bill.asp>

The tips provide information on the following:

- Identify and Eliminate Energy Vampires - Energy vampires are devices in your home that use electricity -- even when they're turned off.
- Air Conditioning Tips - Tips to keep you cool and save money at the same time.
- Indoor Home Lightning Tips - Save money by using lighting in your home wisely.
- Advantages of CFLs - Saving money and the environment can be as easy as changing a light bulb.
- Winter Energy Saving Tips - Helpful tips on saving energy in your home this Winter.
- Heating Tips - Heating tips to help you save money.
- Home Appliance Tips - Find out how to use your appliances more efficiently to save money.

### **ENERGYsmart Library for Your Home**

The online library for in-depth information about energy topics and technologies to learn more about the energy used in your home. This information can be viewed at <http://www.energyguide.com/library/energylibraryhome.asp?sid=451&referrerid=69&bid=duke&prd=10>

### **Non-Residential Customers**

**Business Services Newsline** – This service provides a free electronic newsletter filled with information about energy efficiency, industry trends, customer case studies and Duke Energy's related products and services. This information can be viewed at <https://www.duke-energy.com/north-carolina-business/energy-management/business-services-newsletter.asp>.

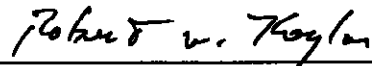
**ENERGYsmart Library for your Business** - This extensive library provides in-depth information on various business energy systems, building design, and energy technologies. This information can be viewed at

<http://library.energyguide.com/EnergyLibraryHome.asp?bid=duke&prd=20>.

**CERTIFICATE OF SERVICE**

I certify that a copy of Duke Energy Carolinas, LLC's Supplemental Filing in Response to the Initial Comments of the Public Staff Regarding DSM Programs in Docket No. E-100, Sub 128, has been served by electronic mail (e-mail), hand delivery or by depositing a copy in the United States Mail, first class postage prepaid, properly addressed to parties of record.

This the 2nd day of May, 2011.



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Robert W. Kaylor  
Law Office of Robert W. Kaylor, P.A.  
3700 Glenwood Avenue, Suite 330  
Raleigh NC 27612  
(919) 828-5250  
NC State Bar No. 6237