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March 23, 2012

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Ms. Gail L. Mount
North Carolina Utilities Commission
4325 Mail Service Center
Raleigh, North Carolina 27699-4325

Re: Docket No. E-7, Sub 1001

Dear Ms. Mount:

Enclosed for filing are the original and thirty (30) copies of Duke Energy Carolinas, LLC's Application for Approval of Vintage 4 Rider EE in the above-referenced docket.

Sincerely,

Molly L. McIntosh /sca

Molly L. McIntosh

Encls.

cc: Parties of Record

Full D.S.

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1001

In the Matter of Application of Duke Energy Carolinas, LLC For Approval of Vintage 4 Rider EE	)	APPLICATION OF DUKE ENERGY CAROLINAS, LLC FOR APPROVAL OF VINTAGE 4 RIDER EE

Pursuant to N.C. Gen. Stat. § 62-133.9 and Rule R8-69 of the Rules and Regulations of the North Carolina Utilities Commission (the "Commission"), Duke Energy Carolinas, LLC ("Duke Energy Carolinas" or the "Company") hereby applies to the Commission for approval of its demand-side management ("DSM") and energy efficiency ("EE") cost recovery rider, Rider EE, for Vintage 4 ("Rider 4"), which consists of four components: (1) a prospective Vintage 4 (2013) component designed to collect the estimated revenue requirements, including net lost revenues, for the Company's fourth vintage of programs; (2) a prospective Vintage 3 (2012) component to recover the second year of estimated net lost revenues for Vintage 3 EE programs; (3) an Experience Modification Factor ("EMF") component which consists of the participation true-up for Vintage 2 (2011); and (4) an EMF component which consists of an adjustment to the previous participation true-up for Vintage 1 (2009/2010) to reflect the Evaluation, Measurement and Verification ("EM&V") agreement reached by the Company, Southern Alliance for Clean Energy ("SACE") and the Public Staff and approved by the Commission in its *Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice* issued November 8, 2011 in Docket No. E-7, Sub 979 ("EM&V Agreement").

In support of this Application, Duke Energy Carolinas respectfully shows the Commission the following:

Name and Address of Duke Energy Carolinas

1. The correct name and post office address of the Company are Duke Energy Carolinas, LLC, Post Office Box 1006, Charlotte, North Carolina 28201-1006.

Notices and Communications

2. The names and addresses of the attorneys of Duke Energy Carolinas who are authorized to receive notices and communications with respect to this Application are:

Robert W. Kaylor
Law Office of Robert W. Kaylor, P.A.
225 Hillsborough Street
Hillsborough Place, Suite 160
Raleigh, North Carolina 27603

Molly L. McIntosh
K&L Gates, LLP
Hearst Tower, 47th Floor
214 North Tryon Street
Charlotte, North Carolina 28202

Description of the Company

3. The Company is engaged in the generation, transmission, distribution, and sale of electric energy at retail in the central and western portions of North Carolina and the western portion of South Carolina. It also sells electricity at wholesale to many municipal, cooperative, and investor-owned electric utilities. Duke Energy Carolinas is a public utility under the laws of North Carolina and is subject to the jurisdiction of this Commission with respect to its operations in this State. The Company also is authorized to transact business in the State of South Carolina and is a public utility under the laws of that State. Accordingly, its operations in South Carolina are subject to the jurisdiction of the Public Service Commission of South Carolina.

4. N.C. Gen. Stat. § 62-133.9(d) authorizes the Commission to approve an annual rider to the rates of electric public utilities to recover all reasonable and prudent costs incurred

for the adoption and implementation of new DSM and EE programs. Recoverable costs include, but are not limited to, all capital costs, including cost of capital and depreciation expense, administrative costs, implementation costs, incentive payments to program participants, and operating costs. Such rider shall consist of the utility's forecasted cost during the rate period and an EMF rider to collect the difference between the utility's actual reasonable and prudent costs incurred during the test period and actual revenues realized during the test period. The Commission is also authorized to approve incentives for adopting and implementing new DSM and EE programs, including appropriate rewards based on capitalization of a percentage of avoided costs achieved by DSM and EE measures.

5. The Commission approved Duke Energy Carolinas' modified save-a-watt portfolio of DSM and EE measures in Docket No. E-7, Sub 831 on February 26, 2009, and approved the modified save-a-watt compensation mechanism, as set forth in the Agreement and Joint Stipulation of Settlement between the Company, the Public Staff, and Southern Alliance for Clean Energy, Environmental Defense Fund, Natural Resources Defense Council, and the Southern Environmental Law Center ("Settlement Agreement"), in its *Order Approving Agreement and Joint Stipulation of Settlement Subject to Certain Commission-Required Modifications and Decisions on Contested Issues* issued February 9, 2010 in Docket No. E-7, Sub 831. The approved cost recovery model provides that the Company will be compensated based on predetermined percentages of the Company's capacity- and energy-related "avoided costs," an estimate of the cost of supplying electricity. These percentages include 75% of avoided capacity costs for DSM programs, and 50% of the net present value ("NPV") of the avoided energy costs plus 50% of the NPV of avoided capacity costs for EE programs. The Commission also authorized the Company to recover net lost revenues for 36 months for each

installation of an EE measure during a given vintage year.[1]

6. The Commission-approved Settlement Agreement provides for a series of participation true-ups that will be conducted to update revenue requirements, including net lost revenues, based on actual customer participation results for each vintage. The participation true-ups for each vintage will incorporate the difference between the amount of revenues that the Company is permitted to collect under the Settlement Agreement based on actual participation levels applied to the initial assumptions of load impact or independently measured and verified results as described in the EM&V Agreement.

7. Rule R8-69(b) provides the Commission will each year conduct a proceeding for each electric public utility to establish an annual DSM/EE rider to recover DSM/EE related costs.

8. Pursuant to the provisions of N.C. Gen. Stat. § 62-133.9 and Rule R8-69, the Company requests the establishment of Rider 4 to recover the estimated revenue requirements for the Company's fourth vintage of programs, the second year of net lost revenues for Vintage 3, and the true-up, or EMF, for Vintage 2, and the true-up, or EMF, adjustment for Vintage 1, as provided by the Commission-approved modified save-a-watt compensation mechanism and Commission-approved EM&V Agreement.

9. Pursuant to the provisions of N.C. Gen. Stat. § 62-133.9 and Rule R8-69, the Company requests Commission approval of the following annual billing adjustments (all shown on a cents per kWh basis, including gross receipts tax and regulatory fee):

[1] As defined by the Settlement Agreement, a vintage year is the twelve month period in which a specific DSM or EE measure is installed for an individual participant or a group of participants.

Residential Billing Factors	**¢/kWh**
Residential Billing Factor for Rider 4 Prospective Components	0.1057
Residential Billing Factor for Rider 4 EMF Component (Vintage 2 True-up)	0.0571
Residential Billing Factor Vintage 1 True-up Adjustment	0.0067
Residential Rider 4 (Total)	0.1695

Non-Residential Billing Factors for Rider 4 Prospective Components	**¢/kWh**
Vintage 3 EE participant	0.0053
Vintage 4 EE participant	0.0744
Vintage 4 DSM participant	0.0594

Non-Residential Billing Factors for Rider 4 EMF Component (Vintage 2 True-up)	**¢/kWh**
Vintage 2 EE participant	0.0488
Vintage 2 DSM participant	0.0142

Non-Residential Billing Factors for Vintage 1 True-up Adjustment	**¢/kWh**
Vintage 1 EE participant	0.0155
Vintage 1 DSM participant	(0.0013)

Consistent with the Commission's *Order on Motions for Reconsideration* issued on June 3, 2010 in Docket No. E-7, Sub 938, Rider 4 will be in effect for the twelve month period January 1, 2013 through December 31, 2013. Also in accordance with this Order, the test period for the Vintage 2 EMF component is the period from January 1, 2011 through December 31,

2011 and the test period for the EMF related to Vintage 1 is June 1, 2009 through December 31, 2010.

10. The Company has attached hereto as required by Rule R8-69, the direct testimony and exhibits of witnesses Jane L. McManeus, Timothy Duff and Ashlie J. Ossege in support of the requested change in rates.

WHEREFORE, the Company respectfully prays:

That consistent with this Application, the Commission approves the changes to its rates as set forth in paragraph 9 above.

Respectfully submitted, this the 23rd day of March, 2012.

Molly L. McIntosh (SAT)

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COUNSEL FOR DUKE ENERGY CAROLINAS, LLC

VERIFICATION

STATE OF NORTH CAROLINA

COUNTY OF MECKLENBURG

JANE L. MCMANEUS, being first duly sworn, deposes and says that she is MANAGING DIRECTOR, RATES of DUKE ENERGY CAROLINAS, LLC, applicant in the above-titled action; that she has read the foregoing Application and knows the contents thereof; and that the same is true of her own knowledge.

Jane L. McManeus

Jane L. McManeus

Sworn to and subscribed before me
this the 22 day of March, 2012.

Notary Public

My Commission Expires: 10/13/2015

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1001

In the Matter of Application of Duke Energy Carolinas, LLC for Approval of Vintage 4 Rider EE	))))	DIRECT TESTIMONY OF TIMOTHY DUFF FOR DUKE ENERGY CAROLINAS, LLC

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Timothy Duff. My business address is 526 South Church Street, Charlotte, North Carolina 28202.

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

A. I am employed by Duke Energy Business Services LLC as General Manager, Retail Customer and Regulatory Strategy.

Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL QUALIFICATIONS.

A. I graduated from Michigan State University with a Bachelor of Arts in Political Economics and a Bachelor of Arts in Business Administration, and received a Master of Business Administration degree from the Stephen M. Ross School of Business at the University of Michigan. I started my career with Ford Motor Company and worked in a variety of roles within the company's financial organization, including Operations Financial Analyst and Budget Rent-A-Car Account Controller. After five years at Ford Motor Company, I started working with Cinergy in 2001, providing business and financial support to plant operating staff. Eighteen months later I joined Cinergy's Rates Department, where I provided revenue requirement analytics and general rate support for the company's transfer of three generating plants. After my time in the Rates Department, I spent a short period of time in the Environmental Strategy Department, and then I joined Cinergy's Regulatory and Legislative Strategy Department. After Cinergy merged with Duke Energy Corporation ("Duke Energy") in 2006, I started a four year stint as Managing Director, Federal Regulatory Policy. In this role, I was primarily

responsible for developing and advocating Duke Energy's policy positions with the Federal Energy Regulatory Commission. I was named General Manager, Energy Efficiency & Smart Grid Policy and Collaboration in 2010 and assumed my current position of General Manager, Retail Customer and Regulatory Strategy in 2011.

Q. PLEASE DESCRIBE YOUR DUTIES AS GENERAL MANAGER, RETAIL CUSTOMER AND REGULATORY STRATEGY.

A. I am responsible for the development of strategies and policies related to energy efficiency, smart grid and all other retail services.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION OR ANY OTHER REGULATORY BODIES?

A. Yes. I testified in Duke Energy Carolinas' applications to update its demand-side management ("DSM") and energy efficiency ("EE") cost recovery rider, Rider EE, in Docket Nos. E-7, Sub 941 and E-7, Sub 979. I also have testified in the following three matters before the Public Utilities Commission of Ohio: Case No. 11-4393-EL-RDR in support of Duke Energy Ohio, Inc.'s ("Duke Energy Ohio") EE portfolio and the associated recovery mechanism; Case No. 10-2326-GE-RDR in support of the mid-deployment review of Duke Energy Ohio's AMI/SmartGrid Program; and Case No. 11-5905-EL-RDR in support of Duke Energy Ohio's application for a distribution decoupling mechanism. I also testified in support of Duke Energy Indiana, Inc.'s EE portfolio and the recovery mechanism for Core Plus EE programs in Indiana Cause No. 43955. Finally, I recently provided testimony in support of Duke Energy Kentucky, Inc.'s EE portfolio and associated recovery mechanism in Kentucky Case No. 2012-00085.

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

A. My testimony supports Duke Energy Carolinas, LLC's ("Duke Energy Carolinas" or the "Company") Application for approval of Rider EE for Vintage 4 ("Rider 4"), which incorporates the fourth vintage of the Company's DSM and EE programs and includes a true-up for Vintage 2 programs and an adjustment to the true-up for Vintage 1 to reflect the Evaluation, Measurement and Verification ("EM&V") agreement reached by the Company, Southern Alliance for Clean Energy ("SACE") and the Public Staff and approved by the Commission in its *Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice* ("Rider 3 Order") issued November 8, 2011 in Docket No. E-7, Sub 979 ("EM&V Agreement"). In particular, my testimony: (1) provides an overview of the Commission's Rule R8-69 filing requirements; (2) gives a synopsis of the EE and DSM programs included in Vintage 4; (3) discusses our results to date; and (4) presents an overview of how these results have affected the Rider 4 calculations.

Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR TESTIMONY.

A. Duff Exhibit 1 supplies, for each program, load impacts and avoided cost revenue requirements by vintage. Duff Exhibit 2 contains a summary of net lost revenues for the period June 1, 2009 to December 31, 2013. Duff Exhibit 3 contains the actual system program costs for Vintages 1 and 2 and estimated system program costs for Vintage 4. Duff Exhibit 4 contains the found revenues used in the lost margin calculations. Duff Exhibit 5 supplies evaluations of event-based programs. Duff Exhibit 6 contains a discussion of the findings and results of the Company's programs and a comparison of impact estimates from the previous year. Duff Exhibit 7 contains a reference table that

illustrates which EM&V was applied to specific programs within the portfolio and when the application occurred. Duff Exhibit 8 contains the comprehensive list of all program modifications that have been made to the Company's portfolio of programs and other potential program changes that the Company is considering in the future.

Q. WERE DUFF EXHIBITS 1-8 PREPARED BY YOU OR AT YOUR DIRECTION AND SUPERVISION?

A. Yes, they were.

II. RULE R8-69 FILING REQUIREMENTS

Q. WHAT INFORMATION IS THE COMPANY PROVIDING IN RESPONSE TO THE COMMISSION'S FILING REQUIREMENTS?

A. The information for Rider 4 is provided in response to the Commission's filing requirements contained in R8-69(f)(1) and can be found in the testimony and exhibits of Company witnesses Duff, McManeus, and Ossege as follows:

R8-69(f)(1)		Items	Location in Testimony
(i)		Projected NC retail sales for the rate period	McManeus Exhibit 4
(ii)		For each measure for which cost recovery is requested through Rider 4:	
(ii)	a.	Total expenses expected to be incurred during the rate period	Duff Exhibit 3
(ii)	b.	Total costs savings directly attributable to measures	Duff Exhibit 1
(ii)	c.	Evaluation, Measurement, and Verification activities for the rate period	Ossege Exhibit 1
(ii)	d.	Expected summer and winter peak demand reductions	Duff Exhibit 1
(ii)	e.	Expected energy reductions	Duff Exhibit 1
(iii)		Filing requirements for DSM/EE EMF rider, including:	
(iii)	a.	Total expenses for the test period in the aggregate and broken down by type of expenditure, unit, and jurisdiction	Duff Exhibit 3
(iii)	b.	Total avoided costs for the test period in the aggregate and broken down by type of expenditure, unit, and jurisdiction	Duff Exhibit 1

(iii)	c.	Description of results from EM&V activities	Testimony of Ashlie Ossege and Ossege Exhibits A-Q
(iii)	d.	Total Summer and Winter peak demand reductions in the aggregate and broken down per program	Duff Exhibit 1
(iii)	e.	Total energy reduction in the aggregate and broken down per program	Duff Exhibit 1
(iii)	f.	Discussion of findings and results of programs	Testimony of Tim Duff and Duff Exhibit 6
(iii)	g.	Evaluations of event-based programs	Duff Exhibit 5
(iii)	h.	Comparison of impact estimates from previous year and explanation of significant differences	Testimony of Tim Duff and Duff Exhibit 6
(iv)		Determination of utility incentives	Testimony of Jane McManeus & McManeus Exhibit 1
(v)		Actual revenues from DSM/EE and DSM/EE EMF riders	McManeus Exhibit 3
(vi)		Proposed Rider 4	Testimony of Jane McManeus & McManeus Exhibit 1
(vii)		Projected NC sales for customers opting out of measures	McManeus Exhibit 4
(viii)		Supporting work papers	CD accompanying filing

III. PORTFOLIO OVERVIEW

Q. WHAT ARE DUKE ENERGY CAROLINAS' CURRENT EE AND DSM PROGRAMS?

A. The Company has two interruptible programs for non-residential customers, Interruptible Service ("IS") and Standby Generation ("SG"), that are accounted for outside of the modified save-a-watt mechanism approved by the Commission in Docket No. E-7, Sub 831. Aside from IS and SG, the following DSM and EE programs have been implemented by the Company in its North Carolina service territory.

RESIDENTIAL CUSTOMER PROGRAMS

- Residential Energy Assessments
- Residential Smart $aver® Programs

- Low Income Energy Efficiency and Weatherization Assistance Program
- Energy Efficiency Education Program for Schools
- Residential Retrofit Pilot Program
- Power Manager

NON-RESIDENTIAL CUSTOMER PROGRAMS

- Non-Residential Energy Assessments
- Non-Residential Smart $aver® Program
- Smart Energy Now Pilot
- PowerShare®

Q. ARE THESE SUBSTANTIVELY THE SAME PROGRAMS DUKE ENERGY CAROLINAS RECEIVED APPROVAL FOR IN DOCKET NO. E-7, SUB 831?

A. Yes, with the exception of two pilot programs as discussed below.

Q. HAVE THERE BEEN ANY MODIFICATIONS TO THESE PROGRAMS SINCE THE COMPANY'S LAST UPDATE?

A. Other than a few programs for which the Company switched vendors to enhance program delivery, the Company has not made any modifications to its portfolio of programs since December 9, 2011, when a complete list of all program modifications and changes that the Company has made was filed with the Commission in Docket No. E-7, Sub 979[1] pursuant to the Commission's Rider 3 Order. In that filing, the Company also detailed other changes that it is considering making to enhance its offerings. While the Company believes that these potential program modifications would be beneficial, it has yet to make any changes pending a Commission ruling regarding the Joint Proposal of Duke

[1] The program modifications were also filed on December 21, 2011 in Docket No. E-7, Sub 831.

Energy Carolinas, SACE and the Public Staff regarding revisions to program flexibility requirements that was filed with the Commission on February 6, 2012 in Docket No. E-7, Sub 831. The complete list of program modifications and proposed modifications can be found in Duff Exhibit 8.

Q. WHAT PILOT PROGRAMS ARE INCLUDED IN THE CURRENT PORTFOLIO OF PROGRAMS FOR RIDER 4?

A. The Company has not filed any new pilot programs with the Commission for approval since last year's Vintage 3 Rider EE ("Rider 3") filing in Docket No. E-7, Sub 979. The Company's 12-month pilot of its Residential Retrofit program, which was approved on January 25, 2011 and included in Rider 3, has been completed, and based upon the preliminary results of the pilot, the Company does not believe that it will become a full scale commercial offering. For this reason, the Company has not included any participation for the Residential Retrofit program in the projections for the Vintage 4 component of Rider 4.

The other pilot that was reflected in Rider 3 is Smart Energy Now, which was approved as a three year pilot on February 14, 2011. This first-of-its-kind pilot program is designed to reduce energy consumption within commercial office space located in Charlotte City Center through community engagement leading to behavioral modification. Because Smart Energy Now is a three year pilot and therefore will still be operational during 2013, it is included in the Vintage 2 true-up component of Rider 4.

Q. HOW WILL THE REVENUE REQUIREMENTS FROM THESE PROGRAMS BE ACCOUNTED FOR IN RIDER 4?

A. The impacts and associated nominal avoided cost benefits from the Residential Retrofit program are captured in the Vintage 2 true-up component of Rider 4. Due to the fact that the Company is not planning to continue to offer the Residential Retrofit program and will not commercialize it based upon the pilot results, the Company has not factored lost revenues in the revenue requirement for Rider 4. The Smart Energy Now pilot impacts and nominal avoided cost benefits were similarly included in the true-up component of Vintage 2. Due to the fact that the Company believes that it will at some point commercialize Smart Energy Now, it has included the lost revenues associated with the Smart Energy Now impacts in 2011 and 2012 into the calculation of Rider 4.

IV. EE AND DSM PROGRAM RESULTS TO DATE

Q. HOW MUCH ENERGY AND CAPACITY AND AVOIDED COSTS HAVE BEEN SAVED FROM THESE PROGRAMS?

A. Since receiving approval for modified save-a-watt, the Company through its EE and DSM programs has generated over 1,021 GWh of energy reductions and nearly 675 MW of capacity reductions. These programs have also generated about $430 million in nominal avoided cost benefits for Duke Energy Carolinas' customers.

Q. HOW DO THESE RESULTS COMPARE WITH THE PERFORMANCE TARGETS SHOWN IN EXHIBIT B OF THE SETTLEMENT AGREEMENT IN DOCKET NO. E-7, SUB 831?

A. During the first two vintage years of the modified save-a-watt pilot, the actual nominal avoided cost benefits generated by these programs are nearly double the target to achieve shown in the Company's Settlement Agreement in Docket No. E-7, Sub 831. Similarly, capacity impacts are more than 123% of the original target, and energy impacts are

almost 210% of the original target. However, the Company understands the economy, which affects customer income available for efficiency upgrades, and changing codes and standards may greatly affect Duke Energy Carolinas' ability to meet or exceed future targets.

Q. DOES THE COMPANY EXPECT HIGHER-THAN-INITIALLY-EXPECTED RESULTS TO CONTINUE IN LIGHT OF INCREASING BUILDING CODES AND EFFICIENCY STANDARDS?

A. No. While Duke Energy Carolinas will continue to develop and offer new EE programs, the changes to building codes and efficiency standards for appliances and lighting, as well as market penetration, will reduce the impact or potentially eliminate some of the most cost-effective EE measures from the Company's current portfolio. For example, higher efficiency lighting over time will gradually become incorporated into the baseline standard beginning in late 2012, which going forward will likely diminish the impacts that CFLs will contribute to the energy savings attributable to many of the Company's most successful programs to date. The Company will need to continually add new measures, innovate in program design, and introduce new programs in order to fill the performance gaps. For example, on February 22, 2012, the Company filed applications with the Commission to approve two new programs (Low Income Neighborhood and Appliance Recycling) and to add additional measures to the Residential Smart $aver® Program.

Q. HAVE ANY PROGRAMS SIGNIFICANTLY OUT-PERFORMED RELATIVE TO THEIR ORIGINAL ESTIMATES?

A. Yes. The Company's portfolio continues to see the majority of its impacts delivered from lighting measures in both the residential and non-residential markets. For this reason, both the Residential Smart $aver® Program and the Non-Residential Smart $aver® Program have seen elevated participation and customers adopting measures at much higher rates than originally anticipated.

Q. HAVE ANY PROGRAMS SIGNIFICANTLY UNDERPERFORMED RELATIVE TO THEIR ORIGINAL ESTIMATES?

A. Yes, the same two programs that substantially underperformed during Vintage 1 continued to underperform during Vintage 2. The Low Income Energy Efficiency and Weatherization Assistance Program continued to underperform in 2011 primarily due to the American Reinvestment and Recovery Act related funding provided by the federal government that has supplanted the Company's original program objectives. As stimulus funding runs out in 2012, Duke Energy Carolinas expects its Low Income Energy Efficiency and Weatherization Assistance Program to ramp back up.

The Energy Efficiency Education Program for Schools also continued to struggle in the first half of 2011 despite the Company's efforts with its previous vendor, Scholastic, to apply several enhancements designed to improve its visibility among educators and to generate additional teacher and student family adoption. Due to these continued struggles, the Company has switched vendors to the National Theatre Company, which has allowed it to bring the program to market in a new way. Rather than delivering the curriculum to students in the traditional classroom setting as had been done with Scholastic, the new vendor puts on a live theatrical performance at a school assembly. This delivery approach is designed to be more engaging and make learning

about saving energy more fun for the students. The early results for the program in the Fall of 2011 under the new vendor are encouraging.

Q. HOW WILL THE COMPANY'S EARLY SUCCESS IMPACT THE PORTFOLIO OF EE AND DSM PROGRAMS IN THE FUTURE?

A. While the Company has had several early successes with some of its programs, achievement of future EE benefits remains uncertain. Despite all of its early success and considerable EE achievements in the first two vintage years, the Company is only slightly above 50% of the way to the cumulative 4 year targeted achievement shown in the Company's Settlement Agreement in Docket No. E-7, Sub 831. Additionally, issues such as customer opt-out, the economy, and changes in codes and standards can greatly affect future performance of programs. In recognition of these uncertainties, and consistent with the Settlement Agreement in Docket No. E-7, Sub 831, the Company has calculated the EMF portion of Rider 4 at 85% of the revenue requirement. This allows the Company to smooth out potential future rate adjustments in light of uncertainty about future performance, while recognizing greater participation results from Vintage 1 and Vintage 2 still remain to be collected.

V. RIDER IMPACTS

Q. HAVE THE PARTICIPATION RESULTS AFFECTED THE VINTAGE 2 EXPERIENCE MODIFICATION FACTOR?

A. Yes. The EMF in Rider 4 accounts for changes to actual participation relative to the forecasted participation levels utilized in the Company's Vintage 2 Rider EE. As the Company receives actual participation information, Duke Energy Carolinas is able to update participation-driven actual avoided cost benefits and the net lost revenues derived

from its EE and DSM programs. For example, the Low Income Energy Efficiency and Weatherization Assistance Program and the Energy Efficiency Education Program for Schools have underperformed relative to their original participation targets. As such, their portions of the EMF will be reduced to reflect lower-than-anticipated participation. On the other hand, the Company saw higher-than-expected participation in its Non-Residential Smart $aver® Custom Program the CFL component of the Residential Smart $aver® Program. These results will also be included in the Vintage 2 EMF to reflect actual participation.

Q. HOW ARE EM&V RESULTS APPLIED TO THE COMPANY'S EE PROGRAMS?

A. As further explained in Witness Ossege's testimony, EM&V is a comprehensive assessment and data collection methodology utilized by the Company to determine the achieved load reductions, actual free ridership, and the effectiveness of program design for each measure or program. Pursuant to the EM&V Agreement, for all EE programs, with the exception of Non-Residential Smart$aver Custom Rebate Program and Low Income Energy Efficiency and Weatherization Assistance Program, EM&V results shall be applied retrospectively to the beginning of the program offering. For the purposes of the vintage true-ups, these initial EM&V results will be considered actual results for a program until the next EM&V results are received. The new EM&V results will then be considered actual results going forward and applied prospectively for the purposes of truing up vintages from the first day of the month immediately following the month in which the study participation sample for the EM&V was completed. This EM&V will

then continue to apply and be considered actual results until it is superseded by new EM&V results, if any.

For all new programs and pilots, the Company will follow a consistent methodology, meaning that initial estimates of impacts will be used until Duke Energy Carolinas has valid EM&V results, which will then be applied back retrospectively to the beginning of the offering and will be considered actual results until a second EM&V is performed.

As the Company, SACE, and the Public Staff agreed, the Company's proposed Rider 3 went into affect January 1, 2012 and adjustments to the Vintage 1 true-up portion of Rider 3 due to the EM&V Agreement are being made in this Docket. Moreover, the Vintage 2 true-up portion of Rider 4 is being calculated pursuant to the EM&V Agreement.

Q. HOW WILL EM&V BE INCORPORATED INTO THE VINTAGE 4 COMPONENT OF RIDER 4?

A. All of the final EM&V results that have been received by the Company as of February 2, 2012 have been applied prospectively from the first day of the month immediately following the month in which the study participation sample for the EM&V was completed. So, for any program for which the Company has received EM&V results, the per participant impact applied to the projected program participation in the Vintage 4 is based upon the actual EM&V results that have been received.

Q. FOR WHICH PROGRAMS HAS THE COMPANY APPLIED EM&V RESULTS IN RIDER 4?

A. Duff Exhibit 7 illustrates all of the programs that have EM&V applied to them in the Rider 4 filing.

Q. PLEASE DESCRIBE HOW FOUND REVENUES WERE CALCULATED.

A. Consistent with the "Decision Tree" found in Appendix A of the Commission's February 8, 2011 order in Docket No. E-7, Sub 831, possible found revenue activities were identified, categorized, and netted against the net lost revenues created by the Company's EE programs. Found revenues may result from activities that directly or indirectly result in an increase in customer demand or energy consumption within Duke Energy Carolinas' service territory. However, load-building activities such as these would not be considered found revenues per se if they (1) would have occurred regardless of the Company's activity, (2) were a result of a Commission-approved economic development activity not determined to produce found revenues, or (3) were part of an unsolicited request for Duke Energy Carolinas to engage in an activity that supports efforts to grow the economy. On the other hand, found revenues would occur for load growth that did not fall into the previous categories but was directly or indirectly a result of Duke Energy Carolinas' activities. Based on the results of this work, all potential found revenue-related activities are identified and categorized in Duff Exhibit 4.

Q. HAS THE OPT-OUT OF NON-RESIDENTIAL CUSTOMERS AFFECTED THE RESULTS FROM THE PORTFOLIO OF APPROVED PROGRAMS?

A. Yes, the opt-out of qualifying non-residential customers has had a negative effect of Duke Energy Carolinas' overall non-residential impacts. For Vintage 2, the Company had 923 eligible customer accounts opt out of participating in Duke Energy Carolinas' non-residential portfolio of EE programs. While this represents only slightly over 9% of

eligible customer accounts, these same customer accounts represent nearly 40% of the load for all eligible customers. Essentially, this means that Duke Energy Carolinas can only deliver the efficiency benefits associated with its non-residential programs to approximately 60% of its non-residential customers.

Q. WHAT HAS THE COMPANY DONE TO ENCOURAGE NON-RESIDENTIAL CUSTOMERS TO OPT-IN TO ITS PROGRAMS?

A. Once the Company has received approval of the proposed flexibility guidelines that it developed with SACE and the Public Staff, Duke Energy Carolinas is planning to respond to on-going customer feedback on its existing programs, and has identified a number of potential program changes to make its offerings more attractive and decrease the number of customers opting out. Additionally, the Company has worked to educate vendors, trade-allies, and suppliers to help them incorporate incentives from EE programs into their offers for customers. The Company has also improved its outreach activities, using its account managers, website portal, email, and traditional mail to notify customers of energy-saving opportunities. Lastly, the Company has developed the Smart Energy Now pilot program, which is targeted specifically at engaging non-residential customers in a community effort, in order to help customers better manage their energy consumption.

V. CONCLUSION

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

A. Yes.

Duff Exhibit 1 pg. 1

Duke Energy Carolinas
Actuals for June 1, 2009 to December 31, 2009
Docket Number E-7, Sub 1001
Load Impacts and Avoided Cost Revenue Requirements by Program

			A	B	C
	Residential Programs	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System Avoided Cost Revenue Requirement	NC Retail kWh Sales Allocation Factor (McManeus Exhibit 5, Page 1)	NC Residential Avoided Costs A * B
	EE Programs (at 50% Avoided Cost)					
1	Residential Energy Assessments	1,378	11,335,613	$ 1,475,196	73.0077318%	$ 1,077,007
2	Smart Saver® for Residential Customers	1,591	12,537,769	$ 1,940,744	73.0077318%	$ 1,416,893
3	Low Income Energy Efficiency and Weatherization Assistance	143	1,353,011	$ 141,337	73.0077318%	$ 103,187
4	Energy Efficiency Education Program for Schools	56	303,520	$ 55,373	73.0077318%	$ 40,427
5	Home Energy Comparison Report	-	-	$ -		$ -
6	Total for Residential Conservation Programs	3,168	25,529,913	$ 3,612,650		$ 2,637,514
					NC Residential Peak Demand Allocation Factor (McManeus Exhibit 5, Page 1)	A6 * B6
7	Total DSM Programs (at 75% Avoided Costs)	116,058		$ 4,655,124	33.9010659%	$ 1,578,137
	Non-Residential Programs	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System Avoided Cost Revenue Requirement	NC Retail kWh Sales Allocation Factor (McManeus Exhibit 5, Page 1)	NC Non-Residential Avoided Costs A * B
	EE Programs (at 50% Avoided Cost)					
8	Smart Saver® for Non-Residential Customers Lighting	5,262	27,982,076	$ 5,247,545	73.0077318%	$ 3,831,114
9	Smart Saver® for Non-Residential Customers Motors	124	623,904	$ 183,846	73.0077318%	$ 134,222
10	Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	46	257,532	$ 67,096	73.0077318%	$ 48,985
11	Smart Saver® for Non-Residential Customers - HVAC	267	764,514	$ 295,533	73.0077318%	$ 215,762
12	Smart Saver® for Non-Residential Customers - Custom Rebate	19	232,611	$ 30,165	73.0077318%	$ 22,023
13	Total for Non-Residential Conservation Programs	5,718	29,860,637	$ 5,824,185		$ 4,252,106
					NC Non-Residential Peak Demand Allocation Factor (McManeus Exhibit 5, Page 1)	A13* B13
14	Total DSM Programs (at 75% Avoided Costs)	116,058		$ 4,655,124	39.9179344%	$ 1,858,229
	Total DSM Program Breakdown				NC Retail Peek Demand Allocation Factor (McManeus Exhibit 5)	A16* B16
15	Power Manager (Residential)	57,438	-	$ 3,082,269		
16	Power Share (Non-Residential)	58,620	-	1,572,855		
17	Total DSM	116,058	-	$ 4,655,124	73.8190004%	$ 3,436,366

(1) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

Duff Exhibit 1 pg. 2

Duke Energy Carolinas
Estimated for January 1, 2010 to December 31, 2010
Docket Number E-7, Sub 1001
Load Impacts and Avoided Cost Revenue Requirements by Program

			A	B	C
	Residential Programs	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System Avoided Cost Revenue Requirement	NC kWh Sales Allocation Factor (McManeus Exhibit 5, Page 2)	NC Residential Avoided Costs A * B
	EE Programs (at 50% Avoided Cost)					
1	Residential Energy Assessments	1,893	14,235,783	$ 1,929,398	72.7072722%	$ 1,402,813
2	Smart Saver® for Residential Customers	41,463	381,464,624	$ 42,560,548	72.7072722%	$ 30,944,613
3	Low Income Energy Efficiency and Weatherization Assistance	598	5,658,628	$ 591,118	72.7072722%	$ 429,786
4	Energy Efficiency Education Program for Schools	468	2,524,349	$ 460,540	72.7072722%	$ 334,846
5	Home Energy Comperison Report	-	-	$ -		$ -
6	Total for Residential Conservation Programs	44,422	403,883,384	$ 45,541,604		$ 33,112,058
					NC Residential Peak Demand Allocation Factor (McManeus Exhibit 5, Page 2)	A6 * B6
7	**Total DSM Programs (at 75% Avoided Costs)**	438,255		$ 23,515,262	34.4404513%	$ 8,098,762
	Non-Residential Programs	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System Avoided Cost Revenue Requirement	NC kWh Sales Allocation Factor (McManeus Exhibit 5, Page 2)	NC Non-Residential Avoided Costs A * B
	EE Programs (at 50% Avoided Cost)					
8	Smart Saver® for Non-Residential Customers Lighting	13,455	68,355,683	$ 13,710,093	72.7072722%	$ 9,968,235
9	Smart Saver® for Non-Residential Customers Motors	532	2,722,519	$ 798,480	72.7072722%	$ 580,553
10	Smart Saver® for Non-Residential Customers - Other Prescriptive (Process Equipment)	-	380	$ 44	72.7072722%	$ 32
11	Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	155	787,665	$ 191,588	72.7072722%	$ 139,298
12	Smart Saver® for Non-Residential Customers - HVAC	1,703	4,251,962	$ 1,848,965	72.7072722%	$ 1,344,332
13	Smart Saver® for Non-Residential Customers - Custom Rebate	2,596	20,897,367	$ 3,493,781	72.7072722%	$ 2,540,233
14	Total for Non-Residential Conservation Programs	18,441	97,015,576	$ 20,042,951		$ 14,572,683
					NC Non-Residential Peak Demand Allocation Factor (McManeus Exhibit 5, Page 2)	A14* B14
15	**Total DSM Programs (at 75% Avoided Cost)**	438,255		$ 23,515,262	40.3489126%	$ 9,488,153
	Total DSM Program Breakdown				NC Retail Peak Demand Allocation Factor (McManeus Exhibit 5)	A17* B17
16	Power Manager (Residential)	228,223	-	$ 12,245,662		
17	Power Share (Non-Residential)	210,032	-	11,269,600		
18	Total DSM	438,255	-	$ 23,515,262	74.7893638%	$ 17,586,915

(1) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

Duke Energy Carolinas
For the Period January 1, 2011 to December 31, 2011
Docket Number E-7, Sub 1001
Load Impacts and Avoided Cost Revenue Requirements by Program

			A	B	C
	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System Avoided Cost Revenue Requirement	NC kWh Sales Allocation Factor (McManeus Exhibit 5, Page 3)	NC Residential Avoided Costs A * B
Residential Programs					
EE Programs (at 50% Avoided Cost)					
1 Residential Energy Assessments	1,569	11,654,963	$ 1,620,230	72.6972151%	$ 1,177,862
2 Smart Saver® for Residential Customers	39,676	367,072,425	$ 40,319,354	72.6972151%	$ 29,311,048
3 Low Income Energy Efficiency and Weatherization Assistance	52	488,500	$ 50,792	72.6972151%	$ 36,924
4 Energy Efficiency Education Program for Schools	262	1,411,909	$ 265,292	72.6972151%	$ 192,860
5 Residential Retrofit Pilot	21	126,448	$ 40,936	72.6972151%	$ 29,759
6 Home Energy Comparison Report	-	-	$ -		$ -
7 Total for Residential Conservation Programs	41,580	380,754,245	$ 42,296,604		$ 30,748,453
				NC Residential Peak Demand Allocation Factor (McManeus Exhibit 5, Page 3)	A7 * B7
8 Total DSM Programs (at 75% Avoided Costs)	546,076		$ 30,131,132	32.2293181%	$ 9,711,058

	System kW Reduction - Summer Peak	System Energy Reduction (kWh)	System Avoided Cost Revenue Requirement	NC kWh Sales Allocation Factor (McManeus Exhibit 5, Page 3)	NC Non-Residential Avoided Costs A * B
Non-Residential Programs					
EE Programs (at 50% Avoided Cost)					
9 Smart Saver® for Non-Residential Customers Lighting	11,319	64,131,222	$ 13,497,639	72.6972151%	$ 9,812,408
10 Smart Saver® for Non-Residential Customers Motors	1,106	5,745,623	$ 1,286,403	72.6972151%	$ 935,179
11 Smart Saver® for Non-Residential Customers - Other Prescriptive (Process Equipment)	81	503,360	$ 54,884	72.6972151%	$ 39,899
12 Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	184	1,011,471	$ 263,359	72.6972151%	$ 191,455
13 Smart Saver® for Non-Residential Customers - HVAC	1,867	4,982,647	$ 2,094,930	72.6972151%	$ 1,522,956
14 Smart Saver® for Non-Residential Customers - Custom Rebate	6,579	55,927,745	$ 11,605,896	72.6972151%	$ 8,437,163
15 Smart Energy Now	1,343	7,152,511	$ 825,610	72.6972151%	$ 600,195
16 Total for Non-Residential Conservation Programs	22,479	139,454,579	$ 29,628,721		$ 21,539,255
				NC Non-Residential Peak Demand Allocation Factor (McManeus Exhibit 5, Page 3)	A16 *B16
17 Total DSM Programs (at 75% Avoided Cost)	546,076		$ 30,131,132	42.2350050%	$ 12,725,885
				NC Retail Peak Demand Allocation Factor (McManeus Exhibit 5, Page 3)	A19* B19
Total DSM Program Breakdown					
18 Power Manager (Residential)	226,000	-	$ 12,470,132		
19 Power Share (Non-Residential)	320,076	-	17,661,000		
20 Total DSM	546,076	-	$ 30,131,132	74.4643230%	$ 22,436,943

(1) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

Duff Exhibit 1 pg. 4

Duke Energy Carolinas
Estimated for January 1, 2013 to December 31, 2013
Docket Number E-7, Sub 1001
Load Impacts and Avoided Cost Revenue Requirements by Program

		System kW - Summer Peak	System Energy Reduction (kWh)	A System Avoided Cost Revenue Requirement	B NC kWh Sales Allocation Factor (McManeus Exhibit 5, Page 3)	C NC Residential Avoided Costs A * B
	Residential Programs					
	EE Programs (at 50% Avoided Cost)					
1	Residential Energy Assessments	705	3,799,101	$ 698,750	72.6972151%	$ 507,972
2	Smart Saver® for Residential Customers	6,719	59,422,880	$ 8,079,243	72.6972151%	$ 5,873,385
3	Low Income Energy Efficiency and Weatherization Assistance	79	624,134	$ 207,065	72.6972151%	$ 150,530
4	Energy Efficiency Education Program for Schools	616	3,321,028	$ 668,944	72.6972151%	$ 486,304
5	Home Energy Comparison Report	-	-	$ -		$ -
6	Total for Residential Conservation Programs	8,119	67,167,143	$ 9,654,002		$ 7,018,191
					NC Residential Peak Demand Allocation Factor (McManeus Exhibit 5, Page 3)	A6 * B6
7	**Total DSM Programs (at 75% Avoided Cost)**	707,846		$ 41,159,421	32.2293181%	$ 13,265,401

		System kW - Summer Peak	System Energy Reduction (kWh)	System Avoided Cost Revenue Requirement	NC kWh Sales Allocation Factor (McManeus Exhibit 5, Page 3)	NC Non-Residential Avoided Costs A * B
	Non-Residential Programs					
	EE Programs (at 50% Avoided Cost)					
8	Smart Saver® for Non-Residential Customers Lighting	9,160	54,199,307	$ 10,647,482	72.6972151%	$ 7,740,423
9	Smart Saver® for Non-Residential Customers Motors	462	2,350,755	$ 554,998	72.6972151%	$ 403,468
10	Smart Saver® for Non-Residential Customers - Other Prescriptive (Process Equipment)	3	17,304	$ 2,224	72.6972151%	$ 1,617
11	Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	165	984,607	$ 293,022	72.6972151%	$ 213,019
12	Smart Saver® for Non-Residential Customers - HVAC	1,602	4,092,253	$ 1,818,550	72.6972151%	$ 1,322,035
13	Smart Saver® for Non-Residential Customers - Custom Rebate	7,697	67,290,611	$ 17,044,014	72.6972151%	$ 12,390,524
14	Total for Non-Residential Conservation Programs	19,089	128,934,837	$ 30,360,290		$ 22,071,086
					NC Non-Residential Peak Demand Allocation Factor (McManeus Exhibit 5, Page 3)	A14 * B14
15	**Total DSM Programs (at 75% Avoided Cost)**	707,846		$ 41,159,421	42.2350050%	$ 17,383,684
					NC Retail Peak Demand Allocation Factor (McManeus Exhibit 5)	A17* B17
	Total DSM Program Breakdown					
16	Power Manager (Residential)	343,508	-	$ 19,974,108		
17	Power Share (Non-Residential)	364,338	-	21,185,313		
18	Total DSM	707,846	-	$ 41,159,421	74.4643230%	$ 30,649,084

(1) Total System DSM programs allocated to Residential and Non-Residential based on contribution to retail system peak

Duff Exhibit 2

Duke Energy Carolinas
For the Period June 1, 2009 - January 31, 2013
Docket Number E-7, Sub 1001
North Carolina Net Lost Revenues Summary

	Vintage 1	Participation 2009	2010	2011	1 Mth 2012	2012	2013	Total
	Residential							
1	Residential Energy Assessments	57,769	897,754	980,917	87,188	-	-	2,023,828
2	Smart Saver® for Residential Customers	94,284	5,086,792	15,677,556	1,387,408	-	-	22,246,039
3	Low Income Energy Efficiency and Weatherization Assistance	8,224	185,099	299,747	26,442	-	-	519,513
4	Energy Efficiency Education Program for Schools	994	52,168	110,282	9,727	-	-	173,171
5	Total Lost Revenues	161,270	6,221,813	17,073,502	1,505,965	-	-	24,962,551
6	Found Residential Revenues *	18,806	94,561	150,236	12,519	-	-	276,122
7	Net Lost Residential Revenues	142,464	6,127,252	16,823,266	1,493,446	-	-	24,686,429

	Non-Residential	2009	2010	2011	1 Mth 2012	2012	2013	Total
8	Smart Saver® for Non-Residential Customers Lighting	279,587	1,574,738	2,151,928	180,790	-	-	4,181,044
9	Smart Saver® for Non-Residential Customers Motors	1,555	34,774	48,254	4,431	-	-	89,014
10	Smart Saver® for Non-Residential Customers - Other Prescriptive (Process Equipment)	-	4	10	1	-	-	15
11	Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	1,908	24,400	31,361	2,815	-	-	60,685
12	Smart Saver® for Non-Residential Customers - HVAC	4,530	66,575	125,954	11,056	-	-	206,114
13	Smart Saver® for Non-Residential Customers - Custom Rebate	174	125,183	418,123	38,252	-	-	581,731
14	Total Lost Revenues	287,754	1,825,674	2,773,831	237,345	-	-	5,118,604
15	Found Non-Residential Revenues*	200,416	1,184,714	1,636,258	136,355	-	-	3,157,743
16	Net Lost Non-Residential Revenues	87,337	640,960	1,137,573	100,990	-	-	1,960,861

	Vintage 2	Year 1 2009	2010	2011	1 Mth 2012	2012	2013	Total
	Residential							
17	Residential Energy Assessments	-	-	261,170	-	-	-	261,170
18	Smart Saver® for Residential Customers	-	-	7,113,875	-	-	-	7,113,875
19	Low Income Energy Efficiency and Weatherization Assistance	-	-	8,647	-	-	-	8,647
20	Energy Efficiency Education Program for Schools	-	-	26,151	-	-	-	26,151
21	Residential Retrofit Pilot	-	-	-	-	-	-	-
22	Total Lost Revenues	-	-	7,409,843	-	-	-	7,409,843
23	Found Residential Revenues*	-	-	46,565	-	-	-	46,565
24	Net Lost Residential Revenues	-	-	7,363,278	-	-	-	7,363,278

	Non-Residential	2009	2010	2011	1 Mth 2012	2012	2013	Total
25	Smart Saver® for Non-Residential Customers Lighting	-	-	1,006,514	-	-	-	1,006,514
26	Smart Saver® for Non-Residential Customers Motors	-	-	42,627	-	-	-	42,627
27	Smart Saver® for Non-Residential Customers - Other Prescriptive (Process Equipment)	-	-	6,953	-	-	-	6,953
28	Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	-	-	14,407	-	-	-	14,407
29	Smart Saver® for Non-Residential Customers - HVAC	-	-	53,687	-	-	-	53,687
30	Smart Saver® for Non-Residential Customers - Custom Rebate	-	-	600,551	-	-	-	600,551
31	Smart Energy Now	-	-	44,837	-	-	-	44,837
32	Total Lost Revenues	-	-	1,769,277	-	-	-	1,769,277
33	Found Non-Residential Revenues*	-	-	405,975	-	-	-	405,975
34	Net Lost Residential Revenues	-	-	1,363,302	-	-	-	1,363,302

	Vintage 3 - Yr. 2 (2013)	2009	2010	2011	1 Mth 2012	2012	2013[a]	Total
	Residential							
35	Residential Energy Assessments	-	-	-	-	-	501,005	501,005
36	Home Energy Comparison Report	-	-	-	-	-	-	-
37	Smart Saver® for Residential Customers	-	-	-	-	-	3,033,677	3,033,677
38	Low Income Energy Efficiency and Weatherization Assistance	-	-	-	-	-	12,814	12,814
39	Energy Efficiency Education Program for Schools	-	-	-	-	-	144,570	144,570
40	Residential Retrofit Pilot	-	-	-	-	-	-	-
41	Total Lost Revenues	-	-	-	-	-	3,692,067	3,692,067
42	Found Residential Revenues *	-	-	-	-	-	106,396	106,397
43	Net Lost Residential Revenues	-	-	-	-	-	3,585,671	3,585,670

	Non-Residential	2009	2010	2011	1 Mth 2012	2012	2013[a]	Total
44	Smart Saver® for Non-Residential Customers Lighting	-	-	-	-	-	1,707,294	1,707,294
45	Smart Saver® for Non-Residential Customers Motors	-	-	-	-	-	53,029	53,029
46	Smart Saver® for Non-Residential Customers - Other Prescriptive (Process Equipment)	-	-	-	-	-	451	451
47	Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	-	-	-	-	-	24,419	24,419
48	Smart Saver® for Non-Residential Customers - HVAC	-	-	-	-	-	109,492	109,492
49	Smart Saver® for Non-Residential Customers - Custom Rebate	-	-	-	-	-	1,318,830	1,318,830
50	Smart Energy Now	-	-	-	-	-	-	-
51	Total Lost Revenues	-	-	-	-	-	3,213,516	3,213,516
52	Found Non-Residential Revenues *	-	-	-	-	-	1,544,400	1,544,400
53	Net Lost Non-Residential Revenues	-	-	-	-	-	1,669,116	1,669,116

	Vintage 4 - Yr. 1 (2013)	2009	2010	2011	1 Mth 2012	2012	2013[a]	Total
	Residential							
54	Residential Energy Assessments	-	-	-	-	-	82,691	82,691
55	Smart Saver® for Residential Customers	-	-	-	-	-	1,327,313	1,327,313
56	Low Income Energy Efficiency and Weatherization Assistance	-	-	-	-	-	13,565	13,565
57	Energy Efficiency Education Program for Schools	-	-	-	-	-	72,285	72,285
58	Total Lost Revenues	-	-	-	-	-	1,495,874	1,495,874
59	Found Residential Revenues *	-	-	-	-	-	57,631	57,632
60	Net Lost Residential Revenues	-	-	-	-	-	1,438,243	1,438,242

	Non-Residential	2009	2010	2011	1 Mth 2012	2012	2013[a]	Total
61	Smart Saver® for Non-Residential Customers Lighting	-	-	-	-	-	799,888	799,888
62	Smart Saver® for Non-Residential Customers Motors	-	-	-	-	-	29,166	29,166
63	Smart Saver® for Non-Residential Customers - Other Prescriptive (Process Equipment)	-	-	-	-	-	248	248
64	Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	-	-	-	-	-	13,430	13,430
65	Smart Saver® for Non-Residential Customers - HVAC	-	-	-	-	-	60,221	60,221
66	Smart Saver® for Non-Residential Customers - Custom Rebate	-	-	-	-	-	800,446	800,446
67	Total Lost Revenues	-	-	-	-	-	1,703,399	1,703,399
68	Found Non-Residential Revenues *	-	-	-	-	-	959,656	959,656
69	Net Lost Non-Residential Revenues	-	-	-	-	-	743,743	743,743

* Found Revenues - see Duff Exhibit 4

(a) Estimated Lost Revenues were estimated by allocating estimated system Lost Revenues per kWh sales. See McManeus Exhibit 5 Page 3 72.6872151%

Duke Energy Carolinas
For the Period June 1, 2009 - December 31, 2011
Docket Number E-7 Sub 979
Actual Program Costs including Overhead

Duff Exhibit 3

	Carolinas System Costs - 6/1/2009 - 12/31/2009	Carolinas System Costs - 12 Months Ended 12/31/2010	Carolinas System Costs - 12 Months Ended 12/31/2011	Carolinas System Estimated Costs - 12 Months Ended 12/31/2013
Residential Energy Assessments	2,012,300	2,501,875	2,683,722	1,923,459
Residential Home Retrofit	-	123,262	119,486	-
Residential Smart Saver	2,651,125	26,088,102	23,136,717	7,115,139
Low Income Services	106,999	398,449	1,304	1,016,706
Energy Efficiency Education	2,147,159	2,283,886	796,090	878,300
Nonresidential Energy Assessments	162,538	1,115,776	2,533,693	2,613,581
Nonresidential Smart Energy Now	-	-	2,081,419	543,375
Nonresidential Smart Saver	1,839,260	7,019,303	12,214,462	17,487,950
Power Manager	2,333,129	9,463,992	14,473,943	15,502,181
Power Share	762,569	8,024,339	13,872,741	19,848,921
Total Energy Efficiency & Demand Side Program Costs	**12,015,079**	**57,018,984**	**71,913,577**	**66,929,612**

Duff Exhibit 4

Duke Energy Carolinas
June 2009 - December 2011 Actuals
January 2012-December 2013 Estimates
Docket Number E-7 Sub 1001
North Carolina Found Revenues

		Actual/Reported KWH			Estimated KWH		Decision Tree
		2009	2010	2011	2012	2013	Node
1	Boilers (unmetered)	575,990	-	-	-	-	Box 6 - include
2	Boilers (metered)	-	-	-	-	-	Box 6 - include
3	Economic Development	93,990,900	104,307,244	117,082,542	-	-	Box 5 - exclude
4	Plug-in Electric Chargig Station Pilot	-	-	8,246	361,146	429,313	Box 3 - exclude
5	Food Service	693,553	949,022	723,338	180,351	157,807	Box 6 - include
6	Process Heat	31,014	1,783,740	2,973,046	3,494,296	4,076,678	Box 6 - include
7	Lighting	-	-	-	-	-	
8	Residential	102,492	169,991	162,984	162,984	162,984	Box 6 - include
9	Non Residential (Regulated)	112,286	175,553	129,669	129,669	129,669	Box 6 - include
10	Non Residential (Non Regulated)	3,630	3,630	2,146	-	-	Box 6 - include
11	**Total KWH**	95,509,866	107,389,180	121,081,971	4,328,445	4,956,451	
12	**Total KWH Included**	1,518,966	3,081,936	3,991,183	3,967,299	4,527,138	
13	**Total KWH Included (net of Free Riders 15%)**	1,291,121	2,619,646	3,392,506	3,372,204	3,848,067	
14	**Annualized Found Revenue - Non Residential**	$ 520,568	$ 1,115,690	$ 1,385,712	$ 1,544,400	$ 1,771,672	
15	**Annualized Found Revenue - Residential**	$ 56,082	$ 94,154	$ 91,523	$ 106,396	$ 106,396	

		2009	2010	2011	2012	2013
16	Vintage 1 - 2009 - Non Res	$ 200,416	520,568	520,568	320,152	
17	Vintage 1 - 2010 - Non Res		$ 664,146	1,115,690	1,115,690	451,544
18	Vintage 2 - Non Res			$ 405,975	1,385,712	1,385,712
19	Vintage 3 - Non Res				$ 836,550	1,544,400
20	Vintage 4 - Non Res					$ 959,656
21	Vintage 5 - Non Res					
22	Vintage 6 - Non Res					
23	Vintage 7 - Non Res					
24	Rate Case Adjustment - Non Res *				(1,299,487)	(1,837,256)
25	**Subtotal - Non Res**	$ 200,416	$ 1,184,714	$ 2,042,233	$ 2,358,616	$ 2,504,056
26	Vintage 1 - 2009 - Residential	$ 18,806	56,082	56,082	37,276	
27	Vintage 1 - 2010 - Residential		$ 48,479	94,154	94,154	45,676
28	Vintage 2 - Residential			$ 46,565	91,523	91,523
29	Vintage 3 - Residential				$ 57,631	106,396
30	Vintage 4 - Residential					$ 57,631
31	Vintage 5 - Residential					
32	Vintage 6 - Residential					
33	Vintage 7 - Residential					
34	Rate Case Adjustment - Residential *				(118,911)	(137,199)
35	**Subtotal - Residential**	$ 18,806	$ 104,560	$ 196,801	$ 161,674	$ 164,027
36	**Total Found Revenues**	$ 219,222	$ 1,289,274	$ 2,239,034	$ 2,520,291	$ 2,668,083

* Removes amounts (11 months of 2012 and 12 months of 2013) to be recovered in base rates.

Duff Exhibit 5

Duke Energy Carolinas
System Event Based Demand Response January 1, 2011 - December 31, 2011
Docket Number E-7 Sub 1001

	Date	State	Program Name	Event Trigger	High Temperature	Customer Notified	Customers Enrolled	MW Reduction
1	6/1/2011	NC and SC	PowerShare Mandatory	Reliability	94	139	139	333.6
2		NC and SC	PowerShare Generator	Reliability		8	8	16.5
3		NC and SC	PowerShare Voluntary	Reliability		100	100	1.6
4		NC	IS	Reliability		66	66	156.4
5		NC	SG	Reliability		93	93	54.6
6	6/2/2011	NC and SC	PowerShare Voluntary	High Prices	92	100	100	16.1
7	6/21/2011	NC and SC	Power Manager	High Prices	95	N/A	165,953	100.6
8	7/11/2011	NC and SC	Power Manager	High Prices	92	N/A	165,955	101.1
9	7/12/2011	NC and SC	PowerShare Mandatory	Reliability	96	141	141	338.6
10		NC and SC	PowerShare Generator	Reliability		8	8	12.5
11		NC	IS	Reliability		66	66	132.5
12		NC	SG	Reliability		93	93	44.9
13	7/13/2011	NC and SC	Power Manager	High Prices	95	N/A	165,956	101.7
14	7/20/2011	NC and SC	Power Manager	High Prices	94	N/A	165,957	107.5
15		NC and SC	PowerShare Voluntary	High Prices		101	101	1.8
16	7/21/2011	NC and SC	Power Manager	High Prices	96	N/A	165,957	114.6
17		NC and SC	PowerShare Voluntary	High Prices		101	101	1.9
18	7/22/2011	NC and SC	PowerShare Voluntary	High Prices	96	101	101	3.6
19	7/29/2011	NC and SC	Power Manager	High Prices	97	N/A	165,969	110.4
20	8/2/2011	NC and SC	Power Manager	High Prices	96	N/A	166,006	115.3
21	8/3/2011	NC and SC	PowerShare Voluntary	High Prices	96	101	101	2.1
22	8/25/2011	NC and SC	Power Manager	Test	92	N/A	192,261	183.3

Note:

The loss factor has been included in the MW values.

The high temperature is the average of the high temperatures from 3 weather stations.

The values for MW reduction are based on the average across the hours of the event.

Customers Notified is the number of participants notified that they should participate or have the opportunity to participate in the event.

For Power Manager events, the Customer Enrolled value represents the load control devices activated for the event.

Executive Summary

A. Description

During the first quarter 2012 Carolinas Collaborative meeting, Duke Energy will provide an update on the performance of its energy efficiency and demand side management programs for Vintage 2. Our product managers have prepared reports on each of our pilot/programs describing the offerings and details on pilot/program performance. This executive summary describes how Duke Energy Carolinas performed in regards to the demand side management performance in 2011. Pilot/program details are in the individual reports.

Pilot/program reports include:

Program	Category	Customer
Non-Residential Smart $aver Prescriptive	EE	Non-residential
Non-Residential Smart $aver Custom	EE	Non-residential
PowerShare	DSM	Non-residential
Smart Energy Now	EE	Non-residential
Residential Energy Assessments	EE	Residential
Residential Smart $aver	EE	Residential
Low Income Energy Efficiency and Weatherization Assistance Program	EE	Residential
Energy Efficiency Education Programs for Schools	EE	Residential
Power Manager	DSM	Residential
Residential Retrofit	EE	Residential

Audience

All retail Duke Energy Carolinas customers who have not opted out.

B &C. Impacts, Participants and Expenses

The tables below include 2011 results for Vintage 2. The tables represent information January 2011 thru December 2011. The reason we have included nominal avoided cost rather than present value of the avoided costs is because our targets for save-a-watt purposes are based on nominal dollars. Please note that because North Carolina and South Carolina have slightly different avoided costs rates, the targets for each are different.

In our reports, we have not included the number of participants from the filing as well as the percentage of target for participants. The reason for this is because participants from individual measures can represent, for example, one CFL bulb in one measure or one six pack in another. Due to the multiple measures in programs, this can skew participation targets. To minimize confusion, this information was excluded from the report. Actual participants are included.

Through December 2011, the Company ended ahead of its avoided cost target for Vintage 2. This is primarily due to high impacts in the energy efficiency program (Residential Smart $aver and Non-residential Smart $aver). The program cost for this timeframe of Vintage 2 is higher than projected, which has been significantly driven by the increased participation in the Residential Smart $aver program.

Executive Summary

North Carolina System Summary[1]

$ in millions	Vintage 2 As Filed	December 2011 Achievement	% of Target
Nominal Avoided Cost	$125.8	$229.8	183%
Program Cost[2]	$44.8	$71.9	160%
MW from Vintage 2[3]	510.1	610.1	120%
Incremental EE MW from Vintage 1[3]	37.6	62.9	167%
Total MW Achieved[4]	547.6	673.0	123%
MWH	256,502.0	520,208.8	203%
Units		8,319,329	

Notes on Tables:

1) Numbers rounded.

2) As filed program costs do not include M&V.

3) As filed MW are annual maximum peak. We track coincident peak for impacts.

4) Per the original SAW filings, Vintage 2 MW targets include MW achieved from Vintage 1 conservation programs.

Energy efficiency impacts have primarily been driven by lighting measures in both the residential and non-residential space. As a percentage of the target, the residential portfolio has exceeded expectations to date. This is a result of a higher take rate for CFLs offerings than originally projected.

The DSM portfolio is divided between the PowerShare (non-residential) and Power Manager (residential) programs. The Company is above target for avoided cost kW. Program costs are low in comparison to achieved avoided cost for North Carolina and South Carolina.

North Carolina Conservation Summary[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
North Carolina Nominal Avoided Cost	$91.6	$189.7	207%
Program Cost[2]	$29.0	$42.2	145%
MW[3]	42.9	64.1	149%
MWH	256,502.0	520,208.8	203%
Units		8,125,276	

Notes on Table:

1) Numbers rounded.

2) As filed program costs do not include M&V. Actual costs may include M&V.

3) As filed MW are annual maximum peak. We track coincident peak for impacts.

Note: Unlike the EE portfolio, where the kWh target is the same, the DSM portfolio has different kW targets for North Carolina and South Carolina. While the North Carolina EE docket was never closed, the original South Carolina EE docket was closed, included in the South Carolina rate case, and was adjusted up after the North Carolina filing. Both states have limitations on how much DSM can count towards the 4 year avoided cost, with South Carolina having a higher percentage due to the higher kW target.

Executive Summary

North Carolina Demand Response Summary[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
Nominal Avoided Cost	$34.2	$40.2	117%
Program Cost[2]	$15.8	$29.7	188%
MW[3]	467.2	546.1	117%
MWH	N/A	N/A	
Units		194,053	

Notes on Tables:

1) Numbers rounded.

2) As filed program costs do not include M&V. Actual costs may include M&V.

3) MW capability derived by taking average over PowerShare and PowerManager contract period.

D. Qualitative Analysis

Highlights

Energy Efficiency

To date, customer participation has been driven primarily by lighting programs and assessments. These measures provide customers with a relatively low cost efficiency upgrade, with minimal hassle, creating a positive initial energy efficiency experience. The Residential Smart $aver program has seen greater than expected participation. This increase has been primarily driven by the overwhelming participation in the residential CFL offering. The increased participation is attributed to expanding the channels for customers to request CFLs. The new channels allow customers to request CFLs via the IVR/Web channel. These channels are lower in cost, provide an improved customer experience, and allow the Company to recognize participation in a timelier manner.

A second area to highlight is the development of our trade ally network. This network has enabled the Company to minimize acquisition costs by using trade allies as an extended sales force. Providing the trade ally network information on our incentive structure has enabled them to market the incentives to customers.

Demand Side Management (DSM)

In 2011, DSM programs ended above target for North Carolina.

Issues

There have been a number of issues that have negatively impacted Company specific energy efficiency programs. These programs include Low Income Energy Efficiency and Weatherization Assistance Program and Energy Efficiency Education Programs for Schools. Potential programs changes to improve program performance are addressed in the individual reports.

Potential Changes

Several programs are reviewing their current processes, and are considering potential changes to increase customer adoption. Potential changes are discussed in individual program reports.

E. Marketing Strategy

Located in individual reports.

Executive Summary

F. Evaluation, Measurement and Verification

Located in individual program reports.

Non-Residential Smart Saver® Program: Smart $aver Prescriptive

A. Description

The Non-Residential Smart $aver® Prescriptive Program provides incentives to commercial and industrial consumers to install high efficiency equipment in applications involving new construction, retrofits and to replace failed equipment. Incentives are provided based on Duke Energy Carolina's cost effectiveness modeling to assure cost effectiveness over the life of the measure.

Commercial and industrial consumers can have significant energy consumption but may lack knowledge and understanding of the benefits of high efficiency alternatives. Duke Energy Carolina's program provides financial incentives to help reduce the cost differential between the standard and high efficiency equipment, offer a quicker return on investment, save money on their utility bill that can be reinvested in their business, and foster a cleaner environment. In addition, this program provides market demand where the dealers and distributors, or market providers, will stock and provide these high efficient alternatives as they see increased demand for the products. Higher demand can result in lower prices.

The program promotes prescriptive incentives for the following technologies – lighting, HVAC, motors, pumps, variable frequency drives, food services and process equipment. Equipment and incentives are predefined based on current market assumptions and Duke Energy's engineering analysis. The eligible measures, incentives and requirements for both equipment and customer eligibility are listed in the applications posted on Duke Energy's Business and Large Business websites for each technology type.

Duke Energy contracts with Wisconsin Energy Conservation Corporation (WECC) to administer the fulfillment responsibilities of the program and to provide training and technical support to our Trade Ally (TA) network. CustomerLink provides call center services to customers who call the program's toll free number which is specific to the Smart $aver® Prescriptive Program.

Audience

All Duke Energy North Carolina and South Carolina non-residential electric customers, except those that chose to opt out of the program are eligible.

B & C. Impacts, Participants and Expenses

Smart Saver for Non-Residential Customers - Prescriptive[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
North Carolina Nominal Avoided Cost	$24.0	$50.5	210%
Program Cost[2]	$5.0	$7.3	147%
MW[3]	9.4	14.6	154%
MWH	35,095.1	76,374.3	218%
Units		452,542	

Notes on Table:

1) Numbers rounded.

2) As filed program costs do not include M&V. Actual costs may include M&V. Program costs include approximately $0.6M of Non-Residential Energy Assessments.

3) As filed MW are annual maximum peak. We track coincident peak for impacts.

Consistent with other state programs, High Bays, LED Case Lighting, CFL bulbs and occupancy sensors have provided a significant portion of impacts and participation to date. Lighting installations have a shorter payback period than most other technologies, making it easier for customers to participate.

Non-Residential Smart Saver® Program: Smart $aver Prescriptive

Subsequent to lighting, motors, pumps and variable frequency drives as well as HVAC equipment also to continue drive impacts.
Duke Energy attributes the higher than expected participation to a number of reasons:

- Trade ally outreach program– providing training and support to our trade allies who are often the first point of contact for unassigned business customers evaluating energy efficiency projects.

- Duke Energy's internal customer teams and targeted customer campaigns – providing outreach, education, and support to customers.

To date, the company has been able to leverage support costs and its trade ally network across its regions to minimize marketing and administrative costs. However, the potential exist that acquisition costs may increase as the program continues to mature.

D. Qualitative Analysis

Highlights

Trade ally buy-in has proven to be the most effective way to promote the program to our business customers. At program rollout, Duke Energy and the WECC trade ally team took an aggressive approach to contacting trade allies associated with the technologies in and around Duke Energy's service territory. To date approximately 450 trade allies across both states, representing the different technologies are signed up as participating trade allies. Their company name and contact information appear on the trade ally search tool located on the Smart $aver® website. This tool was designed to help customers, who are not aware of a local trade ally, find someone in their area who can serve their needs and is in the process of being revised to incorporate enhanced search criteria functionality. WECC manages the trade ally database where contact information and participation is reported.

Duke Energy continues to look for ways to engage the trade allies in promotion of the program, including the utilization of focus groups. A focus group of lighting and mechanical trade allies was conducted in December 2011. Discussion topics focused on technology developments, market trends, customer barriers, and application process improvements. Suggestions provided include on-line application submission and status verification, measure additions, increased incentives for small business customers, and trade ally bonus programs.

Duke Energy continues to perform outbound call campaigns to unassigned business customers to support program education efforts. Additionally, the Smart $aver® Web page on the Duke Energy public website has been revised to enhance the user's experience and provide additional education material, including technology specific energy saving calculators, videos, white papers and customer success stories.

Issues

Participation in lighting, VFDs, and HVAC continue to be better than expected. However, there are other measures that provide savings to customers that continue to have little or no participation. Examples of these are Heat Pump Water Heaters, Food Services equipment and Compressed Air nozzles. Duke Energy continues to work with experienced engineering consultants and WECC as well as internal resources to develop strategies to understand the market potential and increase the awareness, where appropriate, of these measures going forward.

Another persistent challenge is the continued slow economic recovery which has lead to a reduction in customer payback thresholds and thus reduced elective participation in certain measures.

Potential Changes

Standards continue to change and new more efficient technologies continue to emerge in the market. The Company expects to continue identifying and adding new measures to approved programs that provide incentives for a broader suite of energy efficient products.

Non-Residential Smart Saver® Program: Smart $aver Prescriptive

E. Marketing Strategy

Nonresidential customers are informed of programs via targeted marketing material and communications. Information about incentives is also distributed to trade allies, who in turn sell equipment and services to all sizes of nonresidential customers. Large business or assigned accounts are targeted primarily through assigned Duke Energy account managers. Accounts without assigned Duke Energy account managers receive information about the program through direct mail, email and other direct marketing efforts including outbound call campaigns.

The internal marketing channel is comprised of assigned Large Business Account Managers, Segment Managers, the Mass Market Business Strategy Team, and Local Government and Community Relations, who all identify potential opportunities as well as distribute program collateral and informational material to customers and Trade Allies. In addition, the Economic and Business Development groups also provide a channel to customers who are new to the service territory.

Marketing Materials

North Carolina Website

http://www.duke-energy.com/north-carolina-business.asp

South Carolina Website

http://www.duke-energy.com/south-carolina-business.asp

F. Evaluation, Measurement and Verification

TecMarket Works, Duke Energy's third party evaluator, finalized the process and impact report on June 16, 2011. This report included revisions to the report received February 6, 2011. It focused on participation in the program from 2009. The revisions were done to make the evaluation findings consistent with the most recent program planning estimates for High-Bay lighting fixtures.

The process evaluation included findings that the trade allies and commercial customers would like to have the prescriptive program application process available online. A second recommendation was made for an increase in collaborative marketing between Duke Energy and the trade allies to raise awareness of the program.

Gross Impacts Non-Residential Lighting

Measure	Per Unit kWh Impact
High Bay 2L T-5 High Output	393
High Bay 3L T-5 High Output	590
High Bay 4L T-5 High Output	1224
High Bay 6L T-5 High Output	585
High Bay 8L T-5 High Output	1989
High Bay Fluorescent 3 Lamp (F32 Watt T8)	449
High Bay Fluorescent 4 Lamp (F32 Watt T8)	787
High Bay Fluorescent 6 Lamp (F32 Watt T8)	1268
High Bay Fluorescent 8 Lamp (F32 Watt T8)	853

Interviews for the next evaluation are scheduled for the first quarter of 2012.

Non-Residential Smart $aver® Custom Incentives

A. Description

Duke Energy's Non-Residential Smart $aver Custom Program offers financial assistance to qualifying commercial, industrial and institutional customers (that have not opted out) to enhance their ability to adopt and install cost-effective electrical energy efficiency projects.

The Smart $aver Custom Incentive program is designed to meet the needs of Duke Energy customers with electrical energy saving projects involving more complicated or alternative technologies, or those measures not covered by standard Prescriptive Smart $aver Incentives. The intent of the Smart $aver Program is to encourage the implementation of energy efficiency projects that would not otherwise be completed without Duke Energy's technical or financial assistance.

The Custom Incentive application is for projects that are not addressed by the applications for Smart $aver Prescriptive Incentives. Unlike the Prescriptive Incentives, Custom Incentives require pre-approval prior to the project implementation. Proposed energy efficiency measures may be eligible for Custom Incentives if they clearly reduce electrical consumption and/or demand.

Application forms were recently revised to provide templates for popular types of projects, which ask for specific information and save time for the customer to fill out and for Duke Energy to review the projects. Currently there is the following application forms located on the Duke Energy website under the Smart $aver Incentives (Business and Large Business tabs):

- Optional planning form that allows customers and their vendors to submit preliminary project information and receive feedback on potential eligibility and tips on filling out the application form.

- Custom Application, offered in word and pdf format with the designated worksheet in excel format. Customers can request the worksheet in another format if preferred. Customers or their vendors submit the forms with supporting documentation. Forms are designed for multiple projects and multiple locations. Custom Incentive Application (doc or pdf), are submitted with one or more of the following worksheets:
    - Lighting worksheet (excel)
    - Variable Speed Drive (VFD) worksheet (excel)
    - Compressed Air worksheet (excel)
    - Energy Management System (EMS) worksheet (excel)
    - General worksheet (excel), to be used for projects not addressed by or not easily submitted using one of the other worksheets

Duke Energy contracts with Wisconsin Energy Conservation Corporation (WECC) to perform the technical review of applications, fulfill payment requests and training and technical support to our Trade Ally (TA) network. CustomerLink provides call center services to customers who call the program's toll free number which is specific to the Smart $aver Program. All other analysis is performed internally at Duke Energy.

Audience

All Duke Energy North Carolina and South Carolina non-residential electric customers except those that chose to opt out of the program.

Non-Residential Smart $aver® Custom Incentives

B & C. Impacts, Participants and Expenses

Smart Saver for Non-Residential Customers - Custom Rebate[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
North Carolina Nominal Avoided Cost	$9.5	$35.4	372%
Program Cost[2]	$5.0	$6.1	121%
MW[3]	2.1	6.6	310%
MWH	13,305.6	55,927.7	420%
Units		34,635	

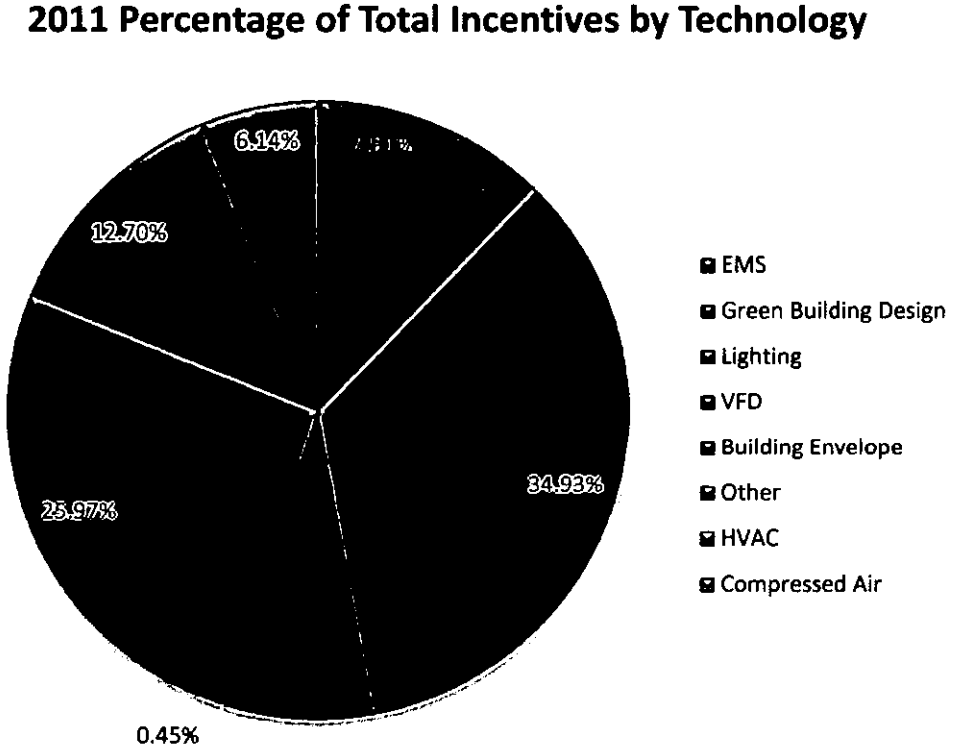
Notes on Table:

1) Numbers rounded.

2) As filed program costs do not include M&V. Actual costs may include M&V. Program costs include $0.5M of Non Residential Energy Assessments.

3) As filed MW are annual maximum peak. We track coincident peak for impacts.

During 2011, custom incentives were paid on a wide variety of projects are represented in the following pie chart:



In 2012, additional technology categories will be tracked to improve reporting.

Non-Residential Smart $aver® Custom Incentives

D. Qualitative Analysis

Highlights

Interest and participation exceeded expectations in 2011. An average of 25 new applications per month was received in 2011, compared to nine per month in 2010. Total amount of custom incentives paid during the 2011 was more than three times the amount paid in 2010. Customers are consistently investing in efficiency projects that are not addressed by the prescriptive incentives. Customers would be able to plan better and Smart $aver administrative costs would go down if more measures were added to the list of prescriptive incentives.

The efforts to educate the vendors who sell energy efficient equipment (trade allies) have been very successful. In many cases, the vendor will submit the paperwork for the Duke Energy customer, which eliminates a barrier for customers that do not have the resources to devote to the application.

Issues

The custom incentive application process is considered burdensome by some customers due to the technical review required for all projects that apply for a custom incentive. The technical review often requires customers (or their vendor) to quantify the projected energy savings from the proposed project. This can be a lengthy process that may require some level of engineering expertise. This requirement will continue, thus ensuring that incentives are being paid for cost-effective verifiable efficiency gains. Those technologies that seem to be a good fit for the Smart $aver prescriptive program will be recommended for addition to the prescriptive application. The more that is offered through the prescriptive applications, the fewer burdens there are on the customer that prevents participation in the Smart $aver program.

While the level of interest in custom incentives has increased, the custom incentive team has worked diligently to reduce average application review times. Additional resources were added to the team that performs the technical reviews and analysis, and administrative assistance was added. Customers receive an estimate of the total review time with the application receipt acknowledgement. Expedite requests are accommodated whenever feasible without adversely affecting other application reviews.

Potential Changes

Additional updates to custom lighting application forms are under review, with the goal to continue to improve customers' experience with custom incentives.

E. Marketing Strategy

The marketing strategy for custom incentives is tied to the Smart $aver prescriptive incentives. See the report on prescriptive incentives for a description. The strategy is to promote prescriptive incentives, which show pre-approved incentive amounts that get customers interested in a project and are designed for a high volume of applications. Then, if a customer's project does not fall under prescriptive incentives, the custom application is there to offer an alternative.

F. Evaluation Measurement and Verification

The Process Evaluation for the Smart $aver® Custom program was finalized on August 12, 2011. This process evaluation was conducted through in-depth interviews with the Duke Energy program manager. Short interviews were also conducted with Duke Energy nonresidential customers and vendors.

Non-Residential Smart $aver® Custom Incentives

Satisfaction with the Custom Program

The ratings from these interviews may be used as an indication of trends among the customer and vendors.

	Satisfaction with Incentive	*Ease of Filling Out Application*	*Satisfaction with Time to Review Application*	*Satisfaction with Technical Expertise of Duke Energy Staff*	*Satisfaction with Program Information Provided*	*Overall Satisfaction with Smart $aver® Custom*
Mean Rating	**7.00**	**6.63**	**7.37**	**7.88**	**7.73**	**7.70**

Note: Ratings are on a scale of 0 to 10, with 10 being highest and 0 being lowest. Some ratings were not solicited from the respondent if they were not appropriate, for example if the customer did not fill out the application, or if no technical help was requested from Duke Energy.

- Customers are most satisfied with Technical Expertise of Duke Energy Staff and with the program information that was provided.
- Customers generally reported that the rebate was a major influence on their decision to do the project.
- Smaller customers find that the application is difficult if the applicant does not have a technical or engineering background.

The impact report is scheduled for the end of June, 2012.

PowerShare®

A. Description

PowerShare® is a demand response program offered to Commercial and Industrial customers. Currently made up of Mandatory (PS-M), Generator (PS-G), Voluntary (PS-V), and CallOption options, customers can choose from a variety of offers. Under PS-M, PS-G and CallOption, customers receive capacity credits for their willingness to shed load during times of peak system usage. These credits are received whether an event is called or not. Energy credits are also available for participation (shedding load) during curtailment events. The notice to curtail under these offers is often rather short (15-30 minutes). Failure to comply during an event will result in penalties.

Audience

PowerShare® is offered to nonresidential customers who have not opted out and are able to meet the load shedding requirements.

B & C. Impacts, Participants and Expenses

PowerShare[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
Nominal Avoided Cost	$16.3	$23.5	144%
Program Cost[2]	$9.4	$15.2	162%
MW[3]	222.7	320.1	144%
MWH	N/A	N/A	
Units		148	

Notes on Tables:

1) Numbers rounded.

2) As filed program costs do not include M&V. Actual costs may include M&V. Program costs include approximately $1.3M in Non Residential Energy Assessments.

3) MW capability derived by taking average over specific PowerShare contract periods.

Variance

Customer participation is currently ahead of the plan, ending 2011 with over 350 MW of resource under contract, relative to the system goal of 319.7. Customer interest continues to be high as customers look for ways to manage their energy costs.

D. Qualitative Analysis

Program Highlights

PS-Mandatory and PS-Generator have been well received by customers in North Carolina and South Carolina. Most IS and SG legacy customers in South Carolina and many in North Carolina transitioned to PS-M and PS-G, respectively. The legacy SG customers that did not switch are often small generators and don't qualify for PS-G because of the minimum curtailable load requirement.

Program Issues

In March 3, 2010, the U.S. Environmental Protection Agency (EPA) promulgated national emission standards for hazardous air pollutants (NESHAP) for existing stationary compression ignition reciprocating internal combustion engines (RICE). The EPA incorporated this new requirement into 40

CFR 63 Supart ZZZZ on May 3, 2010. Included in these rules were limitations on the use of "emergency generators" in demand response programs—maximum of 15 hours per year. For example, the current maximum hours for PS-M and PS-G are 100 hours annually. The EPA opened a period of additional comment upon this restriction in February 2011. It is anticipated that they will release any changes resulting from the comment period later this year. This compliance date for existing diesel-fired RICE engines is May 3, 2013. In December, 2011, the EPA reached a settlement with several interested parties where the rule would change to a maximum 60 hours per year. It is anticipated that this settlement will result in a change to the rules by December 2012.

Duke Energy continues to see strong participation in the industrial customer segment and actively looking for ways to improve participation by commercial customers. These businesses have a focus on making tenants and/or customers comfortable and the major electric end-uses are primarily HVAC and lighting. Therefore, it is difficult for many of these customers to curtail load through the programs up to 10-hour interruption period. In addition, these customers are less likely to have on-site personnel to manually intervene in systems and settings for curtailment events. On the other hand, we have some existing PowerShare® participants who indicate that they have the capability and willingness to curtail load on even shorter notification—5 minutes or less. In both of these cases, automated processes to connect the utility signal of a demand response event with the customer's equipment (end use or generator) would be necessary.

Potential Changes

In response to the EPA restrictions on use of emergency generators for demand response, Duke Energy is considering offering a new PowerShare® option that would comply with the rules. Examples of changes that would be involved include maximum hours use would not exceed the federal limit and the capacity credit would be reduced based on having less access to the emergency demand response resource. Duke Energy will finalize those plans after the EPA releases their response to the February 2011 comment period referenced above.

Duke Energy is exploring Automated Demand Response technologies that have been deployed in other jurisdictions that could simplify the ways for commercial customers to curtail. By combining these effects across many facilities, like those of a national chain account, load-shedding strategies could be staggered across several stores in order to give a substantial amount of curtailed load without unduly impacting the end-use customer's operation. Program changes that allow for aggregating accounts for the purpose of demand response would be one of the areas that would need to be addressed. These same technologies would enable "fast-DR" strategies with customers who have the capability to curtail load in five minutes or less.

E. Marketing Strategy

Marketing efforts for PowerShare® have focused on the relationship between the Duke Energy account managers and their assigned customers. As part of their normal contact with customers, the Account Managers have introduced PowerShare®, including any new options/offers while explaining the value proposition to the customer. These visits are supported with in-house, analytical spreadsheets, showing the specific incentives for each offer as applied to the customer's specific load profile as well as collateral to explain the details of all the PowerShare® offers.

F. Evaluation, Measurement and Verification

Tec Market Works (TMW), Duke's third party evaluator, provided the process report for the 2010 and 2011 PowerShare program in January, 2012. Several recommendations were included in this report based on interviews with program management and current customers. The recommendations included the suggestion to conduct a conjoint analysis to obtain data on what value customers place upon the different PowerShare program offerings. Another recommendation was to provide a one-page reference to remind customers of the requirements for participating in Voluntary and Call Option economic events as well as to provide customers with a summary sheet that highlights the program's key components and their company's specific commitment in their agreement.

The process report noted that Duke Energy is already aware that the calculation of capacity and incentives may be difficult for customers to understand, and results from participant surveys confirmed that there still is some confusion. Another recommendation was to consider easily-accessible tools for helping customers understand these calculations.

Customers lauded the excellent work of their account representatives in providing information about PowerShare, and for taking their time to walk them through the program if necessary. The Impact results for 2011 events will be available in the second quarter of 2012.

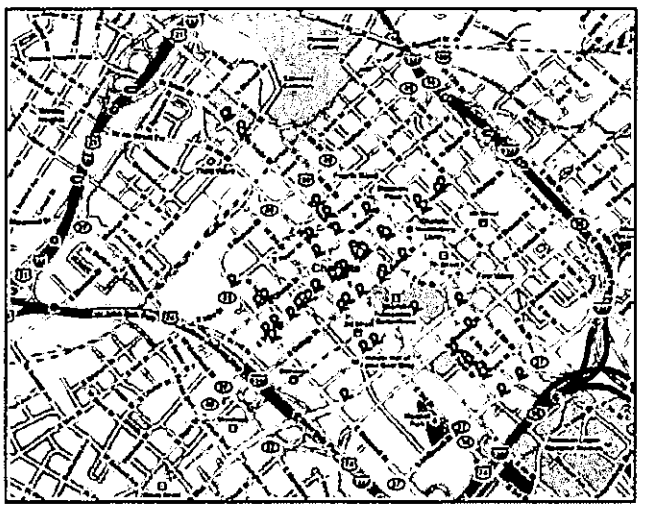
Smart Energy Now

A. Description

Smart Energy Now was approved as a pilot program by the North Carolina Utilities Commission in February 2011. The Pilot is designed to create energy and capacity reductions through behavioral modifications by leveraging the community's commitment to create an environmentally sustainable urban core. The pilot program will target both occupants and managers of commercial buildings by providing them with more detailed information on the building's energy usage, and allowing them to make comparisons between their building's energy performance and others within their community, and actionable recommendations to improve their energy performance.

Audience

This program will target customers occupying commercial office buildings in community settings. The pilot will target approximately 65 commercial office buildings (buildings with a minimum of 10,000 square feet) within Charlotte city center (as defined by the I-277 loop – see diagram to the right). Building owners, facility managers, and building occupants will all be part of the pilot, each playing an important role in achieving energy savings with the commercial office setting.



B & C: Impacts, Participants and Expenses

Smart Energy Now[12]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
North Carolina Nominal Avoided Cost		**$1.8**	
Program Cost		**$2.1**	
MW		**1.3**	
MWH		**7,152.5**	
Units[3]		**36**	

Notes on Table:

1) Numbers rounded.

2) There is no as-filed comparison for Smart Energy Now because it is a new program and was not included in the original filing.

3) Units represent the number of customer accounts enrolled.

During the first year of the pilot the majority of expenses were focused on the development and implementation of program components (more detail provided in the next section on individual components). Expenses have been focused on the following areas: customer participation, display/content design, normalization of data, customer/community outreach strategy.

Smart Energy Now

The program started recognizing participation in the fall with the "go live" public launch event in which Duke Energy unveiled the lobby displays and officially "turned on the displays" (more details provided in the next section). In total 32 of the approximate 63 (see highlights to equivalent sq ft) targeted buildings have the lobby displays installed and customers have access to their individual online interval energy data. The remaining lobby displays will be rolled out in early 2012.

D. Qualitative Analysis

Highlights

The pilot program had a lot of activity ongoing in 2011. The community support for the program has been overwhelming with 99 percent of the targeted qualifying sq ft signing up to participate in the program, the goal was 80 percent which we felt was the minimum participation to consider this a community program. Of the targeted square footage that has signed up to be a part of the program 32 of 63 buildings have all the necessary equipment and the interactive lobby display installed.

On October 28th, the program officially "went live" within the community and held a "turn on the displays" event in the heart of downtown Charlotte. The event drew a crowd of over 1,500 downtown workers and was highlighted with a key note speech by Duke Energy CEO Jim Rogers and appearances by other prominent civic leaders.

Key aspects of the project:

Customer participation:

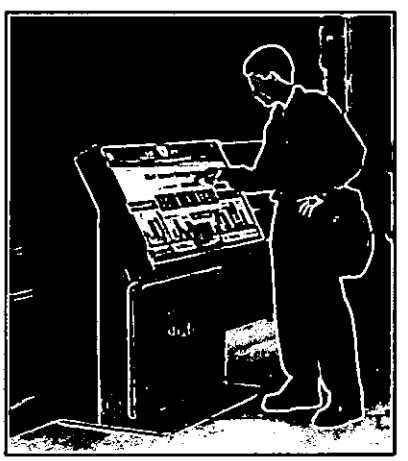
The original goal of the project was to achieve enough participation from Duke Energy's customer base to reach 80 percent of the square footage in the target market. As of December 31, 2011, the Company has enrolled 99 percent of the target market. Enrolled is defined as signing up to participate. Delivering impacts is defined as when participants have lobby displays and/or access to online interval usage data.

Media architecture:

Forming the media architecture was one of the most challenging and critical tasks for 2011. The immaturity of the interactive digital signage market and the unique requirements of this project proved challenging to building an autonomous, secure and reliable architecture. In order to minimize the impact to buildings, the lobby display was display was designed to only need an outlet to plug into and the display uses Verizon Wireless' 4G network opposed to each building's network. To minimize the electricity usage of the display, the TV is energy star rated and is scheduled to be on from 6am to 6pm Monday-Friday.

Kiosk/Content Design:

The design of the lobby display had to be both equally aesthetic to existing lobby features with marble/glass/stainless steel/etc, but also durable, reliable, and secure. Here is the final design of the lobby display:

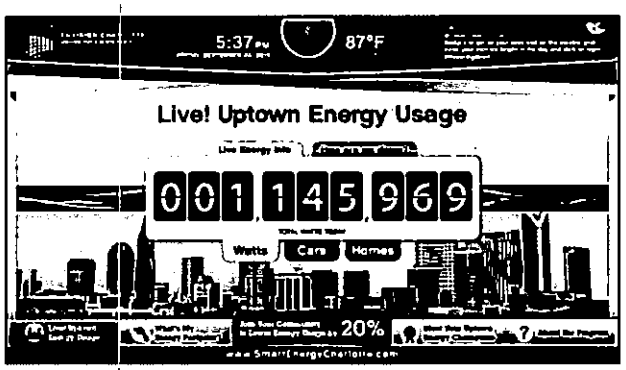


It should also be noted that a limited number of buildings (maximum of three) have relatively smaller lobby sizes in which the standard kiosk is not ideal. In early 2012, alternative lobby display will be evaluated to identify displays that better suite these smaller lobbies.

Smart Energy Now

The content of the display is also a critical item in regards to the success of the project. The goal is to share near real-time energy usage information in a manner that the workers in the office buildings can relate to and then drive behavior. This information will also go onto a website (see website below) and possibly mobile phones.

Below is the initial home screen (note the displays are interactive and contains several pages):



A lot of thought and design has gone into the content of the display with the help of leading experts in behavioral science and commercial real estate. The current content design consists of the home page that features the live energy counter which presents usage in watts and then translated into terms that might resinate more with our audience. We currently translate usage into equivalent number of miles driven in a car and equivalent number of homes powered for one day. We intend to periodically update the translated units to other metrics that are relevant to consumers.

Content includes three other pages, "What's My Energy Footprint?", "Meet Your Uptown Energy Champions", and "About the Program". What's My Energy Footprint is intended to interact with users and help translate energy efficiency actions into terms and figure users can understand. This is currently an interactive energy quiz. This is just one of the examples of different engagement technique that we are testing and will continue to test and evaluate. The Energy Champions page is intended to give a personal touch to the program; we will highlight several uptown workers that are leading energy efforts within their own buildings. These champions will rotate and change every month, with the intent of keeping these fresh and relevant. We'd also love to spark some competition and recognition among building peers, saying "hey, did you see Susie on the kiosk!!" The last page is an about page that highlights the program description and gives a list of all the participating buildings.

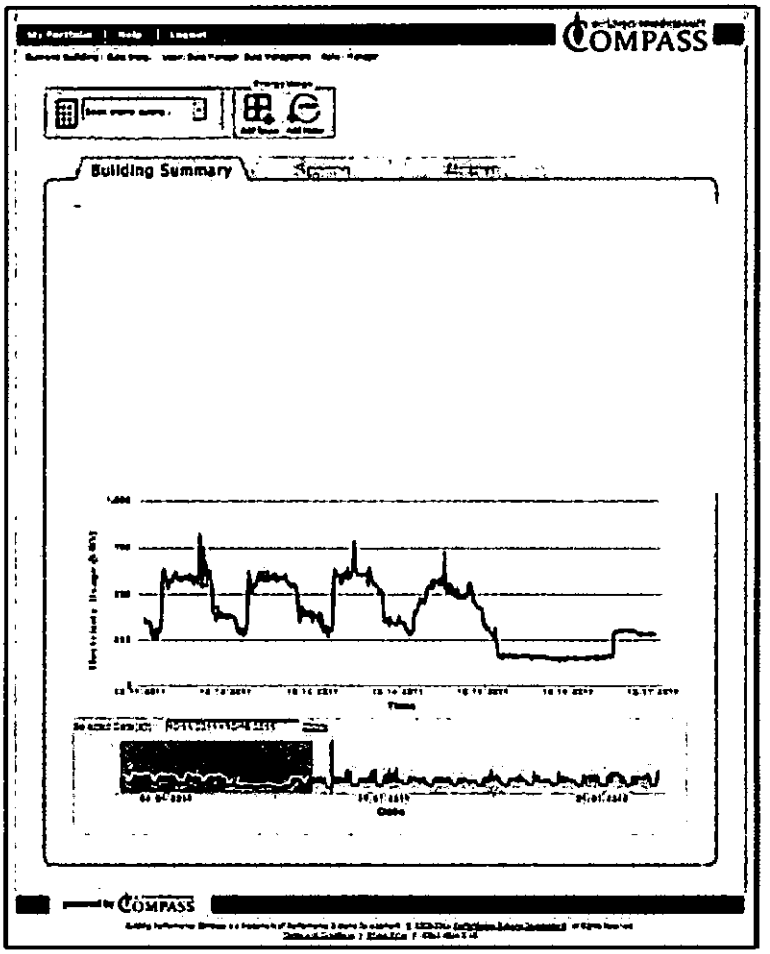
In order to be successful in this pilot, we realize that the content must be relevant and fresh, requiring constant change within the limitation of the program. We intend to develop new content, update content, create enhancements, etc to keep uptown workers engaged in the kiosk and engaged in the program.

Normalization of data:

Duke Energy continues to work with Performance System Development (PSD) Consulting to develop the capabilities to normalize building EPA Portfolio Manager Characteristics and weather. All characteristics will be gathered from the customers using a secure online portal that is integrated with the EPA Portfolio Manager. This same portal will be used to show the customer their individual energy usage as well as track changes at the customer site for EM&V purposes.

Smart Energy Now

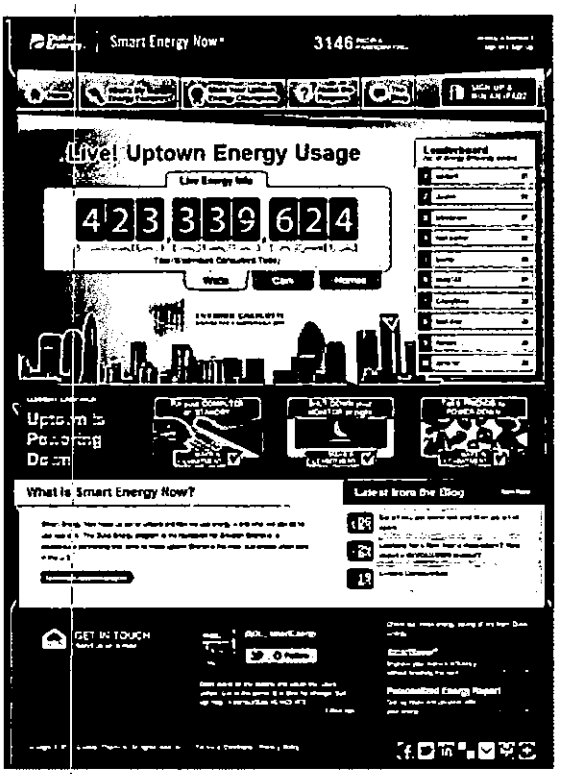
To the right is a screen shot of the online portal that customers access to view their individual energy usage.



Customer/Community Outreach:

Community engagement will be a main focus for 2012. In 2011, several training and engagement practices were tested in order to formulate the outreach plan for 2012. The plan is more of a grassroots program utilizing the display/website to promote energy efficiency within companies and to connect on a more personal basis. This will consists of multiple training classes designed specifically for uptown workers, property managers, and facility engineers. A piloted specific training was offered to facility managers designed to help understand the level of interval energy data the pilot is enabling for individual customers and how to they can best use that. There will also be various follow-up tools leveraged to sustain interest and involvement from uptown workers.

Smart Energy Now



Another key aspect of the community engagement will be the website. The website is an online version of the lobby display with some additional functionality. It is understandable that most uptown workers will not stop and interact with the lobby displays, but hopefully it gets their attention and is a reminder. Thus, the expectation is to draw attention toward the website for users to find out more information. The website allows users to register and login to record the actions taken (either daily or one-time actions) to save energy. Although there is a currently a leader board built in, Duke Energy is working add enhancements and functionality to make the website more relevant and increase visits from users. (A screen shot of the website is provided to the left)

Issues:

There are no major issues to report.

Potential Changes:

No significant changes are planned at this time.

E. Marketing Strategy

The marketing strategy for 2011 was almost fully geared toward the "turn on the displays" event held in October and the creation of the Smart Energy Now website. As a result of the marketing strategy, minimum additional marketing was required to gain customer support as existing relationships with customers and the small network of building owners. Additional marketing components are integrated into the community engagement plan. The focus in 2011 was to garner earned media and that will continue to be the focus moving forward.

F. Evaluation, Measurement and Verification

Survey instruments will be developed in the first quarter of 2012 and surveys are scheduled to begin in the second quarter of 2012.

The components or areas of research are as follows:

Component 1 – Owners: Energy impacts on participating buildings achieved by owners, operators and key stakeholders. Data collection will include telephone interviews, review of other Duke Energy program participation, and a non-participant sample if possible.

Smart Energy Now

Component 2 – Occupants: Participating building occupant's energy impacts in their workplace. Data collection efforts include on-site intercept surveys, and analysis of web based answers to optional occupant qualification survey from program implementation. End use (plug load) logging equipment will also be installed where available.

Component 3 – Occupant Spillover: Participating building's occupants and operators impacts in their homes. These impacts may be too small to obtain a statistically representative sample, but on-site interviews will determine the feasibility.

Component 4 – Program Spillover: The impacts of the Smart Energy Now/Envision on the Charlotte area by conducting exploratory interviews with Envision key stakeholders to understand the wider efforts and activities of Smart Energy Now.

Component 5. Process evaluation of Smart Energy Now to assess program operations, customer perceptions and customer satisfaction of program.

Residential Energy Assessments

A. Description

The Residential Energy Assessments program includes two separate programs: 1) Personalized Energy Report (PER) ® and 2) Home Energy House Call.

The **Personalized Energy Report (PER) ® Program** provides targeted Duke Energy customers with a customized report aimed at helping them better manage their energy costs.

This report provides customers:

- Up to 12 months of energy usage history
- Pie chart breakdown of where energy is being used
- Comparison of their energy usage to similar homes
- Customized energy tips to help save energy and money

The PER program utilizes two primary marketing channels to acquire customers. Customers receive a direct mail offer that allows them to complete a home energy survey either in hardcopy format or online where customers sign into their Online Services (OLS) bill pay and view environment. Customers who participate in the mailed offer are asked to complete and return the enclosed survey. Once the survey is processed, the customer's Personalized Energy Report is mailed to the customer. Online participants can view and print their report in a PDF format immediately after completing the online survey.

Duke Energy partners with several key vendors in support of the PER program: McKay, Aclara, and Niagara. McKay is responsible for printing the solicitation letters, surveys and final reports. Aclara combines customer usage data with survey responses, provided by Kindred, to produce the customized report. Niagara provides fulfillment of the six CFL bulb incentives.

Home Energy House Call (HEHC) is a free in-home assessment designed to help customers reduce energy usage and save money. An energy specialist completes a 60 to 90 minute walk through assessment of the home and analyzes energy usage to identify energy saving opportunities. The Building Performance Institute (BPI) certified energy specialist discusses behavioral and equipment modifications that can save energy and money with the customer. A customized report is provided to the customer that identifies actions the customer can take to increase their home efficiency. Example recommendations might include the following:

- Turning off vampire load equipment when not in use
- Turning off lights when not in the room
- Using CFLs in light fixtures
- Using a programmable thermostat to better manage heating and cooling usage
- Replacing older equipment
- Adding insulation and sealing the home

Customers receive an Energy Efficiency Starter Kit with a variety of measures that can be directly installed by the energy specialist. The kit includes measures like CFLs, low flow shower head, low flow faucet aerators, outlet/switch gaskets, weather stripping and energy saving tips booklet.

Duke Energy partners with several key vendors in support of the HEHC program: Wisconsin Energy Conservation Corporation, Proto Type, CustomerLink and Niagara. Wisconsin Energy Conservation Corporation (WECC) administers the assessment component of the program. Additional key vendors include ProtoType for mailing services, CustomerLink for customer care support and scheduling (call center and back office), and Niagara for fulfillment of the Energy Efficiency Starter Kits.

Residential Energy Assessments

Audience

PER targets residential customers that own a single family home with at least four months of billing history.

Home Energy House Call targets residential customers that own a single family residence with at least four months of billing history and have central air, electric heat or an electric water heater.

B &C. Impacts, Participants and Expenses

Residential Energy Assessments[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
North Carolina Nominal Avoided Cost[2]	$7.4	$3.9	53%
Program Cost[3]	$3.1	$2.7	86%
MW[4]	4.0	1.6	39%
MWH	27,222.1	11,655.0	43%
Units		28,051	

Notes on Table:

1) Numbers rounded.

2) New impacts per M&V extended measure lives by 1 year for Personalized Home Energy report and Online Audit.

3) As filed program costs do not include M&V. Actual costs may include M&V.

4) As filed MW are annual maximum peak. We track coincident peak for impacts.

D. Qualitative Analysis

Personalized Energy Report Program

Highlights

A direct mail campaign in the spring 2011 targeted about 90,000 North Carolina and 25,000 South Carolina single-family residential customers. Historically, this program has a customer response rate in excess of 15 percent for direct mail campaigns. The response rate was approximately 20 percent for spring 2011 direct mail campaign.

Issues

There are no current issues associated with this program.

Potential Changes

A thorough analysis of campaign responders will identify unique customer profiles that have a high propensity to participate in the PER program. This research will help better target future marketing campaigns, optimistically resulting in higher response rates and lower program costs.

Residential Energy Assessments

Home Energy House Call Program

Highlights

Smaller and more frequent direct mail campaigns have reduced the wait time between enrollment and assessment completion. Mailings are zip code specific, so the energy specialists can reduce drive times and spend more time with customers. Duke Energy's Marketing Analytics team works closely with the HEHC team to develop a mailing strategy that provides broad coverage and targets the right customers.

CustomerLink's call script has been improved to educate and prepare customers about the Energy Efficiency Starter Kit measures and CFLs that can be installed by the energy specialist during the assessment. An automated reminder call is placed 48 hours prior to the appointment to ensure the customer will be present. During the call, customers are encouraged to identify potential areas to install energy efficiency measures from the EE Starter Kit. If the customer needs to cancel or reschedule the appointment, CustomerLink's phone number is provided during the reminder call. The purpose of the reminder call is to decrease the number of cancellations/no shows and allow for waitlist customers to be scheduled. We have seen a direct correlation with the update to the script and additional items being directly installed.

The Home Energy House Call program participating customers continue to provide an overall survey satisfaction score of 9 on a 10 point scale.

HEHC tested e-mail communications as another potential marketing channel. The test included customers who had elected to receive e-mail correspondence. The response rate was similar to the program's direct mail rates (1-3 percent), but the cost per acquisition was much lower. An example of the e-mail message is available in the appendix. The channel reached an untapped market that may not have responded to the direct mail marketing channel. HEHC plans to use e-mail as a marketing channel for this program.

Analysis has been completed to improve the overall customer experience for the 60-90 minute assessments. In addition, assessment questions and procedures have been reviewed to improve the process flow and clarity of energy saving opportunities. Cross selling opportunity of other energy efficiency programs will be incorporated into the assessment to allow customers an opportunity to take action in improving their home's efficiency.

Issues

The year to date 2011 marketing strategy focused on targeting customers in identified PRIZM segments with a high propensity to respond. The intent of the PRIZM based targeting was to improve response rates and to reduce acquisition costs. Unfortunately, the response rate from the mailings achieved didn't provide the expected participation lift to response rates was below expectations.

Potential Changes

Some program enhancements to increase program impacts, raise participation satisfaction levels, and establish Duke Energy as a preferred energy provider being considered include:

- Evaluating other measures for the Energy Efficiency Start Kit
- Analyzing seasonal trends
- Redesigning collateral – new acquisition material (print and email), align materials with customer leave behinds and revise customer comment cards.
- Removing the geographic limitation and begin to mass promote utilizing our delivery channels and possibly adding new channels.

E. Marketing Strategy

Personalized Energy Report Program

Residential Energy Assessments

In 2011, the marketing of the program focused on improving new customer acquisition through the direct mail channel. Homeowners with 12 months of usage history were targeted in order to show a trend in energy use. Additional criteria included customers with above-average energy use who had few CFLs installed in the home.

Targeted customers received a cover letter explaining the benefits of the program and a survey to complete with a postage-paid return envelope. Within four to six weeks, participants received a Personalized Energy Report ® and a free six-pack of CFLs. A postcard was placed in the bulb packaging that encouraged customers to go online and check their eligibility to receive additional free bulbs. Examples of these marketing materials are available in the Appendix.

Home Energy House Call Program

Program participation is primarily driven through targeted mailings to pre-qualified residential customers. To supplement this activity and keep acquisition costs low, e-mail marketing will be used when targeted customers have elected to receive offers electronically. Utilizing two different marketing channels will increase awareness levels of the program, thus potentially increasing program participation.

F. Evaluation Measurement and Verification

Personalized Energy Report Program

On November 15, 2011, TecMarket Works (TMW), the third party evaluator, finalized the process and impact report for the Personalized Energy Report program. TMW conducted customer and management surveys in 2010 for this report.

The process evaluation indicated the CFLs provided as part of the program and the desire to reduce energy costs were motivating factors for the customers to participate in the program. In North Carolina, 15 percent of the program participants interviewed indicated they had more than six CFLs installed before participating in the program and 10 percent of South Carolina program participants interviewed indicated that they had more than six CFLs pre-installed.

One recommendation from the process evaluation was to review the areas of overlap between Duke Energy's residential energy report programs such as PER™/OHEC (Online Home Energy Calculator) and HEHC (Home Energy House Call). The current number of slightly different residential energy report offerings risks confusing customers who may participate in one residential program and question whether they could or should participate in another program.

Since the customer has a choice of either the mail or online version (OHEC), TMW conducted a separate billing analysis for each version. For both analyses, billing data was obtained for all participants in the program between August, 2009 and March, 2011. The annual net savings for the program was 321kWh per participant.

Home Energy House Call Program

The impact report for HEHC was completed June 13, 2011 for the participants who participated in the program in North Carolina (5,321 customers) and South Carolina (1,859 customers) between November of 2008 and July of 2010. A panel model specification was used that analyzed the monthly billed energy use across time and participants. The model included terms to control for the effect of weather on usage, as well as indicator variables to capture the effects of non-measureable factors that vary over time such as economic conditions and season loads. The net savings per participant per year are 639 kWh.

For the next process evaluation, TMW will interview program management and a sample of participants in the second quarter of 2012.

Residential Energy Assessments

G. Appendix

Personalized Energy Report - Cover Letter

<<Date>>

<<First Name>> <<Last Name>>
<<Name of Business>>
<<0000 Mailing Address>>
<<City>>, <<State>> <<Zip Code>>

Dear <<First Name>> <<Last Name>>:

Duke Energy wants to help you understand your energy usage, become more energy efficient, and save money, too. Our Personalized Energy Report (PER)® is a great place to start.

It's free. And it's easy. Simply answer some questions about your home's appliances and your family's lifestyle.

With your Personalized Energy Report (PER)®, you can:

- understand how your household uses energy
- view your home's month-to-month energy usage and seasonal trends
- compare your home's energy usage to similar households in your area
- receive energy-saving tips for your home
- learn about programs that may save you money

Let the savings begin!
We've included a copy of the Home Energy Survey. Be sure to complete both sides and mail it to us in the enclosed envelope by June 30, 2011. We'll mail your Personalized Energy Report (PER)® back to you within four to six weeks of receiving your completed survey!

But wait. There's more....

Just for completing the survey, Duke Energy will send you a free six-pack of CFL bulbs. That's right... FREE!

Did you know that a single Compact Fluorescent Light (CFL) can last up to 10x longer than an incandescent bulb AND save $30 in energy costs? Use them to replace your home's most frequently-used bulbs, and watch your savings grow to $150 over the lifetime of the bulbs!

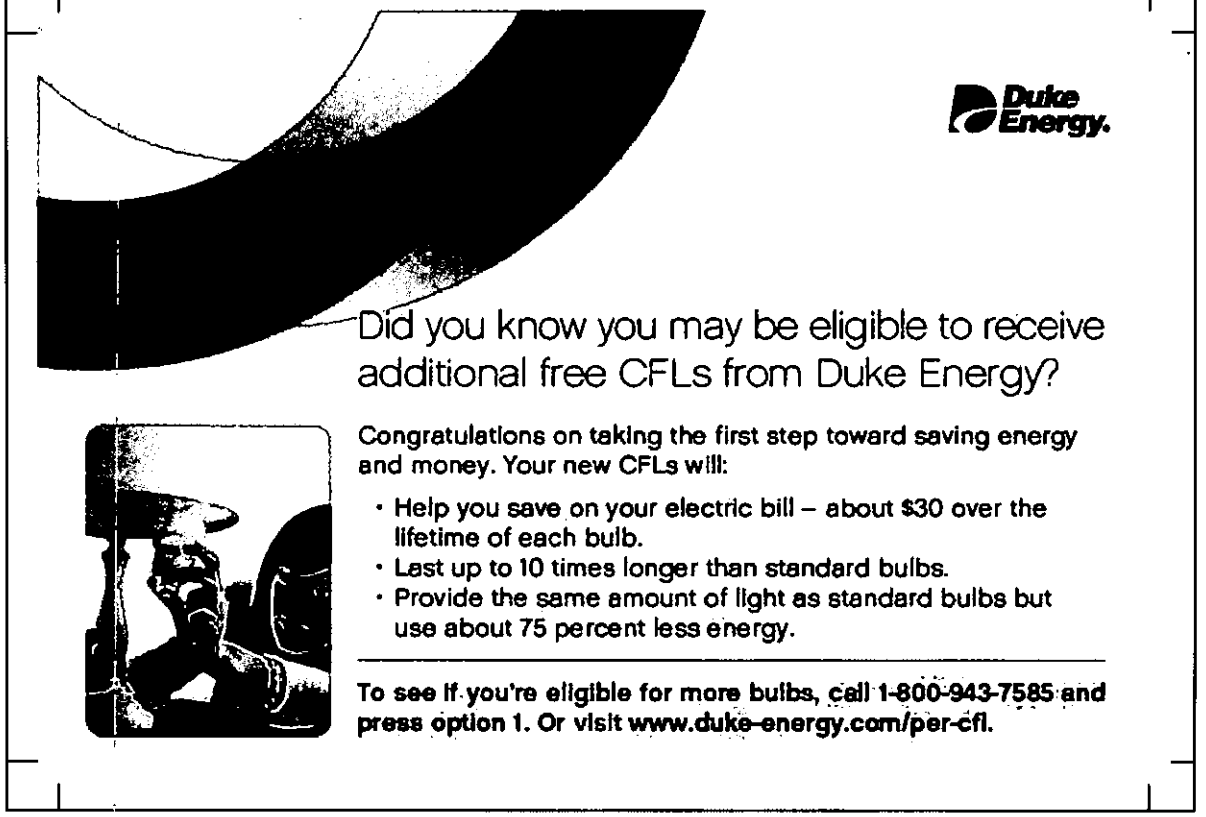
Together, we can make a difference.

Thank you for your interest in saving energy. We value your business, and we look forward to helping you take control of your monthly energy costs.

K. Griffin
Program Manager

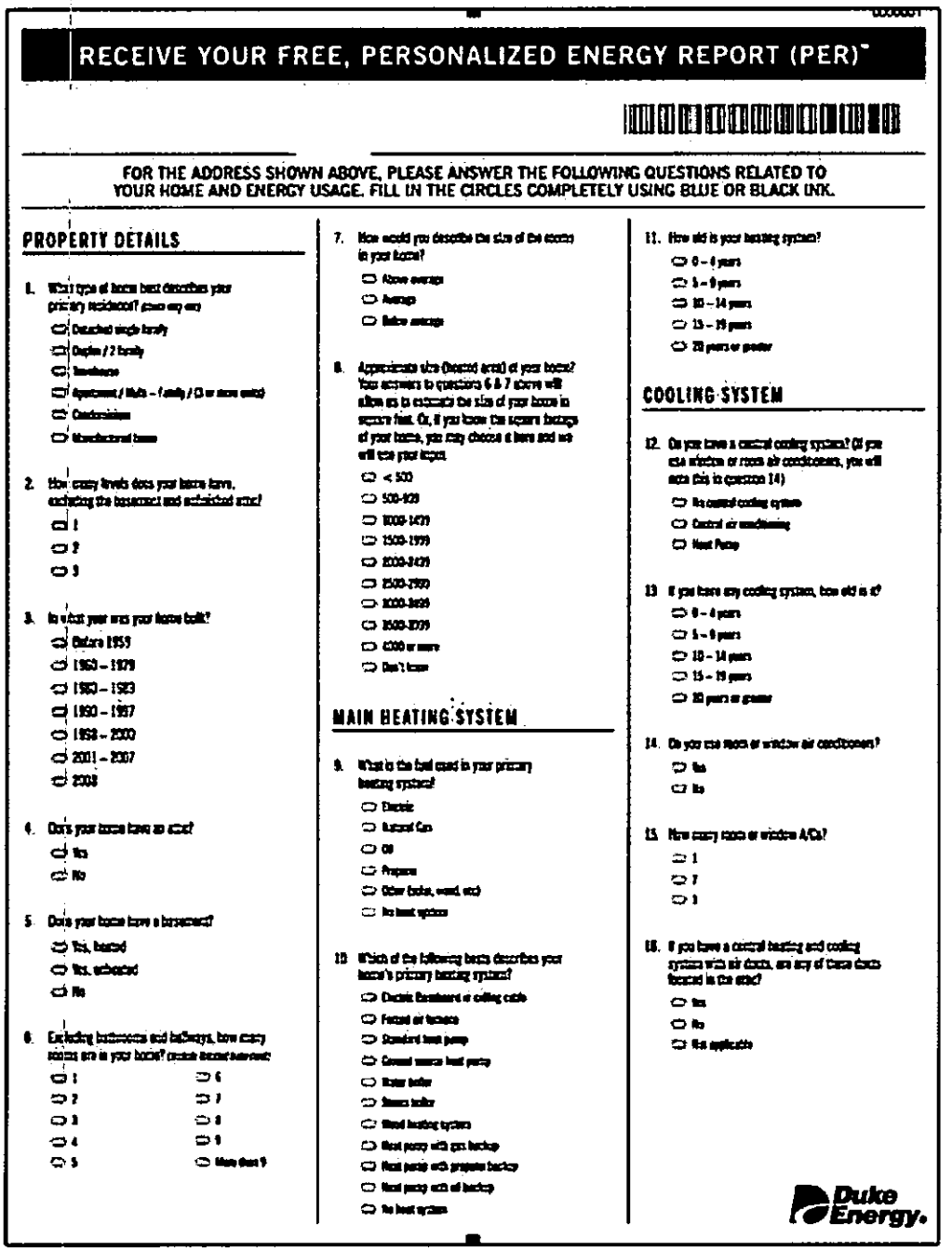
Residential Energy Assessments

Personalized Energy Report Bulb - Packaging Postcard



Residential Energy Assessments

Personalized Energy Report - Survey



RECEIVE YOUR FREE, PERSONALIZED ENERGY REPORT (PER)*

FOR THE ADDRESS SHOWN ABOVE, PLEASE ANSWER THE FOLLOWING QUESTIONS RELATED TO YOUR HOME AND ENERGY USAGE. FILL IN THE CIRCLES COMPLETELY USING BLUE OR BLACK INK.

PROPERTY DETAILS

1. What type of home best describes your primary residence? (please only one)
   - Detached single family
   - Duplex / 2 family
   - Townhouse
   - Apartment / Multi – family (3 or more units)
   - Condominium
   - Manufactured home
2. How many levels does your home have, excluding the basement and unfinished attic?
   - 1
   - 2
   - 3
3. In what year was your home built?
   - Before 1950
   - 1950 – 1979
   - 1980 – 1983
   - 1990 – 1997
   - 1998 – 2000
   - 2001 – 2007
   - 2008
4. Does your home have an attic?
   - Yes
   - No
5. Does your home have a basement?
   - Yes, heated
   - Yes, unheated
   - No
6. Excluding bathrooms and hallways, how many rooms are in your home? (include finished basement)
   - 1
   - 2
   - 3
   - 4
   - 5
   - 6
   - 7
   - 8
   - 9
   - More than 9
7. How would you describe the size of the rooms in your home?
   - Above average
   - Average
   - Below average
8. Approximate size (heated area) of your home? Your answers to questions 6 & 7 above will allow us to estimate the size of your home in square feet. Or, if you know the square footage of your home, you may choose it here and we will use your input.
   - < 500
   - 500-999
   - 1000-1499
   - 1500-1999
   - 2000-2499
   - 2500-2999
   - 3000-3499
   - 3500-3999
   - 4000 or more
   - Don't know

MAIN HEATING SYSTEM

9. What is the fuel used in your primary heating system?
   - Electric
   - Natural Gas
   - Oil
   - Propane
   - Other (solar, wood, etc)
   - No heat system
10. Which of the following best describes your home's primary heating system?
    - Electric Baseboard or ceiling cable
    - Forced air furnace
    - Standard heat pump
    - Ground source heat pump
    - Water boiler
    - Steam boiler
    - Wood heating system
    - Heat pump with gas backup
    - Heat pump with propane backup
    - Heat pump with oil backup
    - No heat system
11. How old is your heating system?
    - 0 – 4 years
    - 5 – 9 years
    - 10 – 14 years
    - 15 – 19 years
    - 20 years or greater

COOLING SYSTEM

12. Do you have a central cooling system? (If you use window or room air conditioners, you will note this in question 14)
    - No central cooling system
    - Central air conditioning
    - Heat Pump
13. If you have any cooling system, how old is it?
    - 0 – 4 years
    - 5 – 9 years
    - 10 – 14 years
    - 15 – 19 years
    - 20 years or greater
14. Do you use room or window air conditioners?
    - Yes
    - No
15. How many room or window A/Cs?
    - 1
    - 2
    - 3
16. If you have a central heating and cooling system with air ducts, are any of these ducts located in the attic?
    - Yes
    - No
    - Not applicable

Duke Energy.

Residential Energy Assessments

17. What is your thermostat setting for a typical heating day and a typical cooling day in the afternoon?

Heating
- ⬭ <67 °
- ⬭ 67 – 70 °F
- ⬭ 71 – 73 °F
- ⬭ 74 – 77 °F
- ⬭ > 77 °F
- ⬭ Thermostat off/ No thermostat

Cooling
- ⬭ <69 °
- ⬭ 69 – 72 °F
- ⬭ 73 – 76 °F
- ⬭ 77 – 78 °F
- ⬭ > 78 °F
- ⬭ Thermostat off/ No thermostat

18. Do you have any of the following comfort issues in your home?

a. *Cold drafts in the winter*
- ⬭ Yes
- ⬭ No

b. *Sweaty windows in the winter*
- ⬭ Yes
- ⬭ No

c. *Cooling system will not keep the home comfortable*
- ⬭ Yes
- ⬭ No

d. *Heating system will not keep the home comfortable*
- ⬭ Yes
- ⬭ No

e. *Uneven temperatures between rooms*
- ⬭ Yes
- ⬭ No

19. How many people live in your home?
- ⬭ 1
- ⬭ 2
- ⬭ 3
- ⬭ 4
- ⬭ 5
- ⬭ 6
- ⬭ 7 or more

20. Do you own or rent this home?
- ⬭ Own
- ⬭ Rent

21. What fuel is used by your water heater?
- ⬭ Electric
- ⬭ Natural Gas
- ⬭ Propane
- ⬭ Other
- ⬭ None

22. What is the age of your water heater?
- ⬭ 0 – 4 years
- ⬭ 5 – 9 years
- ⬭ 10 – 14 years
- ⬭ 15 – 19 years
- ⬭ 20 years or greater

23. What type of fuel do you use for clothes drying?
- ⬭ Electric
- ⬭ Natural Gas
- ⬭ Other
- ⬭ None

24. What type of fuel do you use for your cook top?
- ⬭ Electric
- ⬭ Natural Gas
- ⬭ Other
- ⬭ None

25. What type of fuel do you use for your oven?
- ⬭ Electric
- ⬭ Natural Gas
- ⬭ Other
- ⬭ None

26. a. Do you have a swimming pool?
- ⬭ Yes
- ⬭ No

b. *Do you have a pool heater?*
- ⬭ Yes
- ⬭ No

c. *What type of fuel do you use to heat your pool?*
- ⬭ Electric
- ⬭ Natural Gas
- ⬭ Oil
- ⬭ Propane
- ⬭ Not applicable

27. a. Do you have a hot tub?
- ⬭ Yes
- ⬭ No

b. *What type of fuel do you use to heat your hot tub?*
- ⬭ Electric
- ⬭ Natural Gas
- ⬭ Oil
- ⬭ Propane

28. Would a two degree increase in your home's indoor temperature during summer weekday afternoons affect your family's comfort?
- ⬭ Not at all
- ⬭ A small impact
- ⬭ A moderate impact
- ⬭ A large impact

29. Are you planning to make any large purchases to improve the energy efficiency of your home within the next three years?
- ⬭ Yes
- ⬭ No
- ⬭ Not sure

30. How many CFLs* do you have installed in your home?

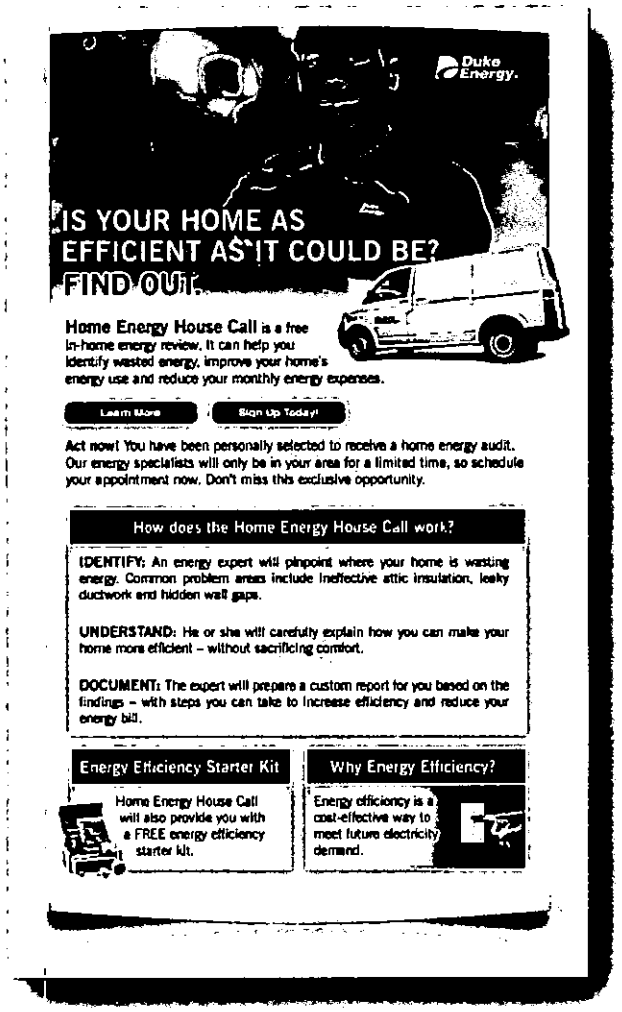
* 0 0 0 0 0 0 1 *

31. Please print your email address in the boxes below:

*compact fluorescent light bulbs

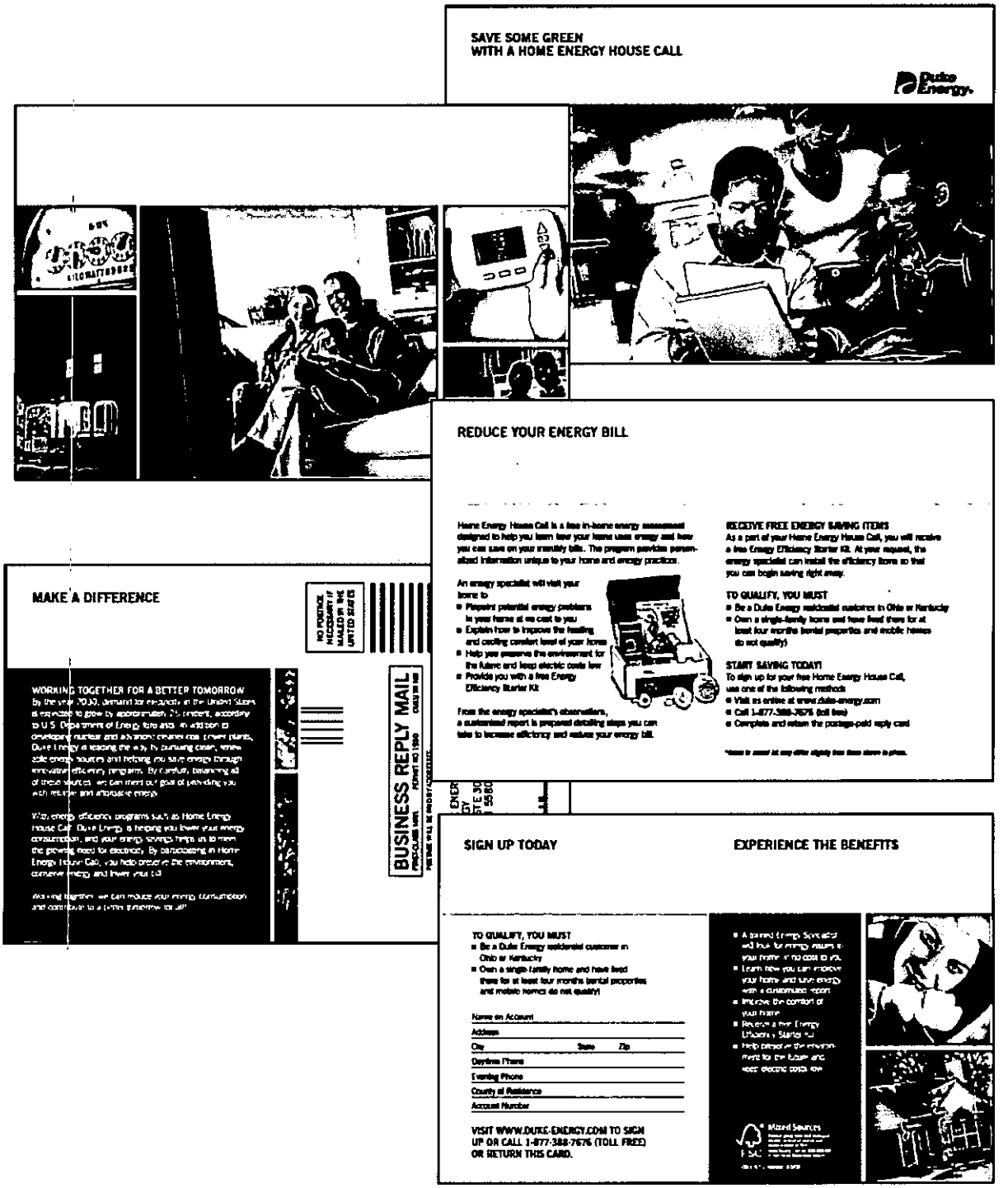
Residential Energy Assessments

Home Energy House Call E-mail Message



Residential Energy Assessments

Home Energy House Call Direct Mail Message



Residential Energy Assessments

Home Energy House Call Onsite Report

Customer Name _____

State _____ Account # _____ Date _____ Home Size _____

1. Home shell insulation. Home insulation helps keep heated or air conditioned air from getting out of your home. Your home insulation needs: a) none, b) attic, c) wall cavity, d) basement wall insulation, e) floor insulation or insulation around the perimeter of the crawl space.

2. Home shell air tightness. Air leaks in your home allow conditioned air to escape and outside air to invade your home. Your home sealing needs: a) none, b) seal leaky windows c) seal leaky doors, d) seal leaky fireplace, e) seal leaky attic access, f) seal leaky plumbing, electrical, ceiling lights or other openings in shell, g) a major source of outside air infiltration was discovered and should be sealed.

3. Duct insulation. If your heating/cooling duct system is outside of your home's heated or cooled space, the ducts need to be well insulated to R-19. Your duct insulation needs: a) no action, b) attic duct insulation, c) garage duct insulation, d) crawl space or basement ducts or insulate perimeter walls and seal space.

4. Duct air tightness. Heating and cooling duct systems should be relatively airtight, especially if the duct system is not located in your home's heated or cooled space. Your duct sealing needs: a) no action b) attic ducts sealed, c) garage ducts sealed, d) a major duct repair is needed to seal your system.

5. Heat pump condition. An electric heat pump is very energy efficient. Your heat pump appears to be: a) high efficiency, b) an acceptable age and working, c) could not test heat pump to see if it is working, d) appears to be an acceptable age but may need to be serviced, e) appears to be old or you have no heat pump now. Installing a new heat pump will give you significant energy savings.

6. Furnace filter. A dirty furnace filter can reduce your heating and cooling efficiency. Your furnace filter: a) appears acceptable, b) needs attention. (Needs cleaned or replaced or the filter area needs repair.)

7. Crawl space vents. Your crawl space or basement vents should be closed during the winter heating season. Your home: a) has no crawl space, no crawl space vents or vents are always closed, b) consider closing vents in summer, c) close vents in winter, d) a significant crawl space or basement sealing repair is needed.

8. Summer window shading. Air conditioning costs can double if direct sunlight is not blocked. When air conditioning is on: a) window coverings are usually fully drawn or you have no air conditioning, b) window shades half drawn, c) shading rarely used, d) significant east/west, un-shaded solar exposure.

9. Furnace fan run time. Running your furnace fan all the time may increase your comfort, but it also adds to your electric bill. Your furnace fan is: a) you have no central fan b) ECM fan, c) always set to "auto" (cycling off and on) d) set to "auto" half the time and "on" half the time, e) always set to "on".

10. Hot water. Do not overheat your water. Today's laundry detergents allow for energy savings by using cold water for the wash and rinse cycles in your clothes washer. For your laundry: a) reduce your water heater temperature to 120 degrees, b) all washing and rinsing is in cold water, c) change wash loads from hot to warm or cold, d) change rinse loads from hot to cold.

11. Extra refrigerator. If your second refrigerator is not needed in all seasons, unplugging it or removing it will save you energy and money. In your home: a) you have only one refrigerator, b) consider unplugging your extra refrigerator.

080097 – Revised 10/08

If you have questions about this report, please call 1-877-388-7676

Residential Smart $aver

A. Description

The Residential Smart $aver® Energy Efficiency Program offers a variety of measures that allow customers to take action and reduce energy consumption.

Compact Florescent Lamps Measure

The Compact Fluorescent Lamps (CFLs) measure is designed to increase the energy efficiency of residential customers by offering customers CFLs to install in high-use fixtures within their homes.

The CFLs are offered through multiple channels to eligible customers. The on-demand ordering platform enables eligible customers to request CFLs and have them shipped directly to their homes. Eligibility is based on past campaign participation (i.e. coupons, Business Reply Cards (BRCs) and other Duke Energy programs distributing CFLs). Bulbs are available in 3, 6, 8, 12 and 15-pack kits that have a mixture of 13 and 20-watt bulbs. The maximum number of bulbs available for each customer is 15, but customers may choose to order less.

Customers have the flexibility to order and track their shipment through three separate channels:

1) Telephone

   Customers may call a toll-free number to access the Interactive Voice Response (IVR) system, which provides prompts to facilitate the ordering process. Both English and Spanish-speaking customers may easily validate their account, determine their eligibility and place their CFL order over the phone.

2) Duke Energy Web Site

   Customers can go online to complete the ordering process. Eligibility requirements and frequently asked questions are also available.

3) Online Services (OLS)

   Customers enrolled in Duke Energy's Online Services are encouraged to order CFLs through the Duke Energy web site, if they are eligible.

The benefits of providing these three distinct channels include:

- Improved customer experience
- Advanced inventory management
- Simplified program coordination
- Enhanced reporting
- Increased program participation
- Reduced program costs

Property Manager Channel

The Property Manager channel allows Duke Energy to target multi-family apartment complexes to direct install CFLs. Honeywell is the vendor that manages distribution of CFLs via this channel and partners with North Carolina and South Carolina property managers to enroll multi-family properties.

Residential Smart $aver

This channel allows property managers to upgrade lighting with CFLs, reducing maintenance costs while improving tenant satisfaction by lowering energy bills. Each apartment may qualify for up to 12 CFLS per unit depending on the size.

Once enrolled, the Property Manager identifies the number of permanent lighting fixtures available. Duke Energy provides the CFLs, but the Property Manager pays for all shipping costs. The CFLs are installed in permanent fixtures during routine maintenance visits. The Property Manager provides tracking for the number of bulbs installed. Honeywell validates this information and provides a report for each individual unit on the property.

A Property Manager CFL promo and landing page were developed for multi-family property managers to self-serve and educate property manager. A contract, installation worksheet and CFL frequently asked question sheet are available for download. Marketing collateral including information on CFL savings and safety are available in English and Spanish to further support the program.

Residential HVAC Measures

Installation of a high-efficiency heat pump or air conditioner will result in a $300 incentive. Wisconsin Energy Conservation Corporation (WECC) administers the program and establishes relationships with home builders and HVAC contractors ("trade allies") who interface directly with residential customers. These trade allies adhere to program requirements and submit the incentive application. Once the application is processed, WECC disburses the incentive funds. For replacement of an existing system, a Duke Energy customer receives $200 and the HVAC contractor receives the remaining $100. For new home construction, the home builder receives the full $300 incentive but has the option to pass the incentive on to the customer.

CustomerLink handles calls from trade allies and customers about the program.

Audience

Duke Energy served homeowners currently residing or building a single family residence, condominium, duplex or mobile home are eligible for this program.

B &C. Impacts, Participants and Expenses

Residential Smart Saver[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
North Carolina Nominal Avoided Cost	$23.5	$97.1	413%
Program Cost[2]	$6.4	$23.1	363%
MW[3]	11.8	39.7	336%
MWH	86,194.5	367,072.4	426%
Units		7,602,685	

Notes on Table:

1) Numbers rounded.

2) As filed program costs do not include M&V. Actual costs may include M&V.

3) As filed MW are annual maximum peak. We track coincident peak for impacts.

Residential Smart $aver

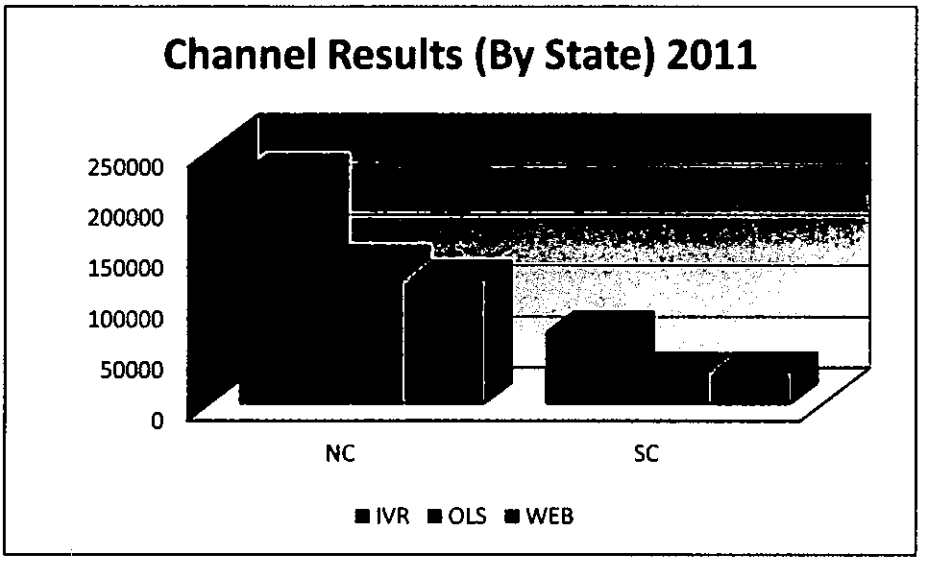
D. Qualitative Analysis

CFL

Highlights

Many customers have participated in the CFL program by ordering bulbs through the IVR, OLS and the website. Customers find this process simple and enjoy the convenience of bulbs being shipped directly to their home. Over 604,000 orders were placed between January and December. Participation is tracked to the customer level which allows Duke Energy to focus attention and resources on non-program participants.

Below is a chart showing the number of orders placed through the various channels:



Issues

Analyzing customer data and finding ways to effectively market to non-participating customers.

Potential Changes

Innovative marketing campaigns and tactics will be utilized to improve awareness for hard-to-reach and late-adopter customers.

Duke Energy is considering expanding its lighting offer to include specialty bulbs, such as indoor recessed lights, candelabras, three-way bulbs and dimmable bulbs. Building on the insights and lessons learned from the current CFL promotion, Duke will determine best practices and go to market options to inform customers of the specialty bulb offer.

CFL offering via Property Manager

Highlights

Residential Smart $aver

The Property Manager channel was implemented in February 2011 and has been well received in the Carolinas. So far, 275 North Carolina and 85 South Carolina Property Managers are in the process of completing application forms and/or installing bulbs. Total CFL bulbs installed in the Carolinas is approximately 229,000 and 177,000 CFL bulbs currently requested in the pipeline.

Issues

During the summer months, many properties do not have the resources available to prioritize bulb installation. Higher unit turnover, air conditioner maintenance and repair require the maintenance crew's attention. Several properties requested an extension from 60 to 90 days for installation. Some properties deferred participation until after the summer months have passed.

Potential Changes

To minimize overages, Honeywell will begin subtracting ten percent of the bulbs ordered by Property Managers. Honeywell will also begin marketing to increase participation and educate apartment associations about the program. Marketing strategy will include phone solicitation, apartment association functions/networking, onsite meetings and presentations, email campaigns and trade shows.

Residential HVAC

Highlights

Duke Energy and WECC have formed strong relationships with valuable trade allies across the Carolinas. These partnerships help ensure application fulfillment and prompt payment of incentives, as well as maintain top-of-mind awareness of the program and its benefits.

Issues

There are no current issues associated with this program.

Potential Changes

Complementary measures are being considered as an enhancement to the existing program including attic insulation and air sealing, duct insulation and sealing, and HVAC tune-ups. Additional monetary incentives will be offered to customers who choose to participate. Duke Energy plans to file for regulatory of these measures first quarter 2012.

Duke Energy completed a RFP and vendor selection process for the Residential HVAC Program. The transition to a new program administer, GoodCents, will occur during the first quarter of 2012.

Electronic submission of the incentive application is also under consideration to expedite fulfillment and payment disbursement.

E. Marketing Strategy

CFL

The overall strategy of the program is to reach residential customers who have not adopted CFL bulbs. Duke Energy will continue to educate customers on the benefits of CFLs while addressing barriers for consumers who have not participated in the program. Additionally, the ease of program participation will also be highlighted to encourage use of the on-demand ordering platform.

Residential Smart $aver

Direct mail responses provided over 37 percent of CFL orders placed in 2011. The individual response rates to the different campaigns have averaged almost 20 percent. Samples of the marketing collateral used for these campaigns are available in the appendix.

Honeywell markets to Carolina Property Managers through various channels including tradeshows, email and Apartment Association events. Additionally, Duke Energy maintains information on the My Duke website. Multi-family properties in the Carolinas see a promotional offer when they access the My Duke.

Residential HVAC

Promotion of the Smart $aver® program is primarily targeted to HVAC contractors and new home builders. Trade allies are important to the program success because they interface with the customer during the HVAC decision making event, which does not occur often for most customers.

WECC is responsible for promotion of the program directly to potential trade allies including HVAC contractors and new home builders. Program information and a trade ally enrollment forms are available on the website to encourage participation. By increasing the participation of trade allies, it ensures more customers are aware of the program at time of purchase.

F. Evaluation, Measurement and Verification

CFL

Tec Market Works (TMW), the third party evaluator, finalized the process and impact evaluation for the Residential Smart $aver® CFL Program in North Carolina and South Carolina on April 26, 2011. This report presented the findings of the program for Duke Energy from September 2009 through July 2010. Some of the findings from this report were:

- CFL coupons were the primary driver for participants to purchase CFLs, and more than 40 percent of coupon redeemers indicated that they would have purchased zero CFLs if the Duke Energy coupon had not been available.
- While CFL coupons drove spillover to more CFL purchases, the coupons had only a small effect on simultaneous purchases of other energy efficiency technologies such as insulation and weather stripping.
- Of the CFLs redeemed with coupons, 90 percent in North Carolina and 84 percent in South Carolina were reported to be installed and operating in sockets at the time of the survey.

The net savings per bulb from this evaluation is 43.87 kWh (including spillover) for North Carolina and South Carolina combined.

HVAC

Tec Market Works (TMW) finalized the process report for the 2009 Residential Smart $aver program on November 21, 2011. This included participants from June 2009 through December 2009. The report indicated the overall participant satisfaction with the program is high at 8.9 on a one-to-ten scale. Surveyed program participants cited general advertising and increased incentives as the two most effective ways to increase participation in the Residential Smart $aver® program.

The trade allies indicated in interviews for the report they would like to have the residential program application process available using a Web browser. This would make the program operate more smoothly for both Duke Energy staff and the Residential Smart $aver® partner trade allies.

On January 31, 2012, TMW finalized the impact report for the program. The evaluation covers participants in the program from 2009 through 2010.TMW also prepared engineering estimates for program participants. The billing analysis included a near census of participants, as shown below:

Residential Smart $aver

Program	Impact Type	Participation Count for 2009-2010
Residential Smart Saver – Carolinas	Engineering	19,342
Residential Smart Saver – Carolinas	Billing	18,259

The net energy savings for air conditioners was 602 kWh and for heat pumps was 723 kWh.

Residential Smart $aver

G. Appendix

CFL – Email Message

See if you qualify for **FREE** light bulbs.

CHECK YOUR STATUS

You may be eligible for FREE light bulbs.
Check your status today!

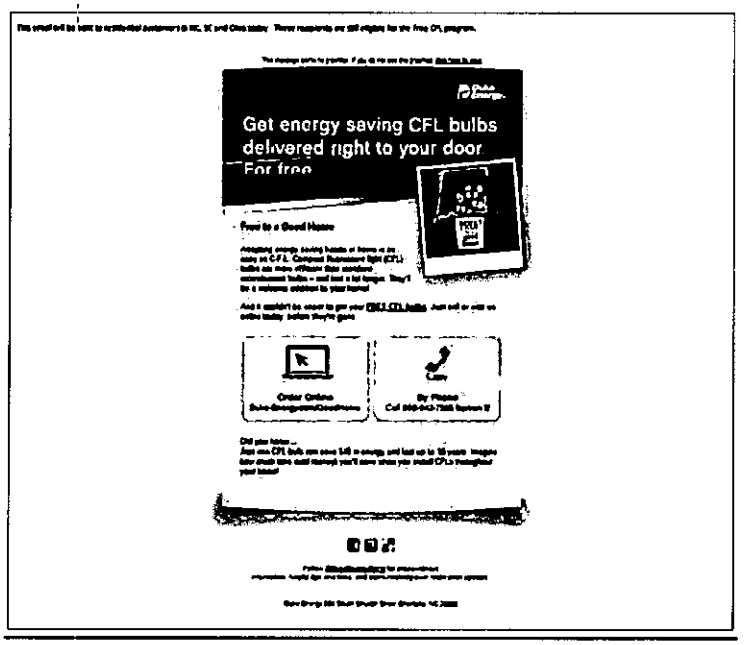
One of the easiest ways to lower your energy bill is to replace your standard light bulbs with compact fluorescent light (CFL) bulbs.

They'll save you money
CFLs provide the same amount of light as an ordinary bulb, but use about 75 percent less energy. Learn more.

CFLs are safe
Yes, CFLs contain a very small amount of mercury – just enough to cover the tip of a ballpoint pen. But that's only about 1 percent of the amount of mercury in older thermometers. Learn more.

The light looks great
Today's CFLs come in a wide range of colors – from soft white to daylight – to match your lighting needs. Learn more.

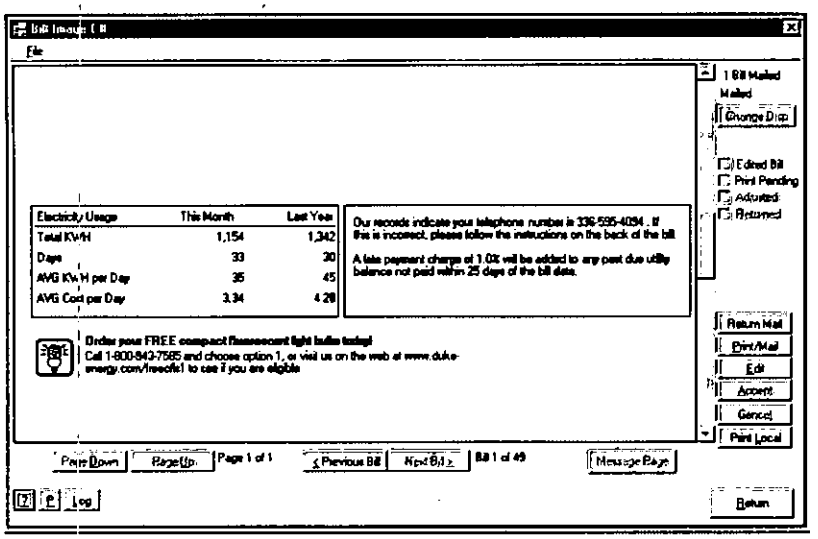
Check out the Top Five CFL Myths – BUSTED and claim your FREE CFLs today!



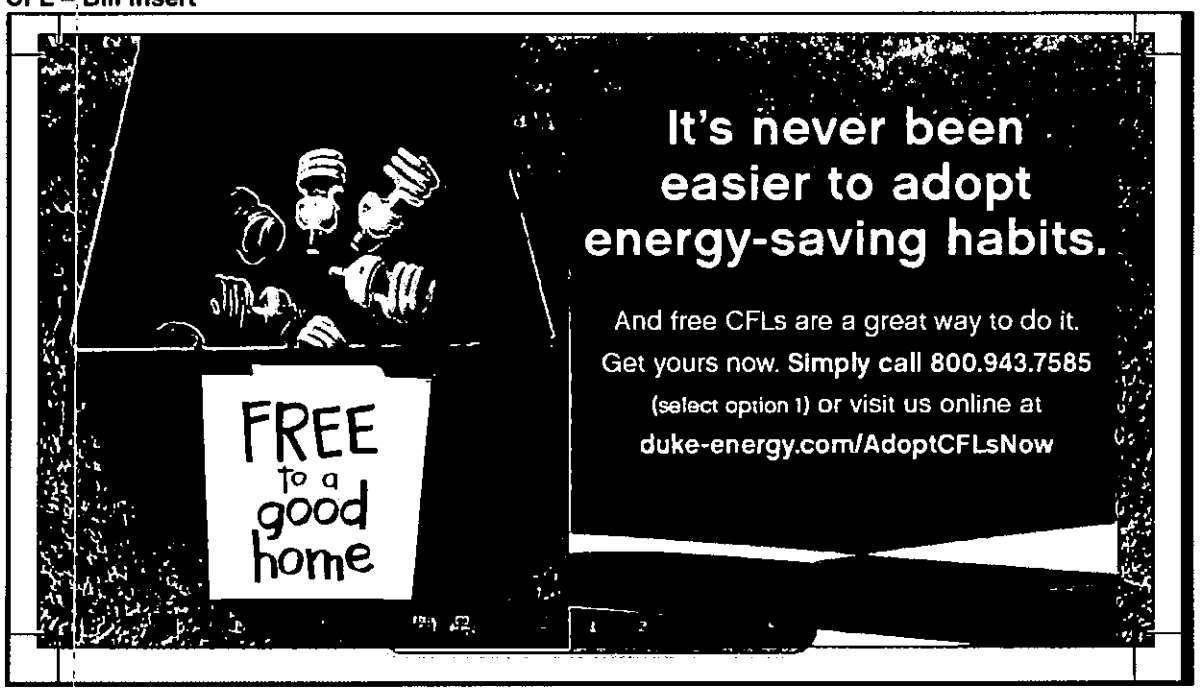
Get energy saving CFL bulbs delivered right to your door
For free

Residential Smart $aver

CFL – Bill Message

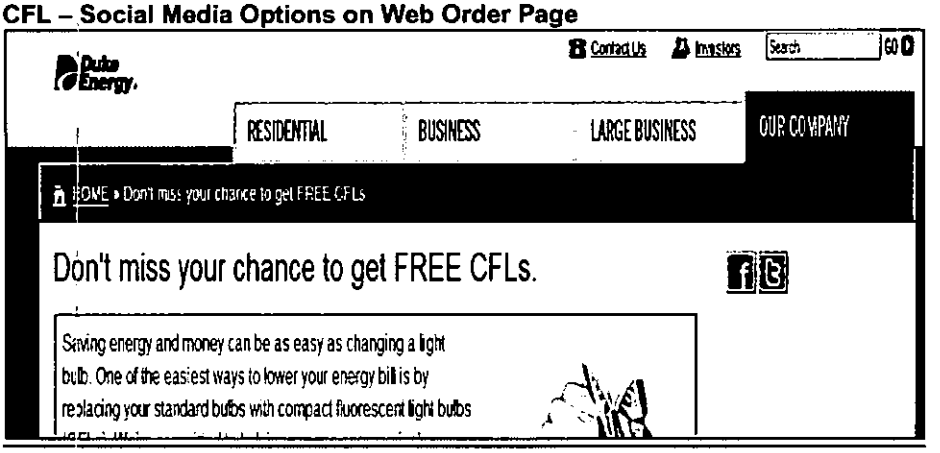


CFL – Bill Insert

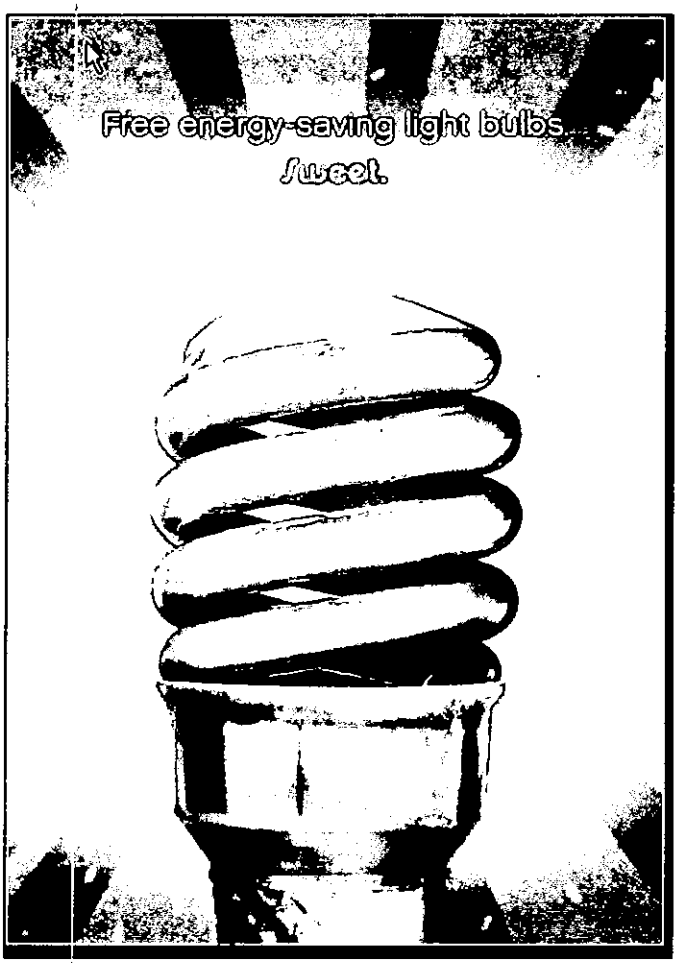


Residential Smart $aver

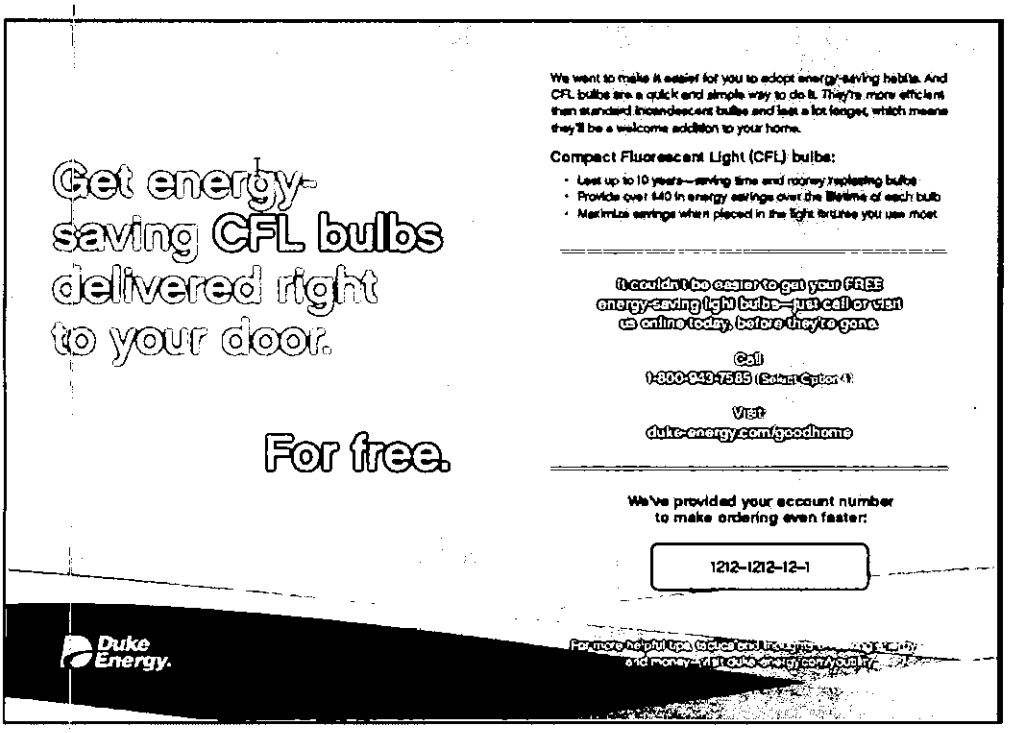
CFL – Social Media Options on Web Order Page



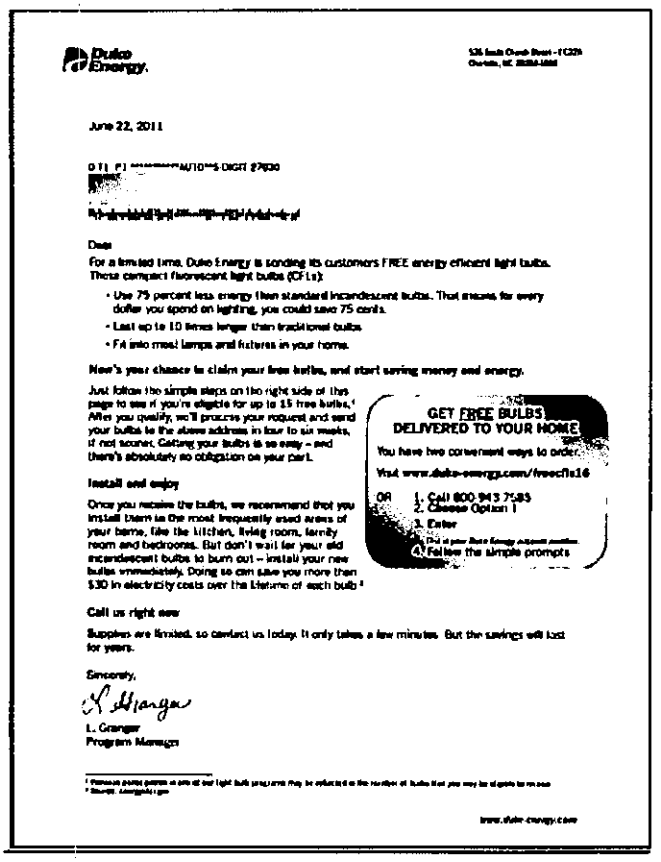
CFL – Direct Mail Campaign Targeting New Customers



Residential Smart $aver



Residential Smart $aver



Duke Energy.

June 22, 2011

Dear

For a limited time, Duke Energy is sending its customers FREE energy efficient light bulbs. These compact fluorescent light bulbs (CFLs):

- Use 75 percent less energy than standard incandescent bulbs. That means for every dollar you spend on lighting, you could save 75 cents.
- Last up to 10 times longer than traditional bulbs.
- Fit into most lamps and fixtures in your home.

Now's your chance to claim your free bulbs, and start saving money and energy.

Just follow the simple steps on the right side of this page to see if you're eligible for up to 15 free bulbs.[1] After you qualify, we'll process your request and send your bulbs to the above address in four to six weeks, if not sooner. Getting your bulbs is so easy – and there's absolutely no obligation on your part.

GET FREE BULBS DELIVERED TO YOUR HOME

You have two convenient ways to order.

Visit www.duke-energy.com/freecfls16

OR
1. Call 800-943-7585
2. Choose Option 1
3. Enter
4. Follow the simple prompts

Install and enjoy

Once you receive the bulbs, we recommend that you install them in the most frequently used areas of your home, like the kitchen, living room, family room and bedrooms. But don't wait for your old incandescent bulbs to burn out – install your new bulbs immediately. Doing so can save you more than $30 in electricity costs over the lifetime of each bulb.[2]

Call us right away

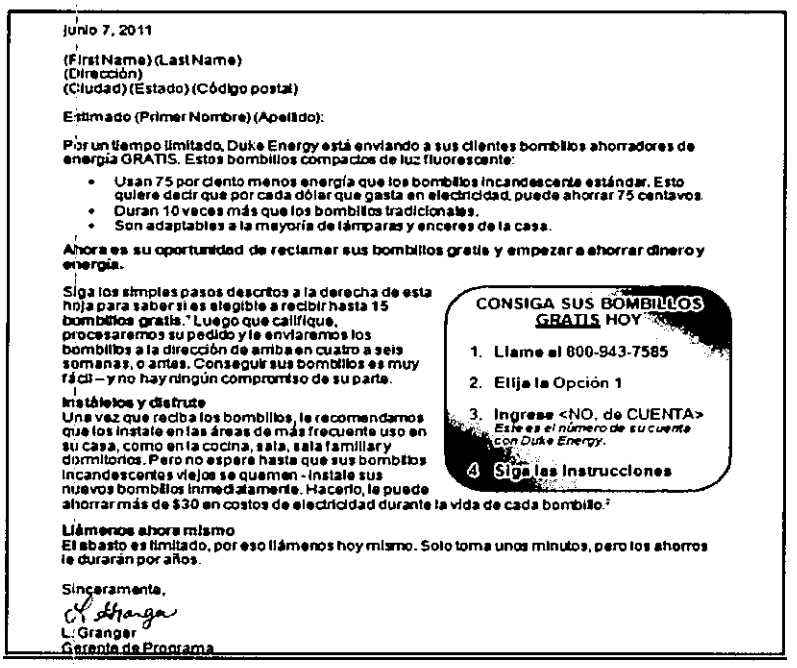
Supplies are limited, so contact us today. It only takes a few minutes. But the savings will last for years.

Sincerely,

L. Granger
Program Manager

www.duke-energy.com

CFL– Direct Mail Campaign Targeting Spanish-Speaking Customers



Junio 7, 2011

(FirstName) (LastName)
(Dirección)
(Ciudad) (Estado) (Código postal)

Estimado (Primer Nombre) (Apellido):

Por un tiempo limitado, Duke Energy está enviando a sus clientes bombillos ahorradores de energía GRATIS. Estos bombillos compactos de luz fluorescente:

- Usan 75 por ciento menos energía que los bombillos incandescente estándar. Esto quiere decir que por cada dólar que gasta en electricidad, puede ahorrar 75 centavos.
- Duran 10 veces más que los bombillos tradicionales.
- Son adaptables a la mayoría de lámparas y enceres de la casa.

Ahora es su oportunidad de reclamar sus bombillos gratis y empezar a ahorrar dinero y energía.

Siga los simples pasos descritos a la derecha de esta hoja para saber si es elegible a recibir hasta 15 bombillos gratis.[1] Luego que califique, procesaremos su pedido y le enviaremos los bombillos a la dirección de arriba en cuatro a seis semanas, o antes. Conseguir sus bombillos es muy fácil – y no hay ningún compromiso de su parte.

CONSIGA SUS BOMBILLOS GRATIS HOY

1. Llame al 800-943-7585
2. Elija la Opción 1
3. Ingrese <NO. de CUENTA>
   Este es el número de su cuenta con Duke Energy.
4. Siga las instrucciones

Instálelos y disfrute
Una vez que reciba los bombillos, le recomendamos que los instale en las áreas de más frecuente uso en su casa, como en la cocina, sala, sala familiar y dormitorios. Pero no espere hasta que sus bombillos incandescentes viejos se quemen - instale sus nuevos bombillos inmediatamente. Haciéndolo, le puede ahorrar más de $30 en costos de electricidad durante la vida de cada bombillo.[2]

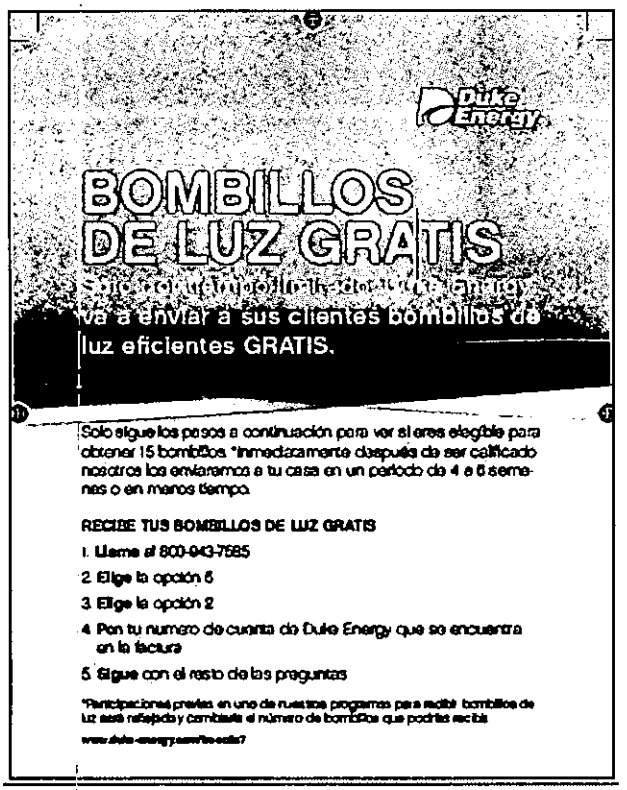
Llámenos ahora mismo
El abasto es limitado, por eso llámenos hoy mismo. Solo toma unos minutos, pero los ahorros le durarán por años.

Sinceramente,

L. Granger
Gerente de Programa

Residential Smart $aver

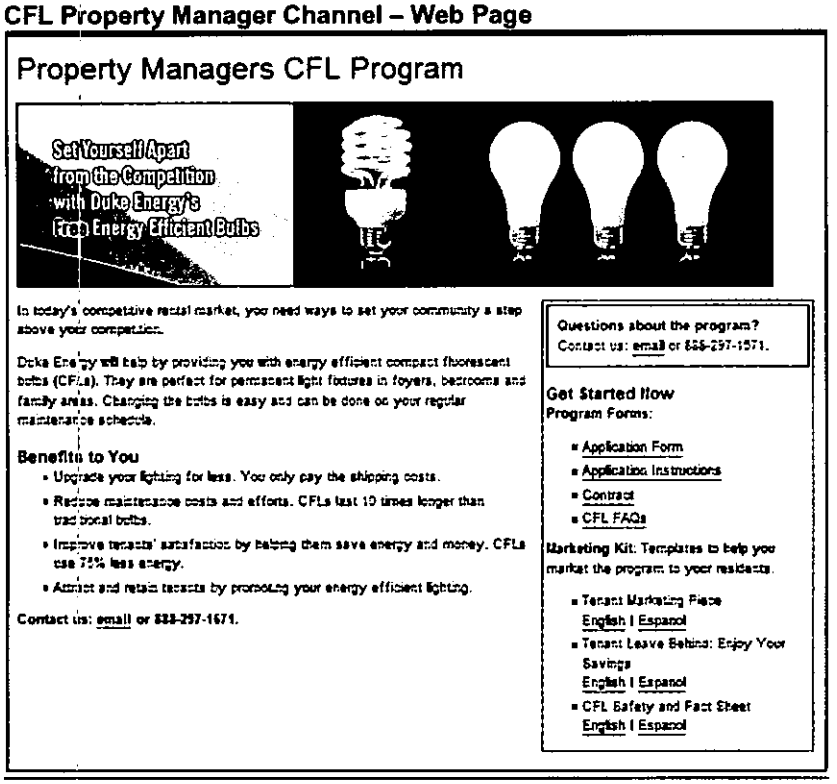
CFL – Newspaper Advertisements



CFL Property Manager Channel – State Landing Page Promotion

Residential Smart $aver

CFL Property Manager Channel – Web Page



Property Managers CFL Program

Set Yourself Apart from the Competition with Duke Energy's Free Energy Efficient Bulbs

In today's competitive rental market, you need ways to set your community a step above your competition.

Duke Energy will help by providing you with energy efficient compact fluorescent bulbs (CFLs). They are perfect for permanent light fixtures in foyers, bedrooms and family areas. Changing the bulbs is easy and can be done on your regular maintenance schedule.

Benefits to You

- Upgrade your lighting for less. You only pay the shipping costs.
- Reduce maintenance costs and efforts. CFLs last 10 times longer than traditional bulbs.
- Improve tenants' satisfaction by helping them save energy and money. CFLs use 75% less energy.
- Attract and retain tenants by promoting your energy efficient lighting.

Contact us: email or 888-297-1571.

Questions about the program?
Contact us: email or 888-297-1571.

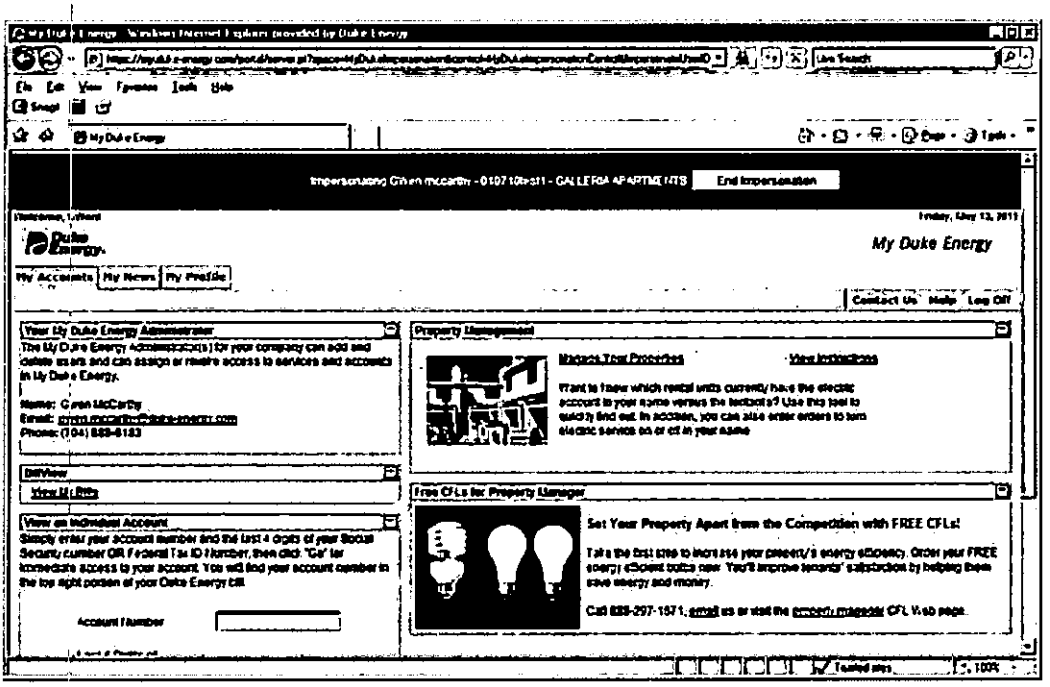
Get Started Now
Program Forms:

- Application Form
- Application Instructions
- Contract
- CFL FAQs

Marketing Kit: Templates to help you market the program to your residents.

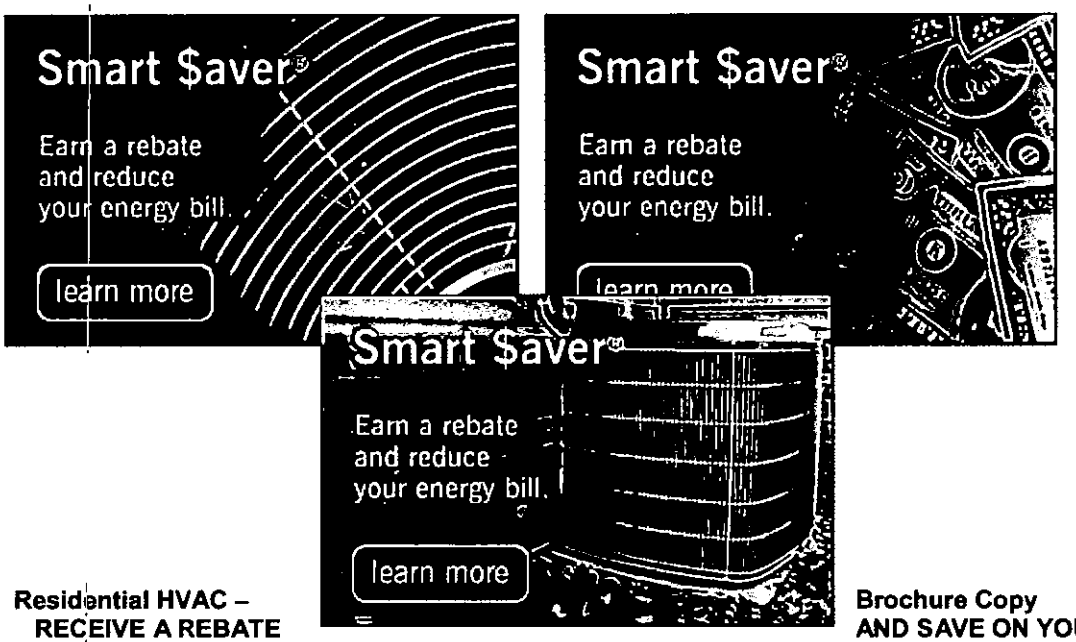
- Tenant Marketing Piece
  English | Espanol
- Tenant Leave Behind: Enjoy Your Savings
  English | Espanol
- CFL Safety and Fact Sheet
  English | Espanol

CFL Property Manager Channel – Duke Energy Portal Promotion



Residential Smart $aver

Residential HVAC – Online Services Promotions



Residential HVAC – Brochure Copy
RECEIVE A REBATE AND SAVE ON YOUR ENERGY BILL

SMART SAVER™ PROGRAM FOR EXISTING & NEW HOMES

Duke Energy encourages you to take advantage of our Smart Saver Program, which provides you an immediate rebate when you invest in a high efficiency heating or cooling system. And, with a high efficiency system, you'll experience savings on your home energy bills for years to come.

There are many new features in today's high efficiency heat pumps and air conditioners. This new technology will not only save you energy but it will also provide you greater comfort in your home.

By choosing a high efficiency system, you are helping to reduce our nation's need for energy, promote a clean environment and save valuable energy resources – now and in the future. You can find more information about Smart Saver, other energy efficiency programs, and ways to save energy and money at www.duke-energy.com/savings.

SMART SAVER REBATES*
You may qualify for a rebate in your existing home when you replace your heating and/or cooling system. New homes may also qualify when a new high efficiency heating and cooling system is selected. Choose a qualifying high efficiency air conditioner or heat pump listed in the chart below.

Type of high efficiency heating or cooling system	Rebate amount to customer in an existing home	Rebate amount to builder of a new home**
New 14 SEER or greater air conditioner with ECM fan	$200	$300
New 14 SEER or greater heat pump with ECM fan. Heat Pump HSPF must be an 8.2 or greater.	$200	$300
New 11.5 EER or greater geo thermal heat pump with ECM Fan	$200	$300

Residential Smart $aver

* Rebates are paid for each qualifying system if more than one system is used in the home.
** For new homes, rebates are made to the builder unless the builder agrees that the customer will receive the rebate.

SMART SAVER FREQUENTLY ASKED QUESTIONS

How do I qualify for the Smart Saver rebates?
Smart Saver rebates are available for Duke Energy customers who purchase a new high efficiency heat pump or air conditioner. Heat pumps and air conditioners must also be equipped with a high efficiency fan motor (ECM). The qualifying efficiencies are listed in the rebate table above.

Why should I consider spending more on a high efficiency system?
Your new air conditioner or heat pump is an important investment for your home. You can expect this new system to last about 15 years and many systems last even longer. Investing in more efficient technology now will help keep your energy bills lower for years to come.

What is a SEER or EER?
These are energy efficiency ratings to help consumers compare efficiency levels between all the available air conditioners and heat pumps. The higher the number, the less energy the system uses. The SEER or EER rating provided by your installer should be certified by the Air-Conditioning and Refrigeration Institute (ARI).

What is HSPF?
This is an energy efficiency rating for heat pumps. The higher the number, the less energy the system uses while heating your home.

What is an ECM fan?
Most all heating and cooling systems use a fan to distribute the heating or air conditioning to all the rooms in your home. This is also referred to as the blower. The type of fan motor should be considered in the total energy required to heat and cool your home, as it can be a considerable expense on your energy bill. Today's new efficient fan motors are referred to as "ECM", which stands for Electronically Commutative Motor. Many people simply refer to these new motors as a "variable speed fan" but the ECM specification is required. In addition to saving you money, this new technology is quieter than traditional fan motors and will increase your family's comfort in many ways. Ask your heating contractor for more details.

I do not have a heat pump now. Should I consider one?
Yes. When it's time to replace your central air conditioner, you can instead choose an add-on heat pump to significantly lower your monthly energy costs. In addition to providing energy efficient cooling in the summer, there is no heating technology that is more efficient than a heat pump during most winter temperatures. In a "dual-fuel" system, where an electric heat pump works in conjunction with a gas or oil furnace, the more efficient heat pump is used for 60% to 75% or more of your total heating load and your furnace is used only on the coldest days.

Low Income Energy Efficiency and Weatherization Assistance Program

A. Description

The purpose of the low income program is to assist low income customers with energy efficiency measures in their home to reduce energy usage. There are three separate offerings currently in the program: weatherization, refrigerator replacement, and the agency assistance kit.

Weatherization and Equipment Replacement Assistance is available for up to 5,000 qualified customers on the Duke Energy Carolinas' system in existing, individually metered, owner-occupied single-family, all-electric residences, condominiums, and mobile homes.

- Funds are available for (i.) weatherization measures, and/or (ii.) refrigerator replacement with an Energy Star appliance, and/or (iii.) heating system replacement with a 14 or greater SEER heat pump. The measures eligible for funding will be determined by an energy audit of the residence.
- A home energy audit will be provided at no charge to the customer.
- Participants are not eligible for payments under any other Duke Energy Carolinas Energy Efficiency Programs for the same energy efficiency measure provided under this program.

The weatherization and refrigerator replacement programs were not implemented in 2011. Duke Energy planned to work with the state administers from North Carolina and South Carolina to provide a utility offered weatherization program to eligibility customers. However, due to the distribution of American Recovery and Reinvestment Act (ARRA) in 2009, both North Carolina and South Carolina's state weatherization program administrators requested Duke Energy delay the utility offered weatherization and refrigerator replacement programs. Duke Energy is currently working with contacts from the state administrator's office for North Carolina and South Carolinas to implement a utility offered program.

Duke Energy, in partnership with local assistance agencies, offered the Agency Assistance Kit (also known as low income CFL) program to low income customers. Program participants completed an energy efficiency survey and were mailed 12 free compact fluorescent light bulbs (CFLs). For their assistance in helping customers complete the survey, agencies received monetary compensation for each survey completed.

Audience

Weatherization and Refrigerator Replacement

Availability of this program will be coordinated through local agencies that administer state weatherization programs, and the agency must certify that the household income of the participant is between 150% and 200% of the federal poverty level.

Agency Assistance Kit

Duke Energy customers seeking assistance from participating agencies are eligible for this program.

Low Income Energy Efficiency and Weatherization Assistance Program

B &C. Impacts, Participants and Expenses

Low Income Energy Efficiency and Weatherization Assistance[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
North Carolina Nominal Avoided Cost	$9.3	$0.1	0%
Program Cost[2]	$3.9	$0.0	0%
MW[3]	4.8	0.1	0%
MWH	35,890.5	488.5	0%
Units		915	

Notes on Table:

1) Numbers rounded.

2) As filed program costs do not include M&V. Actual costs may include M&V.

3) As filed MW are annual maximum peak. We track coincident peak for impacts.

D. Qualitative Analysis

Highlights

The Smart $aver® program offers CFLs to all residential customers in North Carolina and South Carolina through the automated Interactive Voice Response (IVR)/Web platform. The number of income qualified program participants in Smart $aver® CFL program far exceeds the participation rate in the Agency Assistance Kit program results from past years.

The Smart $aver® program reached a much larger audience of low income eligible customers. Local agencies now receive CFL postcards which provide information on the free CFL offer and instructions on how to place orders. An example of this postcard is available in the appendix.

Issues

The Agency Assistance Kit program continues to see activity as Duke Energy receives returned mail and participation requests. The twelve-month financials featured above are reflective of delayed activity.

Both North Carolina and South Carolina received extensions to continue funding the state's weatherization program with ARRA funding. Duke Energy is currently in discussions with North Carolina and South Carolina state administrators to define a plan for a utility offered weatherization program that supports the state's weatherization program in the ARRA ramp down environment.

Potential Changes

In addition, Duke Energy is evaluating potential program changes to the approved weatherization and refrigerator replacement programs. The changes would be implemented to align with the state offered weatherization program for both North Carolina and South Carolina.

Low Income Energy Efficiency and Weatherization Assistance Program

E. Marketing Strategy

Low income agencies receive a supply of post cards to distribute to Duke Energy customers. The post cards explain how to utilize the phone or web to have CFLs delivered directly to their home. A sample of the post card is updated in the appendix.

F. Evaluation, Measurement and Verification

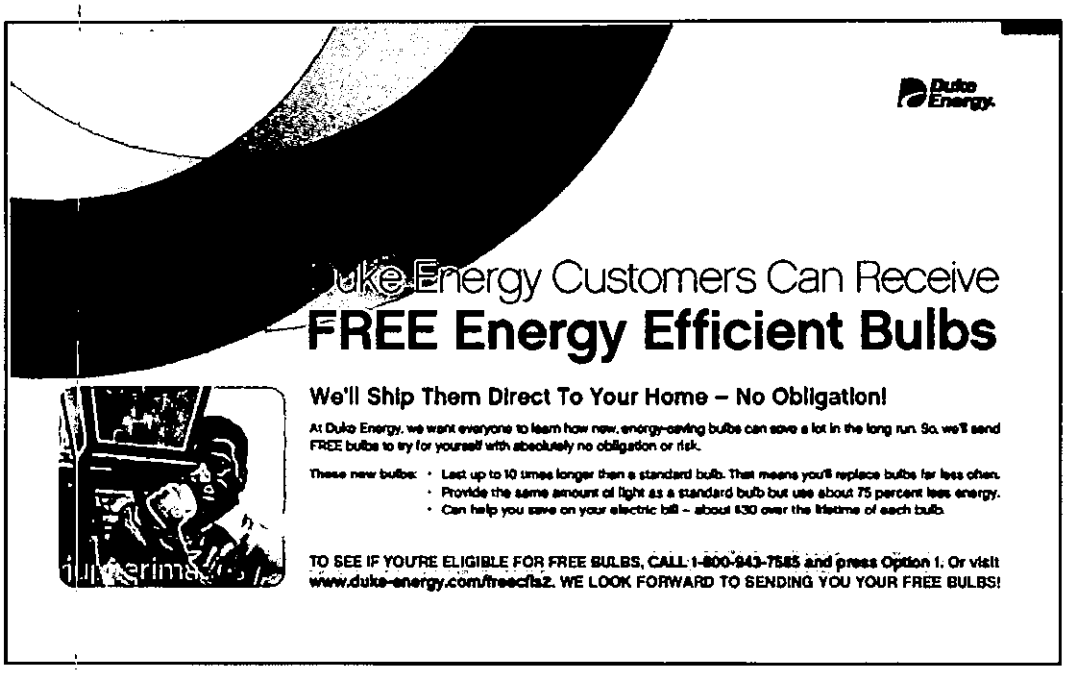
The final 2010 Process Evaluation Report for the Low Income CFL program was completed on September 20, 2010. The results of the report were shared with the Carolinas Collaborative in the 2011 second quarter collaborative meeting.

The Low Income Energy Efficiency and Weatherization Assistance Program evaluation plan is contingent on details and approval for a new program design.

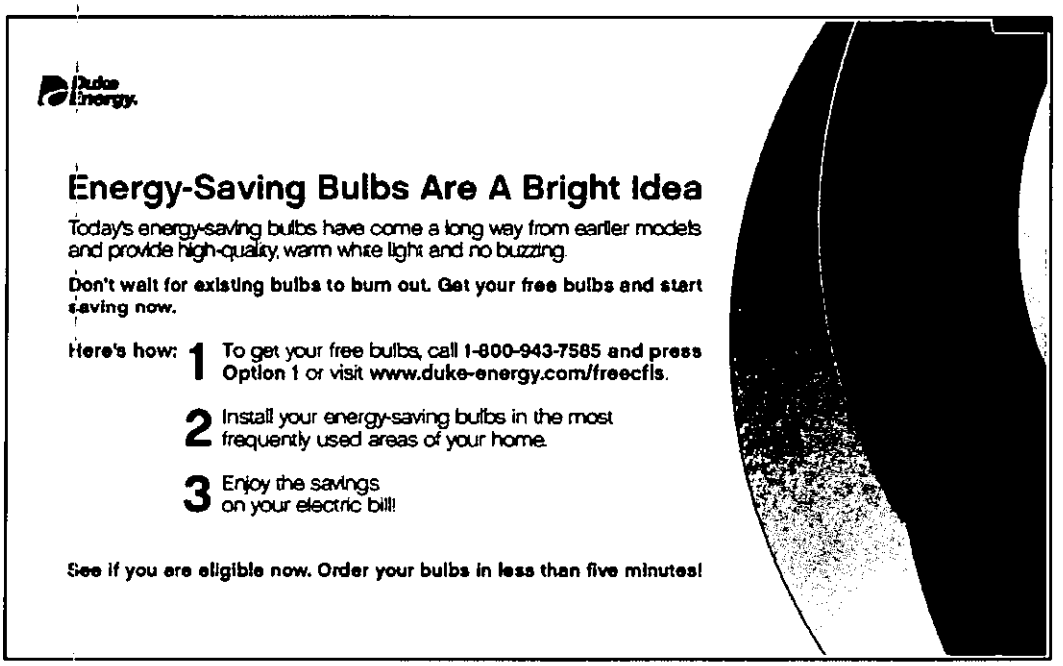
Low Income Energy Efficiency and Weatherization Assistance Program

Appendix

CFL Agency Card (Front)



CFL Agency Card (Back)



Energy Efficiency Education Program

A. Description

The Energy Efficiency Education program is an energy conservation program available in North Carolina and South Carolina. The Energy Efficiency Education Program is available to K-12 students enrolled in public and private schools who reside in households served by Duke Energy Carolinas.

The program educates students on energy efficiency in homes and schools through innovative lessons based upon science and math related curriculum. Education materials focus on concepts, such as renewable fuels and energy conservation and include interactive activities, such as online home audits that engage families in the learning experience. Students may also assist in such assignments as conducting energy assessments of their schools.

School principals are our main point of contact and will schedule the performance at their convenience for the entire school. Once the principal has confirmed the performance date and time, two weeks prior to the performance, all materials are delivered to the principal's attention for distribution. Materials include school posters, teacher guides, and classroom and family activity books.

The Energy Efficiency Education Program for Schools provides principals and teachers with innovative curriculum that educate students about energy, electricity, ways energy is wasted and how to use our resources wisely. Education materials focus on concepts such as energy, renewable fuels, and energy conservation through classroom and take home assignments, enhanced with a live 25 minute theatrical production performed by two professional actors. The current program is developed to educate students - kindergarten through eighth grade.

Students are encouraged to complete a home energy survey with their family (found in their activity book), so they can receive an Energy Efficiency Starter Kit that contains specific energy efficiency measures to reduce home energy consumption.

Duke Energy partnered with a third party vendor, The National Theatre for Children to administer the program.

Audience

Eligible participants include Duke Energy residential customers who reside in households with school-age children enrolled in public and private schools.

B &C. Impacts, Participants and Expenses

Energy Efficiency Education Program for Schools[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
North Carolina Nominal Avoided Cost	$17.7	$0.7	4%
Program Cost[2]	$5.7	$0.8	14%
MW[3]	10.6	0.3	2%
MWH	58,794.2	1,411.9	2%
Units		6,383	

Notes on Table:

1) Numbers rounded.

2) As filed program costs do not include M&V. Actual costs may include M&V.

3) As filed MW are annual maximum peak. We track coincident peak for impacts.

Energy Efficiency Education Program

D. Qualitative Analysis

Highlights

Duke Energy used a RFP to select a new program administrator for the Energy Efficiency Education Program. The National Theatre for Children (NTC) was selected to be the new program administer.

Key learnings from past program operations have been shared with NTC. An example of a key learning includes the ability to successful key decision makers. We have found in prior experience reaching the key decision maker has always been a challenge. With our new delivery approach, contacting the principal has been a success. The principal is the one responsible for setting up all school assemblies; therefore we have taken the ownership off of the teacher and provide supplemental material to assist their educational curriculum.

Duke Energy is helping bring arts and theatre back into the school while providing an important message about energy efficiency through a new innovative delivery channel for children. Enhancing the message with a live theatrical production has truly captivities the children's attention and reinforces the curriculum material provided to the teachers.

The NTC has an extremely sophisticated scheduling tool for mapping routes and can easily overcome scheduling conflicts facing schools. Therefore scheduling performances at the school's convenience verses when we may be in their area. The National Theatre for Children has a database filled with principal and teacher information and has the ability to overlay the Duke Energy territory to determine the highest propensity of Duke Energy customers.

Through the performance, we are encouraging students to go online, receive their Energy Efficiency Starter Kit and help save the world. With this message to students, we have seen an outstanding online response rate for survey completions. In our previous program with Scholastic, we saw a 2 percent online survey completion rate and with our new program, we have achieved a dramatic jump to 88 percent online survey completion rate.

Issues

The National Theatre for Children will need to overcome several program challenges including:

- Strategic acquisition approach is required to minimize non-Duke student participation in the program.
- As awareness grows, schools outside of the Duke Energy service territory may begin to request performances.
- Students who participate in the performance need to complete their Energy Efficiency Survey before eligible to receive their Energy Efficiency Starter Kit.
- Reputation alone will not ensure program acceptance.
- Publicity and media coverage can always become a liability.

Potential Changes

The National Theatre for Children has been the program administrator since October 2011. NTC is working closely with Duke Energy to enhance the program by

- Partnering with Duke Energy Account/District Managers to leverage existing relationships for additional acquisition channel.
- Leveraging give-a-aways to stir additional excitement in the schools/classrooms.
- Developing an alternative kit for those customers who have already participated in the Energy Efficiency Education Program.
- Enhancing all data processing methods.

Energy Efficiency Education Program

As the program evolves in 2012, there will be additional enhancements to be made and improve the customer's experience when participating in the Energy Efficiency Education Program.

E. Marketing Strategy

Scholastic utilized direct mail of curriculum kits to teachers, administrators and curriculum directors as the primary acquisition method for the program. The kit mailings were supported by in person meetings from Scholastic field representatives and electronic communication to encourage adoption.

The new program administrator, The National Theatre for Children (NTC), is responsible for all marketing campaigns and outreach. The National Theatre for Children utilizes direct mail and email for program acquisition sent directly to principals.

F. Evaluation Measurement and Verification

TecMarket Works, the third-party evaluator, finalized the process and impact report for the Energy Efficiency Education Program on November 17, 2011. This report provided an overview of the key findings of this program for the time period of June 2009 through April 2010. For this time period, Duke Energy provided 8,385 kits to program participants in North Carolina and South Carolina.

The evaluation plan included interviews with teachers, student families, program managers, and Scholastic program administrators for the process report. The evaluators experienced challenges when attempting to contact student families for interviews. Business Reply Cards (BRCs) were included with kits in order to capture impact data, but the evaluation indicated response rates could be improved. The evaluator pointed out that a 50 percent return rate of the BRCs should have easily been achieved and also recommended continuing to explore new program operations, enrollment, and marketing strategies. Per participant annual gross savings of 249.2 kWh and net savings of 205.2 kWh per participant were reported in the impact section of this report. The line loss factor is 8 percent; therefore approximately 221.4 kWh per participant is used to calculate Vintage 2 energy savings.

As a result of the change in the program administrator from Scholastic to the National Theater Company for this program, TecMarket Works modified future EM&V schedules. The first steps in the next EM&V review cycle will be for the independent evaluator to observe an NRC presentation in a school setting and to develop new survey instruments for the 2012 process evaluation.

Power Manager®

A. Description

Power Manager is a demand response program that cycles residential central air conditioning usage during summer peak demand conditions. Duke Energy installs a load cycling device to the outdoor unit of a qualifying air conditioner. This enables the customer's air conditioner to be cycled off and on when Duke Energy's supply position is at risk and the marginal cost to produce energy is high. In addition, Duke Energy could interrupt participating customers' air conditioning systems at any time the Company has capacity problems, including generation, transmission, or distribution capacity problems or reactive power problems.

Customers receive financial incentives for participating in this program. The customer receives an $8 per month bill credit ($32 annually) from July through October for their program participation.

The cycling of the customer's air-conditioning system has shown that there is no adverse impact on the operation of the air-conditioning system. The load control device has built-in safe guards to prevent the "short cycling" of the air-conditioning system. The air-conditioning system will always run the minimum amount of time required by the manufacturer. The cycling simply causes the air-conditioning system to run less, which is no different from what it does on milder days. Additionally, the indoor fan will continue to run and circulate air during the cycling event.

Audience

This program is available to North Carolina and South Carolina residential customers residing in owner-occupied, single-family residences with a qualifying outdoor central air conditioning unit.

B & C. Impacts, Participants and Expenses

PowerManager[1]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
Nominal Avoided Cost	$17.9	$16.6	93%
Program Cost[2]	$6.4	$14.5	227%
MW[3]	244.4	226.0	92%
MWH	N/A	N/A	
Units		193,905	

Notes on Tables:

1) Numbers rounded.

2) As filed program costs do not include M&V. Actual costs may include M&V.

3) MW capability derived by taking average over PowerManager contract period.

D. Qualitative Analysis

Power Manager Events through September 30, 2011

There were seven Power Manager cycling events in 2011. During these events, Duke Energy cycled customers' air conditioning units off and on, helping shift demand and lower the afternoon peak.

- June 21
- July 11, 13, 20, 21, 29
- August 2

Power Manager®

In addition to these cycling events, Duke Energy conducted two full shed tests in the summer of 2011. The first of these was a brief test conducted on May 31 in preparation of the summer season to ensure processes and systems were working as designed. A longer (approximately one hour) second test was conducted on August 25 to observe the program impacts. Unlike a Power Manager cycling event where Duke Energy cycles customers' air conditioning units off and on, a full shed event prevents participants' units from running throughout the duration of the event. A full-shed event would only occur during a system emergency when Duke Energy is experiencing capacity problems (these include generation, transmission or distribution).

Ongoing Power Manager Device Improvements

Duke Energy, through its contract partner GoodCents, is conducting a multi-year project to replace outdated and non-functioning Power Manager devices to improve the reliability of the demand response events.

Power Manager $35 Installation Fee

Currently the Power Manager tariffs in both North Carolina and South Carolina include a $35 installation fee to be paid by customers enrolling in the program if wiring for the program is not present at their home. Duke Energy began actively marketing Power Manager in South Carolina in 2009, but response rates were low. A study was conducted to determine drivers of the low response rate why and what might be done to overcome barriers to enrollment. The largest barrier for customers was the $35 installation fee.

Duke Energy plans to seek regulatory approval to remove the $35 customer cost first quarter of 2012.

E. Marketing Strategy

Following approval of the elimination of the $35 installation fee, direct mail and email marketing is planned to acquire new customers for the program. Customers will be targeted geographically, which will allow for shorter customer wait time for installation as well as more efficient routes for the installers.

Duke Energy has traditionally mailed annual reminder/thank you postcards to Carolinas customers participating in the Power Manger program. In 2011, for the first time, the company included information on the impact that Power Manager had on energy demand during the 2010 event season.

Program information is also available to customers on the Power Manager Web site located at http://www.duke-energy.com/north-carolina/savings/power- manager.asp.

A new on-line enrollment form was developed and added to the Power Manager Web site in early December, 2011.

F. Evaluation, Measurement and Verification

The 2010 and 2011 Process Evaluations for the Power Manager program were presented to the Carolinas Collaborative during the fourth quarter collaborative meeting. Included in this presentation were the results of the surveys conducted immediately after events in the summer of 2011, as well as the evaluations of the program for 2010 and 2011 based on surveys conducted with program management, associated vendors, program operations, and customers who participated in the program. In 2010, 70 percent of program participants rated satisfaction with the program a 9 or 10 on a 10-point scale. In 2011, more than 79 percent of program participants for North Carolina and South Carolina rated overall satisfaction a 9 or 10. The evaluators noted that one specific barrier to participation in the Carolinas is the initial sign-up fee of $35. Also more than 40 percent of the surveyed respondents in both states were not aware of the control events because either they were not at home, or didn't notice any changes when the events took place.

Another finding from the surveys, conducted immediately after the events in 2011, was the age of the participant's air conditioner appears to be the most influential driver of perceived comfort change during a

Power Manager event . This finding suggests that targeting customers with air conditioners less than 12 years old may result in better comfort ratings as well as a higher retention rate for Power Manager participants. Given this, Duke Energy plans to utilize cross-selling opportunities with customers who have taken advantage of Duke Energy's Residential Smart $aver program to install new air conditioning systems.

Impacts from the eight economic events in the summer of 2010 were also provided in the combined Process and Impact evaluation for 2010. The impacts varied per hour of each event based on the temperature and humidity levels of each particular hour.

G. Appendix

Power Manager®

POWER MANAGER®

Duke Energy recently sent you a postcard that incorrectly contained information about the Power Manager program in our Midwest service territory. We are sorry for our mistake and any inconvenience that it may have caused.

We value you as a Power Manager customer. As you may know, this voluntary program pays you for allowing Duke Energy to cycle off your air conditioner as electricity demand approaches peak levels. Your participation helps keep electric rates lower throughout the Carolinas.

Last summer, customers in the Carolinas – like you – combined to reduce electricity demand by an average of 97 megawatts during each Power Manager cycling event. That's like reducing the demand for electricity by 32,000 homes during those peak periods!

And as a Power Manager participant, you receive an $8 credit on your electricity bill each month from July through October – that's $32 a year!

Thanks again for participating in the Power Manager program.

Questions – Visit duke-energy.com/powermanager or call 800-777-9898 for more information.

Event Hotline – Call 800-832-3169 to see if a cycling event is underway.

Residential Retrofit

A. Description

The purpose of the Residential Retrofit pilot is to aid residential customers in assessing their energy use, to provide recommendations for more efficient use of energy in their homes and encourage the installation of the energy efficiency improvement by offsetting a portion of the cost of implementing the recommendations. The pilot program was approved by the Public Service Commission of South Carolina on February 24, 2010. The pilot program was approved by the North Carolina Utilities Commission on January 25, 2011.

Audience

The pilot is available for up to 300 customers in North Carolina and 100 customers in South Carolina who live in owner-occupied single-family residences served on Duke Energy Carolina's residential rate schedule from Duke Energy Carolinas' retail distribution system.

B &C. Impacts, Participants and Expenses

Residential Home Retrofit[12]

$ in millions	Vintage 2 As Filed	Vintage 2 December 2011	% of Target
North Carolina Nominal Avoided Cost		$0.1	
Program Cost		$0.1	
MW		0.0	
MWH		126.4	
Units		29	

Notes on Table:

1) Numbers rounded.

2) Residential Home Retrofit is a new pilot so there is no as-filed comparison.

D. Qualitative Analysis

South Carolina Pilot

Highlights

The South Carolina Residential Retrofit pilot launched in August 2010 as Energy Solutions @ Home (ES@H). ES@H was designed as a bundled energy efficiency solution for homeowners where trained energy professionals identify and install high impact energy home improvements. When homeowners make energy improvements to their homes, they receive on-going energy savings from lower heating and cooling costs because the leaky gaps and non-insulated areas of their homes are eliminated. It's an easy process for the customer because Duke Energy identifies the most effective energy-saving home improvements, provides a team of energy experts including skilled contractors and offers an incentive to lower the customer's installation cost.

Duke Energy's ES@H program focuses on the top four energy home improvements: air sealing, attic insulation, duct sealing and duct insulation. Offered individually or in combination, when these improvements are correctly installed, they substantially lower the amount of energy loss in a home and provide the greatest energy savings opportunities.

Residential Retrofit

The process includes three steps and begins with a phone call.

Step 1: Phone Assessment
Duke Energy helps customers determine if they are a good candidate for the offer via a short phone conversation with one of Duke's Energy Experts. The Expert uses energy audit software to conduct a high-level assessment of the customer's home considering the home's age, size, heating equipment, electric use and estimated insulation levels. The customer receives the following results during the call:
- installation recommendations
- anticipated energy savings and payback
- estimated installation cost
- estimated incentive amount

With the Expert's assistance, customers decide if these improvements are right for them. If so, the Expert then helps the customer take the next step by scheduling an in-home assessment.

Step 2: In-home Assessment
A Building Performance Institute (BPI) certified assessor visits the home, listens to the customer's concerns and verifies or updates the information collected during the phone call. Using the same audit tool, the assessor produces a final project plan on site with the final recommendations, exact costs, custom incentive and out-of-pocket payment amount. In addition, the project plan includes the estimated energy savings and project payback period.

Step 3: Installation
Customers who agree to the project plan are contacted by their assigned program contractor to schedule the installation. When the work is complete, the Duke Energy incentive is deducted from the contractor's invoice as an immediate customer benefit.

Issues

The pilot was based on the hypothesis that customers wanted a high touch turn-key offer and a custom incentive that paid a higher incentive to the more inefficient homes would drive demand from inefficient customers. A bidding process was used to select, two local building envelope contractors as the program installers to handle the energy efficiency installations. The program was marketed to homeowners in the Gaffney, Spartanburg and Greenville areas from August 2010 through March 2011. Over 5,800 customers were targeted in one of 5 different direct mail campaigns. Only four South Carolina pilot participants completed the full program requirements by installing the recommended improvements in their homes. The achieved pilot participation was much lower than expected. Due to low results, the pilot program was deemed non cost effective.

Customers were reluctant to commit to a program with a custom incentive because of the uncertainty of the amount of incentive they would receive. Customer wanted greater flexibility in selecting an installation contractor and the types of improvement installed. Many customers did not believe their homes were inefficient; therefore did not feel the offer applied to them. Only when a customer realizes they have a problem with the efficiency of their home are they interested in finding a solution.

North Carolina Pilot

Highlights

The North Carolina pilot was approved in January 2011. Learnings from the South Carolina pilot have been applied to the North Carolina pilot. Duke Energy is conducting the Residential Retrofit pilot in conjunction with three North Carolina cities, Carrboro, Chapel Hill and Greensboro. The Carrboro program began June 1 with information on the City of Carrboro's website and contractor education. The Chapel Hill program began in July, 2011 and Greensboro program began in December 2011. Duke Energy provided sales training to contractors in each of the pilot locations on June 15th and 16th, 2011 to help the installers and contractors close more projects.

Residential Retrofit

Duke Energy is supporting the programs by providing a financial incentive to encourage the installation specific high efficiency home improvements. Incentives offered by Duke Energy will be paid after verification that the qualifying improvements have been installed. The Duke Energy incentive will be in addition to the incentives provided by the City's Program. In North Carolina, the pilot is also testing the use of prescriptive incentives rather than custom to determine if foreknowledge of the incentive amount will increase customer adoption of the improvements.
As of February 29, 2012 40 customers have participated in the NC pilot program.

E. Marketing Strategy

South Carolina Pilot

Marketing for the South Carolina pilot program began in August 2010 using direct mail to reach the targeted customers. The multiple campaign mailings were mailed based upon customers' geographic location. The mail drops allowed contractors and auditors to serve customers efficiently, with minimum travel between the homes of pilot participants. The pilot program tested several direct mail campaigns to generate interest in the program. The direct mail campaigns tested include a self-mailer, a postcard, a series of three postcards on the same theme, and a letter followed by a postcard coupled with outbound calls. In addition, Duke Energy also marketed the program via the website where program descriptions, video and frequently asked questions provided the customer with detailed information on the program. Marketing of the pilot ended in March 2011 due to low pilot participation.

North Carolina Pilot

In North Carolina, Duke Energy is using the partner cities and their program contractors to promote the pilot program. Contractors have been provided information on the Duke Energy incentive and given sell sheets to use with customers. The Duke Energy offer is also promoted on the program websites.

F. Evaluation Measurement and Verification

Tec Market Works finalized the process evaluation of the Energy Solutions @ Home Pilot in July 2011. This report presented the evaluation of the pilot in South Carolina from August 2010 through March of 2011.

The most-cited reason for non-participation in the ES@H program was the feeling the customer already had done enough in their home to save energy and participation in a program was not needed. In addition, participants at all levels of the program followed through with installing measures recommended in the phone and in-home audit.

Another finding was the primary motivating factor that drove participation decisions for the ES@H was the desire to reduce energy costs. But the primary barriers to participation in the in-home audit were a reluctance to pay the initial $50 fee as well as a perception held by the phone audit participants that the phone audit had given them enough to do without an in-home audit. Forty percent of phone audit participants felt the phone audit was influential in their decision to NOT schedule an in-home audit.

The freeridership rate for the in-home audit and subsequent installations was estimated to be below 20 percent.

The program was not as successful as anticipated at having participants move through the participation process. Four out of 113 participants (less than10%) progressed through all the stages of the ES@H pilot, ending with the installation of one or more of the recommended measures.

Duke Energy Carolinas
Docket Number E-7 Sub 1001
EM&V Applied to Programs in the Company's Rider 4 Application

Duff Exhibit 7

	Regulatory Program Name	Measures with M&V Applied	Report Reference	EMV Effective Start Date
	Residential Programs			
1	Residential Energy Assessments	Home Energy House Call	Exhibit C - Carolinas - HEHC - Final Process and Impact Evaluation Report - June 13 2011.pdf	Program Origination (2009)
2		Online Audit	Exhibit A - Carolinas_-_PER_and_OHEC_-_Final_Impact_Evaluation_Report_-_Nov_15_2011.pdf	Program Origination (2009)
3		Personalized Energy Report	Exhibit A - Carolinas_-_PER_and_OHEC_-_Final_Impact_Evaluation_Report_-_Nov_15_2011.pdf	Program Origination (2009)
4	Smart Saver® for Residential Customers	RCFL Opt-In Free CFLs	Exhibit F - Carolinas - Smart Saver CFL - Final Process and Impact Evaluation Report - Revised April 26 2011.pdf	Program Origination (2009)
5		Smart Saver - Central Air Conditioner	Exhibit O - Carolinas - Residential Smart Saver HVAC - Final Impact Evaluation Report - Jan 27 2012.pdf	Program Origination (2009)
6		Smart Saver - Heat Pump	Exhibit O - Carolinas - Residential Smart Saver HVAC - Final Impact Evaluation Report - Jan 27 2012.pdf	Program Origination (2009)
7		Smart Saver - Res CFL Promo	Exhibit F - Carolinas - Smart Saver CFL - Final Process and Impact Evaluation Report - Revised April 26 2011.pdf	Program Origination (2009)
8	Low Income Energy Efficiency and Weatherization Assistance	Agency Assistance Portal	Exhibit N - Low Income Program Freeridership - Memo - July 11 2011.pdf	Program Origination (2009)
9	Energy Efficiency Education Program for Schools	Energy Education Program for Schools	Exhibit D Carolinas - K12 - Final Impact Process Evaluation Report - Nov 17 2011.pdf	Program Origination (2009)
	Non Residential Programs			
10	Smart Saver® for Non-Residential Customers Lighting	High Bay Lighting (Impacts)	Exhibit K - Carolinas - Non Res Smart Saver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	Program Origination (2009)
11			Exhibit P - Carolinas - Evaluated Savings for 3 Lamp High Bay Fixture - Memo - Dec 29 2011.pdf	Program Origination (2009)
12		All measures (Freeridership)	Exhibit K - Carolinas - Non Res Smart Saver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	Program Origination (2009)
13	Smart Saver® for Non-Residential Customers Motors	Variable Frequency Drives (Impacts)	Exhibit Q - Carolinas - Non-Residential Smart Saver - VFD Update Memo - Feb 2 2012.pdf	Program Origination (2009)
14		All measures (Freeridership)	Exhibit K - Carolinas - Non Res Smart Saver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	Program Origination (2009)
15	Smart Saver® for Non-Residential Customers - Other Prescriptive	All measures (Freeridership)	Exhibit K - Carolinas - Non Res Smart Saver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	Program Origination (2009)
16	Smart Saver® for Non-Residential Customers - Energy Star Food Service Products	All measures (Freeridership)	Exhibit K - Carolinas - Non Res Smart Saver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	Program Origination (2009)
17	Smart Saver® for Non-Residential Customers - HVAC	All measures (Freeridership)	Exhibit K - Carolinas - Non Res Smart Saver Prescriptive - Final Process and Impact Evaluation Report - revised June 16 2011.pdf	Program Origination (2009)
18	Smart Saver® for Non-Residential Customers - Custom Rebate	None	None	None
19	Smart Energy Now	None	None	None

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Program Name	Description of Change	Type of Change [1]	Status of Change	Updated Cost Effectiveness Evaluation			
				UCT	TRC	RIM	Participant
Energy Efficiency Education [2]	The Energy Efficiency Education (EEE) Program was launched offering an EE kit to individuals that completed the home energy audit. Based on the audit response, the customer may qualify for additional CFLs. The opportunity for customers to qualify for additional CFLs was eliminated in September 2010. This change was implemented to mitigate the risk associated of customers receiving CFLs from the EEE Program and residential Smart $aver CFL program via the (IVR/Web) offering.	Impact	September 2010				
	One 13 watt CFL bulb was added to the EE Kit.	Impact	Prior to June 2009	2	2.03	0.79	
Low Income Energy Efficiency and Weatherization Program	Offered program participants 12 CFLS instead of the filed offer of 6 CFLs and1 EE Kit.	Impact	Prior to June 2009	1.84	1.84	0.66	
Low Income Energy Efficiency and Weatherization Program	The Low Income CFL measure (12 pack of CFLs) was discontinued as a offering under Low Income Programs. The residential Smart $aver CFL program offers free CFLs to all residential customers in North and South Carolina through the automated IVR/Web platform. Duke Energy has served more low income customers through this offer. The participation rate through the residential Smart$aver CFL program has exceeded the participation rate in the Low Income Programs CFL offer from past years.	Impact	January 2011	0.37	0.37	0.28	
Non-Residential Smart $aver Prescriptive [3]	Incentive measure additions, within the technology categories defined in the tariff, have occurred between filing and July 2010. Measure additions were made to the high efficient lighting (majority of additions), food service, motors/pumps/drives, and process categories.	Impact	Refer to the worksheet named NRPRES Measure Extensions for a detailed listing of measure extensions.	2.88	1.78	1.13	2.35
Non-Residential Smart $aver Prescriptive [4]	A limited number of incentive measures originally filed have been removed from the program offerings since filing. Incentives for these measures continue to be available thru the Custom program with the exception of air cooled reciprocal chillers which are no longer manufactured.	Impact	Refer to the worksheet named NRPRES Removed Measures for a detailed listing and explanation of measure removals.	2.82	1.79	1.13	2.37
Non-Residential Smart $aver Prescriptive	Incentive amounts were revised (both increased and decreased) were made to measures originally filed. Revisions were made within the 50% tariff incentive cap.	Participation	Refer to the worksheets named NRPRES Increased Incentive Amts and NRPRES Decreased Incentive Amts for a detailed listing of changes.				
Residential Energy Assessments	The window film and a 15 watt CFL bulb was removed from the EE kit offered to Home Energy House Call Program participants. These two items were replaced with two 13 watt CFL bulbs. Also added additional CFLs, based on number of CFLs currently installed in the home, an average of 6.	Impact	Prior to June 2009	2.56	2.56	0.74	
Residential Smart $aver [5]	Residential CFL program moved from a discounted coupon (retail) offer to a 'free' offer.	Participation	March 2010	3.17	3.86	0.78	9.13

Program Name	Description of Change	Type of Change [1]	Status of Change	Updated Cost Effectiveness Evaluation			
				UCT	TRC	RIM	Participant
Residential Smart $aver [6]	Residential Property Manager program allows Duke Energy to reach multi-family properties (i.e. rental customers). Duke Energy ships bulk CFLs to eligible Properties and the CFLs are installed in permanent fixtures of each unit. The Property Managers pay the shipping fee and reports installation data back to Duke. The program increases tenant satisfaction with Energy Efficiency lighting upgrades and is easy for properties to participate in the program.	Impact	March 2010	3.45	2.8	0.79	6.24

[1] Type of Change is updated as an Impact Change or Participation Change. A Participation Change is a modification that is designed to either increase participation in the program or improve the cost effectiveness without having a negative impact to participation. An Impact Change is a modification that results in an either a decrease or increase in kWh/kW saved by a measure.

[2] Updated cost effectiveness scores reflect removal of six pack of CFLs and adding one 13W CFL to the EE kit.

[3] Updated cost effectiveness scores reflect removed measures excluded and measures extensions added.

[4] Updated cost effectiveness scores reflect removed measures.

[5] Updated cost effectiveness scores reflect free CFL offer and Property Manager CFL.

[6] Updated cost effectiveness scores reflect addition of Property Manager CFL to as filed residential Smart $aver Program.

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				Cost Effectiveness Scores			
Program Name	**Program Description**	**Type of Change**	**Status of Change**	**UCT**	**TRC**	**RIM**	**Participant**
Neighborhood Low Income Program	Duke Energy plans to file the Neighborhood Low Income Program for approval.	Impact	Proposed	1.49	2.86	0.64	
Appliance Recycling Program	Duke Energy plans to file the Appliance Recycling Program for approval.	Impact	Proposed	3.03	3.69	0.82	
Residential Smart $aver- HVAC	Duke Energy is proposing to add additional measures to the Smart Saver portfolio including HVAC tune ups, attic insulation and air sealing, duct insulation and duct sealing. Duke Energy proposes to offer prescribed incentives for successful completion or implementation of the additional measures identified. Additional measures will be available individually or as bundled services and will be performed by local contractors who have chosen to participate in the Smart Saver program.	Impact	Proposed	2.25	1.91	0.76	4.37
Power Manager	The $35 installation fee was inadvertently not included in the D.S. More cost effectiveness evaluations of the Power Manager program. However, the installation fee has been charged to customers who enroll in Power Manager. The $35 is applied as a credit to the Power Manager program using the accounting codes established for Energy Efficiency. [1]	Participation	Proposed	4.46	85.67	4.46	

				Cost Effectiveness Scores			
Program Name	**Program Description**	**Type of Change**	**Status of Change**	**UCT**	**TRC**	**RIM**	**Participant**
Non-Residential Smart $aver	Duke Energy is proposing the addition of incentive measures, within the technology categories defined in the tariff, to the existing program. Refer to the NRPRES Proposed Measures worksheet for a detailed listing of proposed measures and associated cost effectiveness scores per measure .	Impact	Proposed				
Non-Residential Smart $aver	Duke Energy is proposing the removal of motor incentives from the program in response to EISA 2007 which mandated the existing program minimum efficiency requirements as market standard. Motors with efficiencies higher than the market standard would continue to be eligible for Custom incentives. Evaluation is also planned to determine whether a future Prescriptive offering would be beneficial.	Participation	Proposed				

[1] The cost effectiveness scores reflect the correction to Power Manager cost effectiveness test results filed as a correction in docket E-7, Sub 831 on June 3, 2011.

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Technology	Program Measure Name	Incentive per Unit	Unit of Measure	Reason for Modification	Date of Modification
Lighting	T-8 3 Lamp High Bay Fluorescent (replacing 150-249W HID)	$30.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	2 High Bay Fluorescent 8LF32T8 (Replacing 1000W HID)	$120.00	Per 2 Fixtures	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Bay 3L T-5 High Output (replacing 250-399W HID)	$40.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	2 High Bay 6L T-5 High Output replacing 1000W HID (2 for 1 replacement)	$120.00	Per 2 Fixtures	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	LED Case lighting	$50.00	Per Door	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	LED Case lighting sensor control	$10.00	Per Sensor	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	Reduced-wattage T8 4ft 1 lamp, replacing standard T8	$4.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	Reduced-wattage T8 4ft 2 lamp, replacing standard T8	$6.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	Reduced-wattage T8 4ft 3 lamp, replacing standard T8	$10.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	Reduced-wattage T8 4ft 4 lamp, replacing standard T8	$12.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T-8 4ft 2 lamp replacing T-12 8ft 1 lamp	$10.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.

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Technology	Program Measure Name	Incentive per Unit	Unit of Measure	Reason for Modification	Date of Modification
Lighting	High Performance T-8 4ft 2 lamp replacing T-12 High Output 8ft 1 lamp	$20.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T-8 4ft 4 lamp replacing T-12 8ft 2 lamp	$10.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T-8 4ft 4 lamp replacing T-12 High Output 8ft 2 lamp	$25.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T8 4ft 1 lamp, replacing standard T8	$4.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T8 4ft 1 lamp, replacing T12	$6.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T8 4ft 2 lamp, replacing standard T8	$6.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T8 4ft 2 lamp, replacing T12	$8.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T8 4ft 3 lamp, replacing standard T8	$6.20	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T8 4ft 3 lamp, replacing T12	$12.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T8 4ft 4 lamp, replacing standard T8	$12.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Lighting	High Performance T8 4ft 4 lamp, replacing T12	$16.00	Per Fixture	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.

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Technology	Program Measure Name	Incentive per Unit	Unit of Measure	Reason for Modification	Date of Modification
Lighting	Reduced-wattage T8 lamps replacing standard 32 Watt T-8's	$0.50	Per Bulb	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Food Service	Anti-sweat Heater Controls	$40.00	Per Door	Product extension under existing tariff. Per consultant recommendation, addition was performed due to market potential and cost effectiveness as well as to standardized portfolios across states. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Measure extension was in development prior to program launch.
Food Service	ENERGY STAR ® Glass Door Reach-in Freezer (<15 cu ft)	$50.00	Per Unit (Freezer)	Measure analysis for the filing started in the 2007-2008 time period. Energy Star changed the base line requirements for solid door refrigerators and freezers in January 2010. Per consultant recommendation, solid door size requirements were changed in response to the base line revision and Energy Star glass door options were added to the program to align with Energy Star options. Revision timing coincides with the timing of the 2010 annual portfolio review. Glass door refrigerators had been rated by Energy Start since at least April 2009 but believed not to be included in the initial filing due to the timing of the initial measure analysis.	July 2010
Food Service	ENERGY STAR ® Glass Door Reach-in Freezer (15-30 cu ft)	$75.00	Per Unit (Freezer)	Measure analysis for the filing started in the 2007-2008 time period. Energy Star changed the base line requirements for solid door refrigerators and freezers in January 2010. Per consultant recommendation, solid door size requirements were changed in response to the base line revision and Energy Star glass door options were added to the program to align with Energy Star options. Revision timing coincides with the timing of the 2010 annual portfolio review. Glass door refrigerators had been rated by Energy Start since at least April 2009 but believed not to be included in the initial filing due to the timing of the initial measure analysis.	July 2010
Food Service	ENERGY STAR® Glass Door Reach-in Freezer (31-50 cu ft)	$100.00	Per Unit (Freezer)	Measure analysis for the filing started in the 2007-2008 time period. Energy Star changed the base line requirements for solid door refrigerators and freezers in January 2010. Per consultant recommendation, solid door size requirements were changed in response to the base line revision and Energy Star glass door options were added to the program to align with Energy Star options. Revision timing coincides with the timing of the 2010 annual portfolio review. Glass door refrigerators had been rated by Energy Start since at least April 2009 but believed not to be included in the initial filing due to the timing of the initial measure analysis.	July 2010
Food Service	ENERGY STAR® Glass Door Reach-in Freezer (>50 cu ft)	$125.00	Per Unit (Freezer)	Measure analysis for the filing started in the 2007-2008 time period. Energy Star changed the base line requirements for solid door refrigerators and freezers in January 2010. Per consultant recommendation, solid door size requirements were changed in response to the base line revision and Energy Star glass door options were added to the program to align with Energy Star options. Revision timing coincides with the timing of the 2010 annual portfolio review. Glass door refrigerators had been rated by Energy Start since at least April 2009 but believed not to be included in the initial filing due to the timing of the initial measure analysis.	July 2010

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Technology	Program Measure Name	Incentive per Unit	Unit of Measure	Reason for Modification	Date of Modification
Food Service	ENERGY STAR® Glass Door Reach-in Refrig (<15 cu ft)	$50.00	Per Unit (Refrigerator)	Measure analysis for the filing started in the 2007-2008 time period. Energy Star changed the base line requirements for solid door refrigerators and freezers in January 2010. Per consultant recommendation, solid door size requirements were changed in response to the base line revision and Energy Star glass door options were added to the program to align with Energy Star options. Revision timing coincides with the timing of the 2010 annual portfolio review. Glass door refrigerators had been rated by Energy Start since at least April 2009 but believed not to be included in the initial filing due to the timing of the initial measure analysis.	July 2010
Food Service	ENERGY STAR® Glass Door Reach-in Refrig (15-30 cu ft)	$75.00	Per Unit (Refrigerator)	Measure analysis for the filing started in the 2007-2008 time period. Energy Star changed the base line requirements for solid door refrigerators and freezers in January 2010. Per consultant recommendation, solid door size requirements were changed in response to the base line revision and Energy Star glass door options were added to the program to align with Energy Star options. Revision timing coincides with the timing of the 2010 annual portfolio review. Glass door refrigerators had been rated by Energy Start since at least April 2009 but believed not to be included in the initial filing due to the timing of the initial measure analysis.	July 2010
Food Service	ENERGY STAR® Glass Door Reach-in Refrig (31-50 cu ft)	$100.00	Per Unit (Refrigerator)	Measure analysis for the filing started in the 2007-2008 time period. Energy Star changed the base line requirements for solid door refrigerators and freezers in January 2010. Per consultant recommendation, solid door size requirements were changed in response to the base line revision and Energy Star glass door options were added to the program to align with Energy Star options. Revision timing coincides with the timing of the 2010 annual portfolio review. Glass door refrigerators had been rated by Energy Start since at least April 2009 but believed not to be included in the initial filing due to the timing of the initial measure analysis.	July 2010
Food Service	ENERGY STAR® Glass Door Reach-in Refrig (>50 cu ft)	$125.00	Per Unit (Refrigerator)	Measure analysis for the filing started in the 2007-2008 time period. Energy Star changed the base line requirements for solid door refrigerators and freezers in January 2010. Per consultant recommendation, solid door size requirements were changed in response to the base line revision and Energy Star glass door options were added to the program to align with Energy Star options. Revision timing coincides with the timing of the 2010 annual portfolio review. Glass door refrigerators had been rated by Energy Start since at least April 2009 but believed not to be included in the initial filing due to the timing of the initial measure analysis.	July 2010
Process Equipment	Pellet Dryer Duct Insulation 4in dia	$16.00	Per Foot of Insulation	Product extension under existing tariff. Measure initially failed cost effectiveness test but after certain program changes subsequently passed and was added to the program.	June 2009
Process Equipment	Pellet Dryer Duct Insulation 6in dia	$30.00	Per Foot of Insulation	Product extension under existing tariff. Measure initially failed cost effectiveness test but after certain program changes subsequently passed and was added to the program.	June 2009
Motors/Pumps/VFDs	7.5-20 Horse Power Motors	$8.00	Per HP	Product extension under existing tariff. Measure initially failed cost effectiveness test but after certain program changes subsequently passed and was added to the program.	June 2009

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Technology	Program Measure Name	Incentive per Unit	Unit of Measure	Reason for Modification	Date of Modification
Motors/Pumps/VFDs	125-250 Horse Power Motors	$4.00	Per HP	Product extension under existing tariff. Measure initially failed cost effectiveness test but after certain program changes subsequently passed and was added to the program.	June 2009
Motors/Pumps/VFDs	1.5 Horse Power High Efficiency Pumps	$122.00	Per Pump	Product extension under existing tariff. Measure initially failed cost effectiveness test but after certain program changes subsequently passed and was added to the program.	June - July 2009
Motors/Pumps/VFDs	2 Horse Power High Efficiency Pumps	$175.00	Per Pump	Product extension under existing tariff. Measure initially failed cost effectiveness test but after certain program changes subsequently passed and was added to the program.	June - July 2009
Motors/Pumps/VFDs	3 Horse Power High Efficiency Pumps	$175.00	Per Pump	Product extension under existing tariff. Measure initially failed cost effectiveness test but after certain program changes subsequently passed and was added to the program.	June - July 2009

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Program Measure Name	As Filed Incentive per Unit	Reason for Modification	Date of Modification
Chilled Water Reset 300 tons or greater	$165/unit	Measure was removed per consultant recommendation due to limited market potential.	June 2009
Head Pressure Control - Refrigeration System	$16/ton	Measure was removed per consultant recommendation due to limited market potential and energy saving variability.	June 2009
Energy Star Commercial Clothes Washers - Washer Only	$50/washer	Measure was removed per consultant recommendation due to limited market potential.	June 2009
Energy Star Commercial Clothes Washers - Electric Dryer an	$50/washer	Measure was removed per consultant recommendation due to limited market potential.	June 2009
Zone Shut-Off Valves - Compressed Air	$236/valve	Measure was removed per consultant recommendation due to limited market potential.	June 2009
Air Cooled Reciprocal Chiller	Up to $57/ton	Removed as reciprocal type chillers are no longer manufactured. Screw and scroll type air cooled chiller incentives are still offered.	March 2011

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Technology	Program Measure Name	Current Incentive per unit	Original Incentive per Unit	Unit of Measure	Reason for Modification	Date of Modification
Lighting	Occupancy Sensors over 500 Watts	$40.00	$20.00	Per Sensor	Increased to correct an error in the incentive amount. Incentive amounts were reversed between the over and under 500 Watts sensors.	June 2009
Food Service	ENERGY STAR ® Solid Door Reach-In Freezer (15-30 cu ft)	$75.00	$70.00	Per Unit (Freezer)	Incentive structure changed in response to a baseline efficiency change with Energy Star. As a result, a graduated incentive structure was implemented per consultant recommendation to provide a higher incentive for larger qualified models. Revision timing coincides with the timing of the 2010 annual portfolio review.	July 2010
Food Service	ENERGY STAR® Solid Door Reach-In Freezer (31-50 cu ft)	$100.00	$70.00	Per Unit (Freezer)	Incentive structure changed in response to a baseline efficiency change with Energy Star. As a result, a graduated incentive structure was implemented per consultant recommendation to provide a higher incentive for larger qualified models. Revision timing coincides with the timing of the 2010 annual portfolio review.	July 2010
Food Service	ENERGY STAR® Solid Door Reach-In Freezer (>50 cu ft)	$125.00	$70.00	Per Unit (Freezer)	Incentive structure changed in response to a baseline efficiency change with Energy Star. As a result, a graduated incentive structure was implemented per consultant recommendation to provide a higher incentive for larger qualified models. Revision timing coincides with the timing of the 2010 annual portfolio review.	July 2010
Food Service	ENERGY STAR® Solid Door Reach-In Refrig (15-30 cu ft)	$75.00	$70.00	Per Unit (Refrigerator)	Incentive structure changed in response to a baseline efficiency change with Energy Star. As a result, a graduated incentive structure was implemented per consultant recommendation to provide a higher incentive for larger qualified models. Revision timing coincides with the timing of the 2010 annual portfolio review.	July 2010

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Technology	Program Measure Name	Current Incentive per unit	Original Incentive per Unit	Unit of Measure	Reason for Modification	Date of Modification
Food Service	ENERGY STAR® Solid Door Reach-In Refrig (31-50 cu ft)	$100.00	$70.00	Per Unit (Refrigerator)	Incentive structure changed in response to a baseline efficiency change with Energy Star. As a result, a graduated incentive structure was implemented per consultant recommendation to provide a higher incentive for larger qualified models. Revision timing coincides with the timing of the 2010 annual portfolio review.	July 2010
Food Service	ENERGY STAR® Solid Door Reach-In Refrig (>50 cu ft)	$125.00	$70.00	Per Unit (Refrigerator)	Incentive structure changed in response to a baseline efficiency change with Energy Star. As a result, a graduated incentive structure was implemented per consultant recommendation to provide a higher incentive for larger qualified models. Revision timing coincides with the timing of the 2010 annual portfolio review.	July 2010
Motor/Pumps/VFDs	Variable Frequency Drive 1.5 - 50 HP - applied to HVAC Fans	$100.00	$40.00	Per Horse Power	VFD incentives were split between process pumping and HVAC per consultant recommendation to gain more accuracy with the energy savings and reflect different operating characteristics. All VFD HVAC applications (fans and pumps) were assigned an incentive of $100.	June 2009
Motor/Pumps/VFDs	Variable Frequency Drive 1.5 - 50 HP - applied to HVAC Condenser Pump, Hot Water Pump	$100.00	$40.00	Per Horse Power	VFD incentives were split between process pumping and HVAC per consultant recommendation to gain more accuracy with the energy savings and reflect different operating characteristics. All VFD HVAC applications (fans and pumps) were assigned an incentive of $100.	June 2009
HVAC	AC 240,000 - 760,000 BTUH	$25.00	$20.00	Per Ton	Per consultant recommendation, the incentive was increased in an effort to increase participation while still maintaining cost effectiveness. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009

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Technology	Full load kW/ton - EER	Size	Current Base Incentive $/ton	Part Load IPLV kW/ton - EER	Current Additional Incentive $/ton	Original Incentive $/ton	Reason for Modification	Date of Modification
Chillers	Air Cooled Reciprocal Chiller 1.23 - 9.8	All Sizes	$8.00	0.89 - 13.5	$24.13	$25.00	Per consultant recommendation, incentives increased when efficiency levels were broken out from the initial 4 chiller category offerings. Chiller categories did not change. The revisions involved further defining the chiller efficiency levels within the filed chiller categories beyond just a minimum requirement. Incentives are now based on a combination of full load kW/ton or EER and a part load kW/ton or EER. The incentives were increased to motivate customers to move to higher efficiency offerings which are typically more expensive.	July 2009 Measure revision was in development prior to program launch.
Chillers	Air Cooled Reciprocal Chiller 1.23 - 9.8	All Sizes	$8.00	0.81 - 14.8	$31.50	$25.00		
Chillers	Air Cooled Reciprocal Chiller 1.142 - 10.5	All Sizes	$25.00	0.935 - 12.8	$11.20	$25.00		
Chillers	Air Cooled Reciprocal Chiller 1.142 - 10.5	All Sizes	$25.00	0.821 - 14.6	$22.50	$25.00		
Chillers	Air Cooled Reciprocal Chiller 1.142 - 10.5	All Sizes	$25.00	0.753 - 15.9	$29.30	$25.00		
Chillers	Air Cooled Reciprocal Chiller 1.046 - 11.5	All Sizes	$30.00	0.961 - 12.5	$0.00	$25.00		
Chillers	Air Cooled Reciprocal Chiller 1.046 - 11.5	All Sizes	$30.00	0.858 - 14.0	$10.30	$25.00		
Chillers	Air Cooled Reciprocal Chiller 1.046 - 11.5	All Sizes	$30.00	0.753 - 15.9	$20.80	$25.00		
Chillers	Air Cooled Reciprocal Chiller 1.046 - 11.5	All Sizes	$30.00	0.691 - 17.4	$27.00	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.23 - 9.8	All Sizes	$8.00	0.89 - 13.5	$24.13	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.23 - 9.8	All Sizes	$8.00	0.81 - 14.8	$31.50	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.142 - 10.5	All Sizes	$25.00	0.925 - 13.0	$12.00	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.142 - 10.5	All Sizes	$25.00	0.878 - 13.7	$16.70	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.142 - 10.5	All Sizes	$25.00	0.674 - 17.8	$37.20	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.046 - 11.5	All Sizes	$30.00	0.961 - 12.5	$0.00	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.046 - 11.5	All Sizes	$30.00	0.847 - 14.2	$11.40	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.046 - 11.5	All Sizes	$30.00	0.795 - 15.1	$16.60	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.046 - 11.5	All Sizes	$30.00	0.618 - 19.4	$34.30	$25.00		
Chillers	Water Cooled Screw Chiller 0.71 - 16.9	<150 ton	$15.00	0.56 - 21.4	$7.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.71 - 16.9	<150 ton	$15.00	0.53 - 22.6	$10.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.71 - 16.9	<150 ton	$15.00	0.50 - 24.0	$13.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.71 - 16.9	<150 ton	$15.00	0.48 - 26.1	$17.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.71 - 16.9	<150 ton	$15.00	0.43 - 27.9	$20.00	$20.00		

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Technology	Full load kW/ton - EER	Size	Current Base Incentive $/ton	Part Load IPLV kW/ton - EER	Current Additional Incentive $/ton	Original Incentive $/ton	Reason for Modification	Date of Modification
Chillers	Water Cooled Screw Chiller 0.63 - 19	<150 ton	$20.00	0.50 - 24.0	$6.00	$20.00	Per consultant recommendation, incentives increased when efficiency levels were broken out from the initial 4 chiller category offerings. Chiller categories did not change. The revisions involved further defining the chiller efficiency levels within the filed chiller categories beyond just a minimum requirement. Incentives are now based on a combination of full load kW/ton or EER and a part load kW/ton or EER. The incentives were increased to motivate customers to move to higher efficiency offerings which are typically more expensive.	July 2009 Measure revision was in development prior to program launch.
Chillers	Water Cooled Screw Chiller 0.63 - 19	<150 ton	$20.00	0.47 - 25.5	$9.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.63 - 19	<150 ton	$20.00	0.44 - 27.3	$12.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.63 - 19	<150 ton	$20.00	0.41 - 29.3	$15.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.63 - 19	<150 ton	$20.00	0.38 - 31.8	$18.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.63 - 19.0	<150 ton	$15.00	0.51 - 23.5	$9.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.63 - 19.0	<150 ton	$15.00	0.48 - 25.0	$12.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.63 - 19.0	<150 ton	$15.00	0.45 - 26.7	$15.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.63 - 19.0	<150 ton	$15.00	0.38 - 31.6	$22.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.58 - 21.4	<150 ton	$20.00	0.48 - 26.1	$7.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.58 - 21.4	<150 ton	$20.00	0.43 - 27.9	$10.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.58 - 21.4	<150 ton	$20.00	0.40 - 30.0	$13.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.58 - 21.4	<150 ton	$20.00	0.34 - 35.3	$19.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.65 - 18.5	150-300 tons	$15.00	0.45 - 26.7	$12.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.65 - 18.5	150-300 tons	$15.00	0.42 - 28.6	$15.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.65 - 18.5	150-300 tons	$15.00	0.39 - 30.8	$18.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.57- 21.1	150-300 tons	$20.00	0.45 - 26.7	$8.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.57- 21.1	150-300 tons	$20.00	0.43 - 27.9	$8.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.57- 21.1	150-300 tons	$20.00	0.40 - 30.0	$11.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.57- 21.1	150-300 tons	$20.00	0.37 - 32.4	$14.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.57- 21.1	150-300 tons	$20.00	0.34 - 35.3	$17.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.57- 21.1	150-300 tons	$15.00	0.43 - 27.9	$11.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.57- 21.1	150-300 tons	$15.00	0.40 - 30.0	$14.00	$25.00		

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Technology	Full load kW/ton - EER	Size	Current Base Incentive $/ton	Part Load IPLV kW/ton - EER	Current Additional Incentive $/ton	Original Incentive $/ton	Reason for Modification	Date of Modification
Chillers	Water Cooled Centrifugal Chiller 0.57- 21.1	150-300 tons	$15.00	0.34 - 35.3	$20.00	$25.00	Per consultant recommendation, incentives increased when efficiency levels were broken out from the initial 4 chiller category offerings. Chiller categories did not change. The revisions involved further defining the chiller efficiency levels within the filed chiller categories beyond just a minimum requirement. Incentives are now based on a combination of full load kW/ton or EER and a part load kW/ton or EER. The incentives were increased to motivate customers to move to higher efficiency offerings which are typically more expensive.	July 2009 Measure revision was in development prior to program launch.
Chillers	Water Cooled Centrifugal Chiller 0.51 - 23.5	150-300 tons	$20.00	0.41 - 29.3	$7.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.51 - 23.5	150-300 tons	$20.00	0.39 - 30.8	$9.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.51 - 23.5	150-300 tons	$20.00	0.36 - 33.3	$12.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.51 - 23.5	150-300 tons	$20.00	0.30 - 40.0	$18.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.58 - 20.7	>300 tons	$15.00	0.4 - 30.0	$11.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.58 - 20.7	>300 tons	$15.00	0.37 - 32.4	$14.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.58 - 20.7	>300 tons	$15.00	0.35 - 34.3	$16.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.51 - 23.5	>300 tons	$20.00	0.4 - 30.0	$6.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.51 - 23.5	>300 tons	$20.00	0.38 - 31.6	$6.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.51 - 23.5	>300 tons	$20.00	0.36 - 33.3	$10.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.51 - 23.5	>300 tons	$20.00	0.33 - 36.4	$13.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.51 - 23.5	>300 tons	$20.00	0.31 - 38.7	$15.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.52 - 23.1	>300 tons	$15.00	0.37 - 32.4	$12.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.52 - 23.1	>300 tons	$15.00	0.31 - 38.7	$18.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.48 - 26.1	>300 tons	$20.00	0.37 - 32.4	$7.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.48 - 26.1	>300 tons	$20.00	0.35 - 34.3	$9.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.48 - 26.1	>300 tons	$20.00	0.33 - 36.4	$11.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.48 - 26.1	>300 tons	$20.00	0.28 - 42.9	$16.00	$25.00		

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Listing of Changes to Existing Energy Efficiency & Demand-side Management Programs

Technology	Program Measure Name	Current Incentive per unit	Original Incentive per Unit	Unit of Measure	Reason for Modification	Date of Modification
Lighting	Occupancy Sensors under 500 Watts	$20.00	$40.00	per sensor	Decreased to correct an error in the incentive amount originally filed. Incentive amounts were reversed between the over and under 500 Watts sensors.	June 2009
Motors/Pumps/VFDs	Variable Frequency Drive for Chilled Water Pumps 1.5, 2, 3, 5, 7.5, 10, 15, 20, 25, 30, 40, 50 Horse Power	$100.00	$111.00	per hp	Per consultant recommendation, the incentive was decreased as a lower incentive was expected to continue to drive participation and increase cost effectiveness.	June - July 2009 Incentive revision was in development prior to program launch.
Motors/Pumps/VFDs	High Efficiency Pump 5 Horse Power	$170.00	$171.00	per pump	Incentive was decreased to a round number per consultant recommendation to make it easier to implement and more consistent across territories.	June - July 2009 Incentive revision was in development prior to program launch.
Motors/Pumps/VFDs	High Efficiency Pump 10 Horse Power	$165.00	$166.00	per pump	Incentive was decreased to a round number per consultant recommendation to make it easier to implement and more consistent across territories.	June - July 2009 Incentive revision was in development prior to program launch.
Motors/Pumps/VFDs	High Efficiency Pump 15 Horse Power	$290.00	$293.00	per pump	Incentive was decreased to a round number per consultant recommendation to make it easier to implement and more consistent across territories.	June - July 2009 Incentive revision was in development prior to program launch.
Foodservice	ENERGY STAR ® Solid Door Reach-in Freezer (<15 cu ft)	$50.00	$70.00	per unit	Incentive structure changed in response to a baseline efficiency change with Energy Star. As a result, a graduated incentive structure was implemented per consultant recommendation to incentivize the new Energy Star models which led to an incentive decrease. Revision timing coincides with the timing of the 2010 annual portfolio review.	July 2010

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Technology	Program Measure Name	Current Incentive per unit	Original Incentive per Unit	Unit of Measure	Reason for Modification	Date of Modification
Foodservice	ENERGY STAR ® Solid Door Reach-in Refrigerator (<15 cu ft)	$50.00	$70.00	per unit	Incentive structure changed in response to a baseline efficiency change with Energy Star. As a result, a graduated incentive structure was implemented per consultant recommendation to incentivize the new Energy Star models which led to an incentive decrease. Revision timing coincides with the timing of the 2010 annual portfolio review.	July 2010
HVAC	Unitary and Rooftop AC <65,000 BTUH (1 Phase)	$25.00	$35.00	per ton	The incentive was decreased per consultant recommendation as it was believed the lower incentive amount could drive participation. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Incentive revision had been in development prior to program launch.
HVAC	Unitary and Rooftop AC >760,000 BTUH	$30.00	$40.00	per ton	The incentive was decreased per consultant recommendation as it was believed the lower incentive amount could drive participation. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Incentive revision had been in development prior to program launch.
HVAC	Unitary and Rooftop AC >240,000 BTUH	$25.00	$35.00	per ton	The incentive was decreased per consultant recommendation as it was believed the lower incentive amount could drive participation. Revision timing coincides with the timing of the 2009 annual portfolio review.	July 2009 Incentive revision had been in development prior to program launch.

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Technology	Full load kW/ton - EER	Size	Current Base Incentive $/ton	Part Load IPLV kW/ton - EER	Current Additional Incentive $/ton	Original Incentive $/ton	Reason for Modification	Date of Modification
Chillers	Air Cooled Reciprocal Chiller 1.23 - 9.8	All Sizes	$8.00	1.130 –10.60	$0.00	$25.00	Per consultant recommendation, incentives decreased when efficiency levels were broken out from the initial 4 chiller category offerings. Chiller categories did not change. The revisions involved further defining the chiller efficiency levels within the filed chiller categories beyond just a minimum requirement and associating assigned incentives to motivate customers to purchase higher efficiency models. Incentives are now based on a combination of full load kW/ton or EER and a part load kW/ton or EER.	July 2009 Measure revision was in development prior to program launch.
Chillers	Air Cooled Reciprocal Chiller 1.23 - 9.8	All Sizes	$8.00	1.010 – 11.90	$11.66	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.23 - 9.8	All Sizes	$8.00	1.130 –10.60	$0.00	$25.00		
Chillers	Air Cooled Scroll/Screw Chiller 1.23 - 9.8	All Sizes	$8.00	1.010 – 11.90	$11.66	$25.00		
Chillers	Water Cooled Screw Chiller 0.79 – 15.2	<150 ton	$5.00	0.62 – 19.4	$0.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.79 – 15.2	<150 ton	$5.00	0.59 – 20.3	$3.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.79 – 15.2	<150 ton	$5.00	0.55 – 21.8	$7.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.79 – 15.2	<150 ton	$5.00	0.51 – 23.5	$11.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.71 - 16.9	<150 ton	$15.00	0.63 – 19.0	$0.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.70 – 17.1	<150 ton	$5.00	0.57 – 21.1	$0.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.70 – 17.1	<150 ton	$5.00	0.53 – 22.6	$4.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.70 – 17.1	<150 ton	$5.00	0.5 – 24.0	$7.00	$20.00		
Chillers	Water Cooled Centrifugal Chiller 0.63 - 19.0	<150 ton	$15.00	0.6 – 20.0	$0.00	$20.00		
Chillers	Water Cooled Screw Chiller 0.72 – 16.7	150-300 tons	$5.00	0.57 – 21.1	$0.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.72 – 16.7	150-300 tons	$5.00	0.54 – 22.2	$3.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.72 – 16.7	150-300 tons	$5.00	0.50 – 24.0	$7.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.72 – 16.7	150-300 tons	$5.00	0.47 – 25.5	$10.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.72 – 16.7	150-300 tons	$5.00	0.43 – 27.9	$14.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.65 - 18.5	150-300 tons	$15.00	0.51 – 23.5	$0.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.65 - 18.5	150-300 tons	$15.00	0.48 – 25.0	$6.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.65 - 18.5	150-300 tons	$15.00	0.45 – 26.7	$9.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.57- 21.1	150-300 tons	$20.00	0.51 – 23.5	$0.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.63 – 19	150-300 tons	$5.00	0.51 – 23.5	$0.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.63 – 19	150-300 tons	$5.00	0.48 – 25.0	$3.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.63 – 19	150-300 tons	$5.00	0.45 – 26.7	$6.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.63 – 19	150-300 tons	$5.00	0.38 – 31.6	$13.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.57- 21.1	150-300 tons	$15.00	0.54 – 22.2	$0.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.57- 21.1	150-300 tons	$15.00	0.46 – 26.1	$5.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.51 - 23.5	150-300 tons	$20.00	0.48 – 25.0	$0.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.64 – 18.75	>300 tons	$5.00	0.51 – 23.5	$0.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.64 – 18.75	>300 tons	$5.00	0.48 – 25.0	$3.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.64 – 18.75	>300 tons	$5.00	0.45 – 26.7	$6.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.64 – 18.75	>300 tons	$5.00	0.42 – 28.6	$9.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.64 – 18.75	>300 tons	$5.00	0.38 – 31.6	$13.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.58 - 20.7	>300 tons	$15.00	0.51 – 23.5	$0.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.58 - 20.7	>300 tons	$15.00	0.45 – 26.7	$6.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.58 - 20.7	>300 tons	$15.00	0.43 – 27.9	$8.00	$25.00		
Chillers	Water Cooled Screw Chiller 0.51 - 23.5	>300 tons	$20.00	0.48 – 26.1	$0.00	$25.00		

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Technology	Full load kW/ton - EER	Size	Current Base Incentive $/ton	Part Load IPLV kW/ton - EER	Current Additional Incentive $/ton	Original Incentive $/ton	Reason for Modification	Date of Modification
Chillers	Water Cooled Centrifugal Chiller 0.58 – 20.7	>300 tons	$5.00	0.47 – 25.5	$0.00	$25.00	Per consultant recommendation, incentives decreased when efficiency levels were broken out from the initial 4 chiller category offerings. Chiller categories did not change. The revisions involved further defining the chiller efficiency levels within the filed chiller categories beyond just a minimum requirement and associating assigned incentives to motivate customers to purchase higher efficiency models. Incentives are now based on a combination of full load kW/ton or EER and a part load kW/ton or EER.	July 2009 Measure revision was in development prior to program launch.
Chillers	Water Cooled Centrifugal Chiller 0.58 – 20.7	>300 tons	$5.00	0.44 – 27.3	$3.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.58 – 20.7	>300 tons	$5.00	0.41 – 29.3	$6.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.58 – 20.7	>300 tons	$5.00	0.35 – 34.3	$12.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.52 - 23.1	>300 tons	$15.00	0.49 – 24.5	$0.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.52 - 23.1	>300 tons	$15.00	0.42 – 28.6	$7.00	$25.00		
Chillers	Water Cooled Centrifugal Chiller 0.46 - 26.1	>300 tons	$20.00	0.44 – 27.3	$0.00	$25.00		

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Equipment	Proposed Technologies	Base Efficiency Level	Proposed Efficiency Level	NC UCT_Cost Based Norm	NC TRC_Cost Based Norm	NC RIM (Net Fuel)_Cost Based Norm	Participant Test Results
Food Service	Beverage Reach-in Controller	Beverage Reach-in Cooler without motion control	Beverage Reach-in Cooler with motion control to control machine light usage and optimize refrigeration	2.84	1.58	1.05	2.44
Food Service	Door Gaskets - Cooler and Freezer	Old Leaky Door Gaskets	New Door Gaskets	12.08	8.26	1.58	10.95
Food Service	ECM Cooler and Freezer Motors - ECM replacing PSC	Cooler or Freezer Fan Motor with Perm. Split. Cap. Motor	Cooler or Freezer Fan utilizing an Electronically Commutated Motor (ECM)	5.64	4.19	1.42	5.83
Food Service	ECM Cooler and Freezer Motors - ECM replacing SP	Cooler or Freezer Fan Motor with Shaded Pole Motor	Cooler or Freezer Fan utilizing an ECM Motor	17.04	12.66	1.71	16.35
Food Service	ECM Display Case Motors	Low Efficiency Shaded Pole or Permanent Split Capacitor Motor	Display Case Fan utilizing an ECM Motor	3.45	2.57	1.23	3.81
Food Service	Pre Rinse Sprayers	Standard Sprayer >2.2 gpm	Efficient Low Flow Sprayer <= 1.6 gpm	7.69	6.89	1.44	11.46
Food Service	Snack Machine Controller	Snack machine without motion control	Snack machine with motion control to control machine light usage	2.58	1.33	1.08	2.03
HVAC	CEE Tier 1 Room A/C greater than 14,000 Btu/hr	Standard Room A/C unit, 8.5-9.7 EER	Consortium for Energy Efficiency (CEE) Tier 1 Room A/C unit, 9.8-111.2 Energy Efficiency Ratio (EER)	3.08	0.96	2.08	0.58
HVAC	CEE Tier 1 Room A/C less than 14,000 Btu/hr	Standard Room A/C unit, 9.7-9.8 EER	CEE Tier 1 Room A/C unit, 11.2-11.3 EER	4.02	1.19	2.47	0.65
HVAC	CEE Tier 2 Room A/C greater than 14,000 Btu/hr	Standard Room A/C unit, 8.5-9.7 EER	CEE Tier 2 Room A/C unit, 10.2-11.6 EER	3.58	0.98	2.29	0.55
HVAC	CEE Tier 2 Room A/C less than 14,000 Btu/hr	Standard Room A/C unit, 9.7-9.8 EER	CEE Tier 2 Room A/C unit, 11.6-11.8 EER	4.08	1.11	2.49	0.6
HVAC	Guest Room Energy Management, Electric Heat Pump	Guest Room without motion control on HVAC	Guest Room with motion sensor to reset temperature on HVAC system	2.03	1.21	0.98	1.84
HVAC	Guest Room Energy Management, Gas Heating (Electric Cooling Only)	Guest Room without motion control on HVAC	Guest Room with motion sensor to reset temperature on HVAC system	4.75	1.25	2.72	0.65
HVAC	High -Efficiency Commercial Electric Water Heater	Electric water heater 4.5 kW, EF=0.864	High efficient electric water heater (4.5 kw, EF=0.93)	5.91	4.18	1.44	5.67
Lighting	Ceramic Metal Halide 20-100W	Incandescent display lighting	Ceramic metal halide lamp/fixture 20-100W	5.48	1.81	1.36	2.03
Lighting	Ceramic Metal Halide with Integral Ballast	Incandescent display lighting (flood lights) ≥ 70W	Ceramic metal halide Flood Light with Integral Ballast ≤25W	1.40	0.38	0.77	0.56
Lighting	CFL Reflector Flood	Incandescent lamps with reflectors	Compact fluorescent lamps with reflectors	6.34	4.34	1.35	6.09
Lighting	CFL Screw High Wattage	Incandescent lamp	Compact fluorescent lamp more than 30W and less than 115W	6.53	3.30	1.36	4.17
Lighting	CFL Screw in, Specialty	Incandescent lamp	Compact fluorescent lamp less than 30W	7.36	5.04	1.39	6.98
Lighting	Delamping T12 2ft to T-8	T12 fluorescent	T8 fluorescent delamped (reduced lamps in comparison with original fixture)	7.46	1.45	1.46	1.46
Lighting	Delamping T12 3ft to T-8	T12 fluorescent	T8 fluorescent delamped (reduced lamps in comparison with original fixture)	8.39	2.11	1.50	2.17
Lighting	Delamping T12 4ft to T-8	T12 fluorescent	T8 fluorescent delamped (reduced lamps in comparison with original fixture)	8.72	2.46	1.51	2.56
Lighting	Delamping T12 8ft to T-8	T12 fluorescent	T8 fluorescent delamped (reduced lamps in comparison with original fixture)	8.37	3.77	1.50	4.27

Duke Energy Carolinas
Docket Number E-7 Sub 1001
Listing of Changes to Existing Energy Efficiency & Demand-side Management Programs

Equipment	Proposed Technologies	Base Efficiency Level	Proposed Efficiency Level	NC UCT_Cost Based Norm	NC TRC_Cost Based Norm	NC RIM (Net Fuel)_Cost Based Norm	Participant Test Results
Lighting	Exterior HID replacement above 175W to 250W HID retrofit	HID exterior lighting	LED or Induction exterior lighting, 40% wattage reduction from original fixture	1.55	0.33	0.93	0.48
Lighting	Exterior HID replacement above 250W to 400W HID retrofit	HID exterior lighting	LED or Induction exterior lighting, 40% wattage reduction from original fixture	1.65	0.35	0.96	0.5
Lighting	Exterior HID replacement above 400W HID retrofit	HID exterior lighting	LED or Induction exterior lighting, 40% wattage reduction from original fixture	1.59	0.48	0.94	0.73
Lighting	Exterior HID replacement to 175W HID retrofit	HID exterior lighting	LED or Induction exterior lighting, 40% wattage reduction from original fixture	1.31	0.27	0.84	0.42
Lighting	Garage HID replacement above 175W to 250W HID retrofit	HID exterior lighting	LED or Induction exterior lighting, 40% wattage reduction from original fixture	1.61	0.86	0.91	1.36
Lighting	Garage HID replacement above 250W to 400W HID retrofit	HID exterior lighting	LED or Induction exterior lighting, 40% wattage reduction from original fixture	1.66	0.92	0.93	1.45
Lighting	Garage HID replacement above 400W HID retrofit	HID exterior lighting	LED or Induction exterior lighting, 40% wattage reduction from original fixture	1.87	1.24	0.99	2.02
Lighting	Garage HID replacement to 175W HID retrofit	HID exterior lighting	LED or Induction exterior lighting, 40% wattage reduction from original fixture	1.64	0.76	0.92	1.15
Lighting	LED Downlight	Incandescent downlight	LED downlight (display lighting)	7.73	2.08	1.49	2.13
Lighting	LED Lamps	Incandescent lamp ≥ 60W	LED lamp ≤ 12W	6.46	1.59	1.43	1.65
Lighting	LW HPT8 4ft 1 lamp, replace T12	T12 fluorescent	High performance low watt lamp T8 fluorescent	2.90	1.34	1.12	1.75
Lighting	LW HPT8 4ft 2 lamp, replace T12	T12 fluorescent	High performance low watt lamp T8 fluorescent	2.97	1.57	1.13	2.12
Lighting	LW HPT8 4ft 3 lamp, replace T12	T12 fluorescent	High performance low watt lamp T8 fluorescent	3.97	2.01	1.25	2.54
Lighting	LW HPT8 4ft 4 lamp, replace T12	T12 fluorescent	High performance low watt lamp T8 fluorescent	3.58	2.14	1.21	2.89
Motors/Pumps/VFDs	VSD Air Compressors	Screw Air Compressor with Modulation Control	Screw Air compressor with Variable Speed Drive control to regulate air flow	4.62	3.75	1.38	5.3

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1001

In the Matter of Application of Duke Energy Carolinas, LLC For Approval of Vintage 4 Rider EE	))))	DIRECT TESTIMONY OF JANE L. MCMANEUS FOR DUKE ENERGY CAROLINAS, LLC

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Jane L. McManeus. My business address is 526 South Church Street, Charlotte, North Carolina.

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

A. I am Managing Director, Rates for Duke Energy Carolinas, LLC ("Duke Energy Carolinas" or the "Company").

Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL QUALIFICATIONS.

A. I graduated from Wake Forest University with a Bachelor of Science in Accountancy and received a Master of Business Administration degree from the McColl Graduate School of Business at Queens University of Charlotte. I am a certified public accountant licensed in the state of North Carolina and am a member of the Southeastern Electric Exchange Rates and Regulation Section and the EEI Rate and Regulatory Analysts group. I began my career with Duke Power Company ("Duke Power") (now known as Duke Energy Carolinas) in 1979 as a staff accountant and have held a variety of positions in the finance organizations. From 1994 until 1999, I served in financial planning and analysis positions within the electric transmission area of Duke Power. I was named Director, Asset Accounting for Duke Power in 1999 and appointed to Assistant Controller in 2001. As Assistant Controller I was responsible for coordinating Duke Power's operational and strategic plans, including development of the annual budget and performing special studies. I joined the Rates Department in 2003 as Director, Rate Design and Analysis. In April 2006, I became Director, Regulatory Accounting and Filings, leading the regulatory accounting, cost of service, regulatory filings, and revenue

analysis functions for Duke Energy Carolinas. I began my current position in the Rates Department in October 2006.

Q. PLEASE DESCRIBE YOUR DUTIES AS MANAGING DIRECTOR, RATES FOR DUKE ENERGY CAROLINAS.

A. I am responsible for providing regulatory support for retail and wholesale rates, providing guidance on compliance with regulatory conditions and codes of conduct, and managing Duke Energy Carolinas' fuel, renewables compliance and energy efficiency cost recovery process.

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION?

A. Yes. I testified in Duke Energy Carolinas' 2010 fuel charge adjustment proceedings in Docket No. E-7, Sub 934. I also appeared to present testimony in support of the Company's 2010 Renewable Energy and Energy Efficiency Portfolio Standard filings in Docket No. E-7, Sub 936 and in support of Duke Energy Carolinas' 2010 and 2011 Applications to update its demand-side management ("DSM") and energy efficiency ("EE") cost recovery rider, Rider EE, in Docket Nos. E-7, Sub 941 and E-7, Sub 979. In addition, I testified in Duke Energy Carolinas' 2011 general rate case proceeding in Docket No. E-7, Sub 989.

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

A. My testimony supports Duke Energy Carolinas' Application for approval of its Rider EE for Vintage 4 ("Rider 4"), which incorporates the fourth vintage of the Company's DSM and EE programs and includes a true-up for Vintage 2 programs. Rider 4 also includes an adjustment to the true-up for Vintage 1 to reflect the Evaluation, Measurement and Verification ("EM&V") agreement reached by the Company, Southern Alliance for

Clean Energy ("SACE") and the Public Staff and approved by the Commission in its *Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice* issued November 8, 2011 in Docket No. E-7, Sub 979 ("EM&V Agreement"). In particular, I will discuss the key concepts and attributes of the proposed Rider 4, as well as the mechanics and calculations that are incorporated within Rider 4.

Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR TESTIMONY.

A. McManeus Exhibit 1 summarizes the individual rider components for which the Company is requesting approval in this filing. As discussed above, Rider 4 includes amounts related to all four vintages of the save-a-watt pilot program. McManeus Exhibit 2 shows calculations of rates separately by vintage and separately for EE programs and DSM programs. McManeus Exhibit 3 shows the amounts that have been collected from customers through EE riders 1, 2 and 3 related to Vintages 1 and 2, the two vintages for which a true-up calculation is performed in this filing. McManeus Exhibit 4 presents the forecasted sales for the rate period, and the estimated sales related to customers that have opted out of various vintages. These amounts are used to determine the forecasted sales to which the Rider 4 amounts will apply. McManeus Exhibit 5 shows the allocation factors used to allocate system EE and DSM costs to North Carolina retail jurisdiction. McManeus Exhibit 6 is the proposed tariff sheet for Rider 4.

Q. WERE MCMANEUS EXHIBITS 1-6 PREPARED BY YOU OR AT YOUR DIRECTION AND SUPERVISION?

A. Yes, they were.

Q. PLEASE PROVIDE AN OVERVIEW OF COST RECOVERY UNDER THE MODIFIED SAVE-A-WATT COMPENSATION MECHANISM.

A. In accordance with the modified save-a-watt compensation mechanism described in the Agreement and Joint Stipulation of Settlement between Duke Energy Carolinas, the Public Staff, and SACE, Environmental Defense Fund, Natural Resources Defense Council, and the Southern Environmental Law Center filed June 12, 2009 in Docket No. E-7, Sub 831 ("Settlement Agreement") and approved in the North Carolina Utilities Commission's (the "Commission") *Order Approving Agreement and Joint Stipulation of Settlement Subject to Certain Commission-Required Modifications and Decisions on Contested Issues* issued February 9, 2010 in the same Docket ("Order"), Rider EE is designed to allow Duke Energy Carolinas to collect a level of revenue equal to 75% of its estimated avoided capacity costs applicable to DSM programs and 50% of the net present value ("NPV") of estimated avoided capacity and energy costs applicable to EE programs, and to recover net lost revenues for EE programs only. Revenues collected under Rider EE are based on the expected avoided costs (and the associated net lost revenues) to be realized at an 85% level of achievement of the Company's avoided cost savings target for the applicable vintage per the Settlement Agreement.

Billing factors for Rider EE are calculated separately for residential and non-residential customers. The residential charge is calculated based on the avoided costs of programs targeted to residential customers; the non-residential charge is calculated based on the avoided costs of programs targeted to non-residential customers.

The recovery mechanism employs a vintage year concept and the Company plans four calendar year vintages during its modified save-a-watt limited term pilot. The recovery includes annual net lost revenues associated with each vintage of EE programs for a three year period, therefore, the recovery of net lost revenues applicable to EE

programs for vintage years three and four will extend one year and two years beyond the initial four-year cost recovery period, respectively, unless terminated or adjusted by another regulatory action.

The Settlement Agreement provides for a series of vintage true-ups, or Experience Modification Factors, that will be conducted to update revenue requirements, including net lost revenues, based on actual customer participation results for each vintage. EM&V results are applied during vintage true-ups in accordance with the EM&V Agreement as described in the testimony of Company Witness Timothy Duff. The true-ups for each vintage will also incorporate the difference between 1) the revenues collected based on billings at 85% of targeted savings, which in turn are established based upon estimated participation levels and initial assumptions of load impacts; and 2) the amount of revenues that the Company is permitted to collect under the Settlement Agreement based on actual participation levels. Actual participation data will be utilized to revise forecasts of customer participation in the Company's EE and DSM programs for purposes of billing future vintages. The vintage true-ups will also provide the opportunity to recover the cost of pilot programs or new programs introduced during a vintage year.

After the end of the four-year modified save-a-watt pilot, the Company will perform a final true-up process. This process will include a final comparison of the revenues collected from customers through the Rider EE to the amount of revenue the Company is authorized to collect from customers based on the independently measured and verified results as described in the Settlement Agreement. Any difference will be flowed through to customers or will be collected from customers, as the case may be. If there are amounts owed to customers, such amounts will be refunded with interest.

The final true-up process also will include calculations that determine the earnings for the entire program and ensure that the level of compensation recovered by the Company is capped so that the after-tax rate of return on actual program costs applicable to EE and DSM programs does not exceed the predetermined earnings cap levels set out in the Settlement Agreement. Any excess earnings collected from customers will be refunded to customers with interest. The interest rate on any over-collection will be at a rate to be determined by the Commission in the first true-up proceeding in which an over-collection occurs.

Q. PLEASE EXPLAIN THE OPT-OUT PROCESS FOR NON-RESIDENTIAL CUSTOMERS.

A. In its *Order Granting Waiver, in Part, and Denying Waiver, in Part* ("Waiver Order") issued April 6, 2010 in Docket No. E-7, Sub 938, the Commission approved, in part, Duke Energy Carolinas' request for waiver of Commission Rule R8-69(d)(3), thereby allowing the Company to permit qualifying non-residential customers[1] to opt out of the DSM and/or EE portion of Rider EE during annual election periods. If a customer opts into a DSM program (or never opted out), it is required to participate for three years in the approved save-a-watt DSM programs and rider. If a customer chooses to participate in an EE program (or never opted out), that customer is required to pay the EE-related avoided cost revenue requirements and the net lost revenues for the corresponding vintage of the programs in which it participated. Customers that opt out of the Company's DSM and/or EE programs would remain opted-out for the term of the save-a-

[1] Individual commercial customer accounts with annual energy usage of not less than 1,000,000 kWh and any industrial customer account.

watt pilot, unless they choose to opt back in during any of the succeeding annual election periods, which occur from November 1 to December 31 each year. If a customer participates in any vintage of programs, the customer is subject to all true-up provisions of the approved Rider EE for any vintage in which the customer participates.

Q. WHAT ARE THE COMPONENTS OF RIDER 4?

A. The proposed Rider 4 consists of four distinct components: (1) a prospective Vintage 4 (2013) component designed to collect the estimated revenue requirements, including net lost revenues, for the Company's fourth vintage of programs; and (2) a prospective Vintage 3 (2012) component to recover the second year of estimated net lost revenues for Vintage 3 EE programs; (3) an EMF component which consists of the participation true-up for Vintage 2 (2011); and (4) an EMF component which consists of an adjustment to the previous participation true-up for Vintage 1 (2009/2010) to reflect the EM&V Agreement.

Q. WHAT IS THE RATE PERIOD FOR THE VINTAGE 4 COMPONENT OF RIDER 4?

A. In accordance with the Commission's *Order on Motions for Reconsideration* issued on June 3, 2010 in Docket No. E-7, Sub 938 ("Second Waiver Order"), the Company has calculated the Vintage 4 component of Rider 4 using the rate period January 1, 2013 through December 31, 2013.

Q. WHAT IS THE TEST PERIOD FOR THE EMF COMPONENT?

A. Pursuant to the Second Waiver Order, the "test period," for purposes of the modified save-a-watt portfolio of programs, is defined as the most recently completed vintage year at the time of the Company's Rider EE cost recovery application filing date, which in this

case is Vintage 2. In addition, the Second Waiver Order allows the EMF to cover multiple test periods. Accordingly, the test period for the EMF related to Vintage 2 is January 1, 2011 through December 31, 2011 and the test period for the EMF related to Vintage 1 is June 1, 2009 through December 31, 2010.

RIDER 4 PROSPECTIVE COMPONENTS

Q. WILL YOU PLEASE DESCRIBE THE BASIS FOR THE RATE PERIOD REVENUE REQUIREMENTS?

A. The estimated revenue requirements for Vintage 4 (2013) are determined separately for residential and non-residential customer classes and are based on the expected avoided costs (and associated net lost revenues) to be realized at an 85% level of achievement of targeted savings. The Commission-approved modified save-a-watt cost recovery mechanism provides for recovery of 75% of avoided cost savings from DSM programs and 50% of avoided cost savings from EE programs. In addition, the Company has approval to recover three years of lost revenues for each vintage of EE programs. As a result, the revenue requirements for the Vintage 4 component of proposed Rider 4 include: (1) the avoided cost revenue requirements for Vintage 4 DSM programs; (2) the avoided cost revenue requirements and the first year of net lost revenues for Vintage 4 EE programs.

In addition, the estimated net lost revenues associated for year two (2013) of Vintage 3 EE programs are included in Rider 4.

However, because Vintage 2 overlaps with the 2011 test period for the upcoming rate case, the net lost revenues for year three (2013) of Vintage 2 will be captured in the

new rates assumed to be effective January 1, 2013, and therefore are not included in proposed Rider 4.

Q. HOW ARE REVENUE REQUIREMENTS FOR THE PROSPECTIVE COMPONENTS ALLOCATED TO THE NORTH CAROLINA RETAIL JURISDICTION AND TO THE RESIDENTIAL AND NON-RESIDENTIAL RATE CLASSES?

A. Revenue requirements for the Company's DSM and EE programs are recovered from only the class or classes of retail customers to which the programs are targeted. The revenue requirements for EE programs targeted at retail residential customers across North Carolina and South Carolina are allocated to North Carolina retail jurisdiction based on the ratio of North Carolina retail kWh sales to total retail kWh sales, and then recovered only from North Carolina residential customers. The revenue requirements for EE programs targeted at retail non-residential customers across North Carolina and South Carolina are allocated to North Carolina retail jurisdiction based on the ratio of North Carolina retail kWh sales to total retail kWh sales, and then recovered from only North Carolina retail non-residential customers. For DSM programs, because residential and non-residential programs are similar in nature, the revenue requirement for all retail DSM programs targeted at both residential and non-residential customers across North Carolina and South Carolina are allocated to North Carolina retail jurisdiction based on North Carolina retail contribution to retail system peak demand. The North Carolina retail revenue requirements are then allocated between residential and non-residential customers based on each group's contribution to the North Carolina retail peak demand.

Consistent with the Commission's prior order, no costs will be allocated to wholesale jurisdiction. McManeus Exhibit 5 illustrates the allocations described above.

Q. HOW ARE THE BILLING FACTORS FOR THE PROSPECTIVE COMPONENTS OF RIDER 4 CALCULATED?

A. Billing factors are computed by dividing the revenue requirements for each customer class, residential and non-residential, by the forecasted sales for the rate period for the customer class. For non-residential rates, the forecasted sales exclude the estimated sales to customers who have elected to opt out of paying the Company's EE Rider. Because non-residential customers are allowed to opt out of either DSM or EE programs separately in an annual election, non-residential billing factors have been separately computed for DSM versus EE programs and within EE programs, by vintage.

Q. PLEASE EXPLAIN THE DETAILS OF THE CALCULATION OF THE DSM COMPONENT OF THE AVOIDED COST REVENUE REQUIREMENT INCLUDED IN THE COMPANY'S PROSPECTIVE COMPONENTS OF PROPOSED RIDER 4.

A. The DSM component is calculated by multiplying the following three figures: (1) projected kW demand impacts for the DSM measures for Vintage 4; (2) the Company's annual avoided capacity costs per kW, as set forth in the Company's original save-a-watt filing; and (3) 75%, which is the percentage of avoided costs for DSM to be collected through Rider EE pursuant to the Settlement Agreement.

Q. PLEASE EXPLAIN THE DETAILS OF THE CALCULATION OF THE EE COMPONENT OF THE AVOIDED COST REVENUE REQUIREMENT INCLUDED IN THE COMPANY'S PROPOSED RIDER 4.

A. The EE component is the sum of the avoided cost of capacity revenue requirement for EE programs and the avoided cost of energy revenue requirement for EE programs. The avoided cost of capacity revenue requirement is calculated by first multiplying the projected kW demand impacts for the EE programs by the annual avoided capacity costs per kW. The next step is to take the NPV of this number. Finally, the avoided capacity cost revenue requirement is multiplied by 50%, *i.e.*, the percentage of avoided costs for EE to be collected through Rider EE pursuant to the Settlement Agreement.

The avoided cost of energy revenue requirement is calculated by first multiplying the projected kWh energy impacts for the EE programs by the Company's annual avoided energy costs, from the Company's original save-a-watt filing. The next step is to take the NPV of this number and then multiply by 50%.

The results of these calculations are shown on Duff Exhibit 1 and are used on McManeus Exhibit 2 to compute the rate components of Rider 4.

Q. HAVE THE AVOIDED ENERGY AND CAPACITY COSTS BEEN UPDATED TO REFLECT THE AVOIDED COST RATES FROM THE COMPANY'S MOST RECENT AVOIDED COST FILING?

A. No. The Settlement Agreement provides that the avoided energy costs and avoided capacity costs are fixed at the outset of the four-year pilot and may only be revised if the Company's combined avoided energy and capacity costs increase or decrease by more than 25%. The combined avoided costs from the Company's most recent avoided cost filing in Docket No. E-100, Sub 127 compared to the Company's avoided costs from its previous Avoided Cost Filing in Docket No. E-100, Sub 106 are not 25% higher or lower.

Therefore, the Company's avoided energy and capacity costs for EE and DSM programs have not been updated.

Q. HOW WERE THE NET LOST REVENUES INCLUDED IN RIDER 4 DETERMINED?

A. Lost revenues were estimated by multiplying the portion of the Company's tariff rates that represent the recovery of fixed costs by the North Carolina retail kW and kWh reductions applicable to EE programs. The Company calculated the portion of North Carolina retail tariff rates (including riders) representing the recovery of fixed costs by deducting the recovery of fuel and variable O&M costs from its tariff rates. The lost revenues totals for residential and non-residential were reduced by North Carolina retail found revenues computed using the weighted average lost revenue rates for each customer class. The testimony and exhibits of witness Duff provide information on the actual and estimated found revenues which offset lost revenues. Pursuant to the Settlement Agreement and Order, the Company is not requesting net lost revenue recovery for its DSM measures.

Q. PLEASE DESCRIBE THE NET LOST REVENUES FOR WHICH THE COMPANY IS REQUESTING RECOVERY IN THE PROSPECTIVE COMPONENTS OF RIDER 4.

A. The Settlement Agreement allows the Company to recover net lost revenues associated with a particular vintage for a maximum of three years, and provides that the recovery of net lost revenues shall cease upon the implementation of new rates in a general rate case to the extent that the new rates are set to recover net lost revenues. Rider 4 incorporates net lost revenues for Vintages 3 and 4 in the following manner:

- Vintage 3 – The Company has included an estimate of 12 months of net lost revenues for year two (2013) of Vintage 3 in the prospective component of Rider 4. The amount is based on estimated NC retail kW and kWh reductions and the Company's most recently approved tariff rates resulting from its 2011 general rate case, which became effective February 1, 2012.
- Vintage 4 – The Company has included an estimate of net lost revenues for year one (2013) of Vintage 4 in the prospective component of Rider 4. The amount is based on estimated NC retail kW and kWh reductions and the Company's most recently approved rates resulting from its 2011 general rate case, which became effective February 1, 2012. For year one of Vintage 4 net lost revenues, the kW and kWh reductions to which the fixed costs rates are applied reflect an assumption that enrollment in programs will occur evenly throughout the year, resulting in a "half-year convention" (*i.e.*, 6 months of net lost revenues) which minimizes the potential for over-collection.

Q. ARE SALES AND DEMAND ADJUSTED FOR THE IMPACT OF "OPT-OUT" CUSTOMERS IN DETERMINING VINTAGE 4 REVENUE REQUIREMENTS?

A. Yes. Because there has been no election period related to Vintage 4 yet, the Company has used the information currently known regarding Vintage 3 opt-out elections as an estimate of Vintage 4 elections. The Company will reflect the actual opt-out results for Vintage 4 in the associated participation true-up.

Q. WHAT OTHER ADJUSTMENTS ARE MADE RELATED TO "OPT-OUT" CUSTOMERS?

A. The impact of opt-out results is also considered in the development of the Rider EE billing rates. Since the revenue requirements will not be recovered from non-residential customers that opt out of the Company's programs, the forecasted sales used to compute the rate per kWh for non-residential rates exclude sales of customers that have opted out of the vintage to which the rate applies.

Q. WHAT ARE THE COMPANY'S PROPOSED INITIAL BILLING FACTORS APPLICABLE TO NORTH CAROLINA JURISDICTIONAL ELECTRIC CUSTOMERS FOR THE PROSPECTIVE COMPONENTS OF RIDER 4?

A. The Company's proposed initial billing factor for the Rider 4 prospective components is 0.1057 cents per kWh for Duke Energy Carolinas' North Carolina retail residential customers. For non-residential customers, the amounts differ depending upon customer elections of participation. The following chart depicts the options and rider amounts:

Non-Residential Billing Factors for Rider 4 Prospective Components	**¢/kWh**
Vintage 2 EE participant	N/A[2]
Vintage 3 EE participant	0.0053
Vintage 4 EE participant	0.0744
Vintage 4 DSM participant	0.0594

These billing factors were determined based on jurisdictional revenue requirement levels that reflect the recovery of 75% of estimated avoided capacity costs for DSM, 50% of avoided capacity and energy costs for EE and net lost revenues for EE, calculated in

[2] The third year of net lost revenues for Vintage 2 will be collected through base rates as discussed on pages 9 and10 above.

accordance with the provisions of the Settlement Agreement as explained earlier in this testimony. In addition the revenue requirement levels included in the billing factors are based on 85% achievement of target savings.

TRUE-UP (EMF) COMPONENTS

Q. WHAT IS BEING "TRUED-UP" FOR VINTAGE 2?

A. The chart below demonstrates which components of the Vintage 2 estimate filed in 2009 that the Company is "truing up" in the Vintage 2 EMF component of Rider 4. McManeus Exhibit 2, pages 2 and 6 contain the calculation of the true-up for Vintage 2. The second year of net lost revenues for Vintage 2, which are a component of Rider 3 billings during 2012, will be trued-up to actual amounts during the next rider filing, when other components of Rider 3 are trued-up. Because Vintage 2 overlaps with the 2011 test period for the upcoming rate case, the net lost revenues for year three (2013) of Vintage 2 will be captured in the new rates assumed to be effective January 1, 2013, and therefore are not included in proposed Rider 4.

	V2 Estimate (2011) As Filed (Filed 2009)	**V2 True Up (2013) (Filed March 2012)**
	Rider 2	**Rider 4 EMF**
Avoided Costs	As filed Avoided Cost Rates from Docket No. E-7, Sub 106	As filed Avoided Cost Rates from Docket No. E-7, Sub 106
Lost Revenues	Estimated participation assuming 1/1/11 sign up date	Update for actual participation and actual 2011 rates
Participation	Estimated participation assuming 1/1/11 sign up date	Update for actual participation
Found Revenues	N/A (Commission's order regarding found revenues not yet issued)	Update for actual according to Commission-approved guidelines
M&V	Initial assumptions of load impacts	Updated according to Commission-approved EM&V Agreement
New Programs	Only includes programs approved prior to estimated filing	Update for any new programs and pilots approved and implemented since estimated filing

Q. WHY ARE THE AVOIDED COSTS RATES UNCHANGED?

A. As discussed above, the Company's combined avoided energy and capacity costs have not increased or decreased more than 25% from those fixed at the outset of the Settlement Agreement.

Q. HOW WERE THE LOAD IMPACTS UPDATED?

A. For DSM programs, the contracted amounts of kW reduction capability from participants are considered to be components of actual participation. As a result, the Vintage 2 true-up reflects the actual quantity of demand reduction capability for the Vintage 2 period. The load impacts for EE programs were updated in accordance with the Commission-approved EM&V Agreement.

Q. HOW WERE ACTUAL NET LOST REVENUES COMPUTED FOR THE VINTAGE 2 TRUE-UP?

A. Net lost revenues for year one (2011) of Vintage 2 were calculated using actual kW and kWh savings by NC retail participants by customer class, based on actual participation and load impacts reflecting EM&V results applied according to the EM&V Agreement. The actual kW and kWh savings were as experienced during the period January 1, 2011 through December 31, 2011. The rates applied to the kW and kWh savings are the rates that were in effect for the period January 1, 2011 through December 31, 2011. The lost revenues were then offset by actual found revenues for year one of Vintage 2 as explained by witness Duff. The calculation of net lost revenues was performed by rate schedule within the residential and non-residential customer classes.

Q. HOW DOES THE NET LOST REVENUE CALCULATION DIFFER FROM CALCULATIONS IN THE COMPANY'S PREVIOUS RIDER EE FILINGS?

A. In its original save-a-watt filings in Docket No. E-7, Sub 831, the Company's estimates of lost revenues were computed at the residential and non-residential class levels, using an average residential tariff rate and an average non-residential tariff rate. In its Rider 3 filing in Docket No. E-7, Sub 979, the Company computed its first true-up of lost revenues for actual participation using a similar approach: computing residential lost revenues using a weighted average of rate schedules RS and RE applied to total residential kW and kWh savings, and using a weighted average of rate schedules OPT-G and OPT-I applied to total non-residential kW and kWh savings. It was expected that these rate schedules would reflect the majority of participation in EE programs. In the direct testimony of Company Witness Jane L. McManeus in Docket No. E-7, Sub 979 it was explained that this approach was undertaken for simplicity and that the impact of the simplified approach was expected to be immaterial. The Company has since undertaken efforts to analyze the source of the kW and kWh reductions in more detail and has found that the non-residential kW and kWh savings for customers on rate schedules SGS, LGS and I are a more significant portion of the non-residential savings than originally expected. As a result, the use of only OPT-G and OPT-I rate schedules to compute lost revenues produces a material misstatement of lost revenues. Therefore, in this filing the Company has computed net lost revenues by separating the residential kW and kWh savings into rate schedule RS and RE amounts, and separating the non-residential kW and kWh savings into SGS, LGS, OPT-G, I, and OPT-I amounts.

Q. WHAT ARE THE COMPANY'S PROPOSED EMF BILLING FACTORS APPLICABLE TO NORTH CAROLINA JURISDICTIONAL ELECTRIC CUSTOMERS FOR THE VINTAGE 1 TRUE-UP COMPONENT OF RIDER 4?

A. The Company's proposed EMF billing factor for the Vintage 2 true-up component of Rider 4 is 0.0571 cents per kWh for Duke Energy Carolinas' North Carolina retail residential customers. For non-residential customers, the amounts differ depending upon customer elections of participation. The following chart depicts the options and rider amounts:

Non-Residential Billing Factors EMF Component (Vintage 2 True-up)	¢/kWh
Vintage 2 EE participant	0.0488
Vintage 2 DSM participant	0.0142

ADJUSTMENT TO VINTAGE 1 TRUE-UP

Q. WHY IS THE COMPANY INCLUDING AN ADJUSTMENT TO THE VINTAGE 1 TRUE-UP IN RIDER 4?

A. The parties to the EM&V Agreement agreed that the Company's proposed Rider 3 go into effect beginning January 1, 2012, and that any adjustments to the Vintage 1 true-up portion of Rider 3 due to the parties' agreement would be made in the Rider 4 filing.

Q. WHAT ADJUSTMENTS HAVE BEEN MADE RELATIVE TO THE PREVIOUS PARTICIPATION TRUE-UP FOR VINTAGE 1?

A. The load impacts determined through the EM&V process have been used in conjunction with actual participation to derive updated actual kW and kWh savings resulting from the Company's EE programs. The avoided cost revenue requirements and net lost revenues are then adjusted to reflect the revised kW and kWh savings. The load impacts have been applied according to the EM&V Agreement. In addition, as described above with respect

to the Vintage 2 true-up, the net lost revenues for Vintage 1 have been recomputed with greater separation by rate schedule.

Q. WHAT ARE THE COMPANY'S PROPOSED EMF BILLING FACTORS APPLICABLE TO NORTH CAROLINA JURISDICTIONAL ELECTRIC CUSTOMERS FOR THE VINTAGE 1 TRUE-UP ADJUSTMENT?

A. The Company's proposed EMF billing factor for the Vintage 1 true-up adjustment component of Rider 4 is 0.0067 cents per kWh for Duke Energy Carolinas' North Carolina retail residential customers. For non-residential customers, the amounts differ depending upon customer elections of participation. The following chart depicts the options and rider amounts:

Non-Residential Billing Factors EMF Component (Vintage 1 True-up Adjustment)	**¢/kWh**
Vintage 1 EE participant	0.0155
Vintage 1 DSM participant	(0.0013)

SUMMARY

Q. PLEASE SUMMARIZE THE SPECIFIC RATE MAKING APPROVAL REQUESTED BY DUKE ENERGY CAROLINAS.

A. Duke Energy Carolinas is seeking approval of Rider 4, which includes the formula for calculation of the Rider, as well as the charge to be effective for Vintage 4. As discussed above, the charge for Rider 4 contains a prospective Vintage 4 component; a prospective Vintage 3 component; and EMF components related to Vintage 1 and Vintage 2. Accordingly, the charge for Rider 4 for the Company's North Carolina retail residential customers is simply the sum of: (1) the residential billing factor for the prospective Rider

4 component; (2) the residential billing factor for the Vintage 2 EMF component; and (3) the residential billing factor for the Vintage 1 true-up adjustment. The proposed charge for Rider 4 for the Company's non-residential customers is the sum of: (1) the non-residential billing factor(s) for the Vintage 4 component that apply to that non-residential customer based on its participation in EE and/or DSM programs; (2) the non-residential billing factor for Vintage 3 component that apply to that non-residential customer that participated in Vintage 3 EE programs; (3) the non-residential billing factor(s) for the Vintage 2 EMF components that apply to that non-residential customer based on its participation in EE and/or DSM programs; and Vintage 1 true-up adjustment components that apply to that non-residential customer based on its participation in EE and/or DSM programs.

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

A. Yes.

McManeus Exhibit 1

Duke Energy Carolinas
DSM/EE Cost Recovery Rider 4
Docket Number E-7 Sub 1001
Exhibit Summary for Rider EE Exhibits and Factors

Residential Billing Factor

Residential EE Rider Revenue Requirement True-up Components

Vintage 1 EMF

1	Costs to be Recovered for Vintage 1 EE True-up Revenue Requirement	McManeus Exhibit 2 pg. 1, line 9	$	1,825,212	
2	Costs to be Recovered for Vintage 1 DSM True-up Revenue Requirement	McManeus Exhibit 2 pg. 5, line 7	$	(414,537)	
3	*Revenue Requirement Vintage 1 True-up Component for Residential Rider EE (cents per kWh)*	Line 1 + Line 2	$	1,410,675	
4	Projected NC Residential Sales (kWh) for rate period	McManeus Exhibit 4		20,920,337,000	
5	*Revenue Requirement Vintage 1 True-up Component for Residential Rider EE (cents per kWh)*	line 5 / Line 6 * 100	$	0.0067	Application

Vintage 2 EMF

6	Costs to be Recovered for Vintage 2 EE True-up Revenue Requirement	McManeus Exhibit 2 pg. 2, line 9	$	10,656,915	
7	Costs to be Recovered for Vintage 2 DSM True-up Revenue Requirement	McManeus Exhibit 2 pg. 6, line 7	$	1,280,116	
8	*Total True-up Components of Residential Revenue Requirement to be recovered in Rider 4*	Line 6 + Line 7	$	11,937,031	
9	Projected NC Residential Sales (kWh) for rate period	McManeus Exhibit 4		20,920,337,000	
10	*Revenue Requirement Vintage 2 True-up Component for Residential Rider EE (cents per kWh)*	line 5 / Line 6 * 100		0.0571	Application

Residential EE Rider Revenue Requirement Prospective Components

11	Costs to be Recovered for Vintage 3 EE Prospective Amounts Revenue Requirement	McManeus Exhibit 2 pg. 3, line 3	$	3,047,820	
12	Costs to be Recovered for Vintage 4 EE Prospective Amounts Revenue Requirement	McManeus Exhibit 2 pg. 4, line 7	$	7,394,100	
13	Costs to be Recovered for Vintage 4 DSM Prospective Amounts Revenue Requirement	McManeus Exhibit 2 pg. 7, line 5	$	11,665,208	
14	*Total Prospective Components of Residential Revenue Requirement to be recovered in Rider 4*	sum (Line 11 - Line 13)	$	22,107,128	
15	Projected NC Residential Sales (kWh) for rate period	McManeus Exhibit 4		20,920,337,000	
16	*Revenue Requirement Vintage 3 and Vintage 4 Prospective Component for Residential Rider EE (cents per kWh)*	line 14 / Line 15 * 100		0.1057	Application

Non-Residential Billing Factors for Rider 4 True-Up Components

SAW EE Revenue Requirements True-up

17	Costs to be Recovered for Vintage 1 True-up - Vintage 1 EE Participant	McManeus Exhibit 2 pg. 1, line 18	$	4,078,607	
18	Projected Vintage 1 EE Participants NC Non-Residential Sales (kwh) for rate period	McManeus Exhibit 4		26,378,016,065	
19	*SAW EE Revenue Requirement Vintage 1 True-up Non-Residential Rider EE (cents per kWh)*	Line 17/line 18 * 100		0.0155	Application
20	Costs to be Recovered for Vintage 2 True-up - Vintage 2 EE Participant	McManeus Exhibit 2 pg. 2, line 18	$	12,933,987	
21	Projected Vintage 2 EE Participants NC Non-Residential Sales (kwh) for rate period	McManeus Exhibit 4		26,509,644,609	
22	*SAW EE Revenue Requirement Vintage 2 True-up Non-Residential Rider EE (cents per kWh)*	line 20/line 21 * 100		0.0488	Application

DSM Revenue Requirements True-up

23	Costs to be Recovered for Vintage 1 True-up - Vintage 1 DSM Participant	McManeus Exhibit 2 pg. 5, line 14	$	(349,411)	
24	Projected Vintage 1 DSM Participants NC Non-Residential Sales (kwh) for rate period	McManeus Exhibit 4		25,982,244,597	
25	*DSM Revenue Requirement Vintage 1 True-up Non-Residential Rider EE (cents per kWh)*	line 23/line 24 * 100		(0.0013)	Application
26	Costs to be Recovered for Vintage 2 True-up - Vintage 2 DSM Participant	McManeus Exhibit 2 pg. 6, line 14	$	3,596,290	
27	Projected Vintage 2 DSM Participants NC Non-Residential Sales (kwh) for rate period	McManeus Exhibit 4		25,413,539,157	
28	*DSM Revenue Requirement Vintage 2 True-up Non-Residential Rider EE (cents per kWh)*	line 26/line 27 * 100		0.0142	Application

Non-Residential Billing Factors for Rider 4 Prospective Components

SAW EE Revenue Requirements Prospective Components

29	Total EE Revenue Requirement - Vintage 3 EE Participant	McManeus Exhibit 2 pg. 3, line 6	$	1,418,748	
30	Projected Vintage 3 EE Participants NC Non-Residential Sales (kwh) for rate period	McManeus Exhibit 4		26,947,143,441	
31	*SAW EE Revenue Requirement Vintage 3 Lost Revenues Non-Residential Rider EE (cents per kWh)*	line 29/line 30 * 100		0.0053	Application
32	Total EE Revenue Requirement - Vintage 4 EE Participant	McManeus Exhibit 2 pg. 4, line 14	$	20,040,852	
33	Projected Vintage 4 EE Participants NC Non-Residential Sales (kwh) for rate period	McManeus Exhibit 4		26,947,143,441	
34	*SAW EE Revenue Requirement Vintage 4 Lost Revenues Non-Residential Rider EE (cents per kWh)*	line 32/line 33 * 100		0.0744	Application

DSM Revenue Requirements Prospective Component

35	DSM Revenue Requirement - Vintage 4 DSM Participant	McManeus Exhibit 2 pg. 7, line 10	$	15,286,706	
36	Projected Vintage 4 DSM Participants NC Non-Residential Sales (kwh) for rate period	McManeus Exhibit 4		25,747,908,609	
37	*DSM Revenue Requirement Vintage 4 Prospective Non-Residential Rider EE (cents per kWh)*	line 35/line 36 * 100		0.0594	Application

Total costs to be recovered in Rider 4 from Non-Residential Customers

17	Costs to be Recovered for Vintage 1 True-up - Vintage 1 EE Participant	$	4,078,607	
20	Costs to be Recovered for Vintage 2 True-up - Vintage 2 EE Participant	$	12,933,987	
29	Total EE Revenue Requirement - Vintage 3 EE Participant	$	1,418,748	
32	Total EE Revenue Requirement - Vintage 4 EE Participant	$	20,040,852	
23	Costs to be Recovered for Vintage 1 True-up - Vintage 1 DSM Participant	$	(349,411)	
26	Costs to be Recovered for Vintage 2 True-up - Vintage 2 DSM Participant	$	3,596,290	
35	DSM Revenue Requirement - Vintage 4 DSM Participant	$	15,286,706	
		$	57,005,779	Application

Duke Energy Carolinas
EE Vintage 1 True-Up of Avoided Cost Revenue Requirements & Net Lost Revenues
Docket Number E-7, Sub 1001
Calculation of True-Up for Years 1, 2, and 3

McManeus Exhibit 2 pg. 1

RESIDENTIAL

			Vintage 1, Year 1 Net Lost Revenues	Vintage 1, Year 2 Net Lost Revenues*	Total Vintage 1, Year 1 and Year 2 Net Lost Revenue True-up
1	EE Avoided Cost Component	Duff Exhibit 1 pg. 1 & 2, line 6	$ 35,749,572		
2	Gross Receipts Tax and Regulatory Fee		1.034554		
3	EE Avoided Cost Component	Line 1 * Line 2	$ 36,984,863		$ 36,984,863
4	Net Lost Revenues	Duff Exhibit 2, Line 7	$ 6,269,717	$ 18,416,712	$ 24,686,429
5	Residential Save-A-Watt Revenue Requirement	Line 3 + Line 4			61,671,292
6	Billing Factor				85%
7	Residential Save-A-Watt Revenue Requirement	Line 5 * Line 6			$ 52,420,598
8	Total Collected for Vintage 1 (Rider 1, Rider 2, Rider 3)	McManeus Exhibit 3, Line 1			$ 50,595,386
9	Residential True-up Amount	Line 7 - Line 8			$ 1,825,212

See McManeus Exhibit 1 for rate

NON-RESIDENTIAL

			Vintage 1, Year 1 Net Lost Revenues	Vintage 1, Year 2 Net Lost Revenues*	Total Vintage 1, Year 1 and Year 2 Net Lost Revenue True-up
10	EE Avoided Cost Component	Duff Exhibit 1 pg. 1, line 13 & pg. 2, Line 14	$ 18,824,789		
11	Gross Receipts Tax and Regulatory Fee		1.034554		
12	EE Avoided Cost Component	Line 10 * Line 11	$ 19,475,261		$ 19,475,261
13	Total Net Lost Revenues	Duff Exhibit 2, Line 16	$ 722,297	$ 1,238,563	$ 1,960,861
14	Non-Residential Save-A-Watt Revenue Requirement	Line 12 + Line 13			21,436,121
15	Billing Factor				85%
16	Non-Residential Save-A-Watt Revenue Requirement	Line 14 * Line 15			$ 18,220,703
17	Total Collected for Vintage 1 (Rider 1, Rider 2, Rider 3)	McManeus Exhibit 3, Line 5			$ 14,142,096
18	Non-Residential True-up Amount	Line 16 - Line 17			$ 4,078,607
19	Projected NC Non-Residential Sales (kWh) for billing period	McManeus Exhibit 4			26,378,016,065
20	**Non-Residential Rider EE (cents per kWh)**	Line 18/Line 19 * 100			**0.0155**

* Includes 1 month of Year 3 (January 2012)

Duke Energy Carolinas
EE Vintage 2 True-Up of Avoided Cost Revenue Requirements & Net Lost Revenues
Docket Number E-7, Sub 1001
Calculation of True-Up for Year 1

McManeus Exhibit 2 pg. 2

RESIDENTIAL

			Vintage 2, Year 1 Net Lost Revenues
1	EE Avoided Cost Component	Duff Exhibit 1 pg. 3, Line 7	$ 30,748,453
2	Gross Receipts Tax and Regulatory Fee		1.034554
3	EE Avoided Cost Component	Line 1 * Line 2	$ 31,810,935
4	Net Lost Revenues	Duff Exhibit 2, Line 24	$ 7,363,278
5	Residential Save-A-Watt Revenue Requirement	Line 3 + Line 4	39,174,213
6	Billing Factor		85%
7	Residential Save-A-Watt Revenue Requirement	Line 5 * Line 6	$ 33,298,081
8	Total Collected for Vintage 2 (Rider 2)	McManeus Exhibit 3, Line 2	22,641,166
9	Residential True-up Amount	Line 7 - Line 8	$ 10,656,915
			See McManeus Exhibit 1 for rate

NON-RESIDENTIAL

			Vintage 2, Year 1 Net Lost Revenues
10	EE Avoided Cost Component	Duff Exhibit 1 pg. 3, Line 16	$ 21,539,255
11	Gross Receipts Tax and Regulatory Fee		1.034554
12	EE Avoided Cost Component	Line 10 * Line 11	$ 22,283,522
13	Total Net Lost Revenues	Duff Exhibit 2, Line 34	$ 1,363,302
14	Non-Residential Save-A-Watt Revenue Requirement	Line 12 + Line 13	$ 23,646,824
15	Billing Factor		85%
16	Non-Residential Save-A-Watt Revenue Requirement	Line 14 * Line 15	$ 20,099,800
17	Total Collected for Vintage 2 (Rider 2)	McManeus Exhibit 3, Line 6	$ 7,165,813
18	Non-Residential True-up Amount	Line 16 - Line 17	$ 12,933,987
19	Projected NC Residential Sales (kWh) for billing period	McManeus Exhibit 4	26,509,644,609
20	**Non-Residential Rider EE (cents per kWh)**	Line 18/Line 19 * 100	**0.0488**

Duke Energy Carolinas
EE Vintage 3 Year 2 Net Lost Revenues Estimate
Docket Number E-7, Sub 1001
Calculation of Estimate for Year 2

RESIDENTIAL

			Vintage 3, Year 2 Net Lost Revenue Estimate
1	Net Lost Revenues	Duff Exhibit 2, Line 43	$ 3,585,671
2	Billing Factor		85%
3	Residential Save-A-Watt Revenue Requirement	Line 1 * Line 2	$ 3,047,820
			See McManeus Exhibit 1 for rate

NON-RESIDENTIAL

			Vintage 3, Year 2 Net Lost Revenue Estimate
4	Total Net Lost Revenues	Duff Exhibit 2, Line 53	$ 1,669,116
5	Billing Factor		85%
6	Non-Residential Save-A-Watt Revenue Requirement	Line 4 * Line 5	$ 1,418,748
7	Projected NC Residential Sales (kWh) for billing period	McManeus Exhibit 4	26,947,143,441
8	**Non-Residential Rider EE (cents per kWh)**	Line 6/Line 7 * 100	**0.0053**

Duke Energy Carolinas **McManeus Exhibit 2 pg. 4**
EE Vintage 4 Avoided Cost Revenue Requirements & Net Lost Revenues Estimate
Docket Number E-7, Sub 1001
Calculation of Estimate for Year 1

RESIDENTIAL

			Vintage 4, Year 1 Net Lost Revenues
1	EE Avoided Cost Component	Duff Exhibit 1 pg. 4, Line 6	$ 7,018,191
2	Gross Receipts Tax and Regulatory Fee		1.034554
3	EE Avoided Cost Component	Line 1 * Line 2	$ 7,260,698
4	Net Lost Revenues	Duff Exhibit 2, Line 60	$ 1,438,243
5	Residential Save-A-Watt Revenue Requirement	Line 3 + Line 4	8,698,941
6	Billing Factor		85%
7	Residential Save-A-Watt Revenue Requirement	Line 5 * Line 6	$ 7,394,100
			See McManeus Exhibit 1 for rate

NON-RESIDENTIAL

			Vintage 4, Year 1 Net Lost Revenues
8	EE Avoided Cost Component	Duff Exhibit 1 pg. 4, Line 14	$ 22,071,086
9	Gross Receipts Tax and Regulatory Fee		1.034554
10	EE Avoided Cost Component	Line 8 * Line 9	$ 22,833,730
11	Total Net Lost Revenues	Duff Exhibit 2, Line 69	$ 743,743
12	Non-Residential Save-A-Watt Revenue Requirement	Line 10 + Line 11	$ 23,577,473
13	Billing Factor		85%
14	Non-Residential Save-A-Watt Revenue Requirement	Line 12 * Line 13	$ 20,040,852
15	Projected NC Residential Sales (kWh) for rate period	McManeus Exhibit 4	26,947,143,441
16	**Non-Residential Rider EE (cents per kWh)**	Line 14/ Line 15 * 100	**0.0744**

Duke Energy Carolinas
DSM Vintage 1 True-Up of Avoided Cost Revenue Requirements
Docket Number E-7, Sub 1001
Calculation of True-Up

McManeus Exhibit 2 pg. 5

RESIDENTIAL

			Vintage 1
1	DSM Avoided Cost Component	Duff Exhibit 1 pg. 1 & 2, line 7	$ 9,676,899
2	Gross Receipts Tax and Regulatory Fee		1.034554
3	DSM Avoided Cost Component	Line 1 * Line 2	$ 10,011,275
4	Billing Factor		85%
5	Residential DSM Revenue Requirement	Line 3 * Line 4	$ 8,509,584
6	Total Collected for Vintage 1 (Rider 1, Rider 3)	McManeus Exhibit 3, Line 3	$ 8,924,121
7	Residential True-up Amount	Line 5 - Line 6	$ (414,537)
			See McManeus Exhibit 1 for rate

NON-RESIDENTIAL

			Vintage 1
8	DSM Avoided Cost Component	Duff Exhibit 1 pg. 1, line 14 & pg. 2, line 15	$ 11,346,382
9	Gross Receipts Tax and Regulatory Fee		1.034554
10	DSM Avoided Cost Component	Line 8 * Line 9	$ 11,738,445
11	Billing Factor		85%
12	Non- Residential DSM Revenue Requirement	Line 10 * Line 11	$ 9,977,678
13	Total Collected for Vintage 1 (Rider 1, Rider 3)	McManeus Exhibit 3, Line 7	$ 10,327,089
14	Non-Residential True-up Amount	Line 12 - Line 13	$ (349,411)
15	Projected NC Non-Residential Sales (kWh) for billing period	McManeus Exhibit 4	25,982,244,597
16	**Non-Residential Rider EE (cents per kWh)**	Line 14/Line 15 * 100	**(0.0013)**

Duke Energy Carolinas
DSM Vintage 2 True-Up of Avoided Cost Revenue Requirements
Docket Number E-7, Sub 1001
Calculation of True-Up

McManeus Exhibit 2 pg. 6

RESIDENTIAL

			Vintage 2
1	DSM Avoided Cost Component	Duff Exhibit 1, Pg 3, Line 8	$ 9,711,058
2	Gross Receipts Tax and Regulatory Fee		1.034554
3	DSM Avoided Cost Component	Line 1 * Line 2	$ 10,046,614
4	Billing Factor		85%
5	Residential DSM Revenue Requirement	Line 3 * Line 4	$ 8,539,622
6	Total Collected for Vintage 1 (Rider 2)	McManeus Exhibit 3, Line 4	$ 7,259,506
7	Residential True-up Amount	Line 5 - Line 6	$ 1,280,116
			See McManeus Exhibit 1 for rate

NON-RESIDENTIAL

			Vintage 2
8	DSM Avoided Cost Component	Duff Exhibit 1, Pg 3, Line 17	$ 12,725,885
9	Gross Receipts Tax and Regulatory Fee		1.034554
10	DSM Avoided Cost Component	Line 8 * Line 9	$ 13,165,615
11	Billing Factor		85%
12	Non- Residential DSM Revenue Requirement	Line 10 * Line 11	$ 11,190,773
13	Total Collected for Vintage 1 (Rider 2)	McManeus Exhibit 3, Line 8	$ 7,594,483
14	Non-Residential True-up Amount	Line 12 - Line 13	$ 3,596,290
15	Projected NC Non-Residential Sales (kWh) for billing period	McManeus Exhibit 4	25,413,539,157
16	**Non-Residential Rider EE (cents per kWh)**	Line 14/Line 15 * 100	**0.0142**

Duke Energy Carolinas
DSM Vintage 4 Avoided Cost Revenue Requirement Estimate
Docket Number E-7, Sub 1001

McManeus Exhibit 2 pg. 7

RESIDENTIAL

			Vintage 4
1	DSM Avoided Cost Component	Duff Exhibit 1, Pg 4, Line 7	$ 13,265,401
2	Gross Receipts Tax and Regulatory Fee		1.034554
3	DSM Avoided Cost Component	Line 1 * Line 2	$ 13,723,774
4	Billing Factor		85%
5	Residential DSM Revenue Requirement	Line 3 * Line 4	$ 11,665,208
			See McManeus Exhibit 1 for rate

NON-RESIDENTIAL

			Vintage 4
6	DSM Avoided Cost Component	Duff Exhibit 1, Pg 4, Line 15	$ 17,383,684
7	Gross Receipts Tax and Regulatory Fee		1.034554
8	DSM Avoided Cost Component	Line 6 * Line 7	$ 17,984,360
9	Billing Factor		85%
10	Non- Residential DSM Revenue Requirement	Line 8 * Line 9	$ 15,286,706
11	Projected NC Non-Residential Sales (kWh) for billing period	McManeus Exhibit 4	25,747,908,609
12	**Non-Residential Rider EE (cents per kWh)**	Line 10/Line 11 * 100	**0.0594**

Duke Energy Carolinas **McManeus Exhibit 3**

DSM/EE Revenues Collected from Riders (By Vintage)

Docket Number E-7, Sub 1001

For Vintage 1 and Vintage 2 True-Up Calculations

			Actual 2010 Rider 1	Actual 2011 Rider 2	Estimated 2012 Rider 3	Total
	Residential					
1	EE	v1	25,916,921	6,366,243	18,312,222	50,595,386
2		v2		22,641,166		22,641,166
3	DSM	v1	6,461,100		2,463,020	8,924,121
4		v2		7,259,506		7,259,506
	Non-Res.					
5	EE	v1	7,688,412	860,011	5,593,673	14,142,096
6		v2		7,165,813		7,165,813
7	DSM	v1	5,118,264		5,208,825	10,327,089
8		v2		7,594,483		7,594,483

Duke Energy Carolinas
DSM/EE Cost Recovery Rider 4
Docket Number E-7 Sub 1001
Forecasted kWh Sales for Rate Period

McManeus Exhibit 4

		Total 2013
	Fall 2011 Sales Forecast - kWhs	
	North Carolina Retail:	
1	Residential	**20,920,337,000**
2	Non-Residential	**34,624,204,000**
3	Total Retail	**55,544,541,000**
	Opt Out Sales	
		2011 kWh Usage
	Vintage 1 Opt Out	
4	EE	8,246,187,935
5	DSM	8,641,959,403
	Vintage 2 Opt Out	
6	EE	8,114,559,391
7	DSM	9,210,664,843
	Vintage 3 Opt Out	
8	EE	7,677,060,559
9	DSM	8,876,295,391
10	Vintage 4 Opt Out	Use Vintage 3 as proxy

Non-Residental Forecast Sales Less Opt Out

		V1 EE Rate Components	V1 DSM Rate Components	V2 EE Rate Components	V2 DSM Rate Components	V3 EE Rate Components	V4 EE Rate Components	V4 DSM Rate Components
11	Total Non-Residential	34,624,204,000	34,624,204,000	34,624,204,000	34,624,204,000	34,624,204,000	34,624,204,000	34,624,204,000
12	Less V1 EE Opt Out	8,246,187,935						
13	Less V1 DSM Opt Out		8,641,959,403					
14	Less V2 EE Opt Out			8,114,559,391				
15	Less V2 DSM Opt Out				9,210,664,843			
16	Less V3 EE Opt Out					7,677,060,559		
17	Less V3 EE Opt Out						7,677,060,559	
18	Less V3 DSM Opt Out							8,876,295,391
19	Sales for Rider Calculation	**26,378,016,065**	**25,982,244,597**	**26,509,644,609**	**25,413,539,157**	**26,947,143,441**	**26,947,143,441**	**25,747,908,609**

McManeus Exhibit 5 pg. 1

Duke Energy Carolinas
EE Vintage 1 True Up for the Period June 1, 2009 to December 31, 2009
Docket Number E-7, Sub 1001
Allocation Factors

			MWH		
SAW Sales Allocator					
1	NC RetailMWH Sales Allocation	Company Records	53,842,194		
2	SC Retail MWH Sales Allocation	Company Records	19,906,425		
3	Total Retail	Line 1 + Line 2	73,748,619		
	Allocation 1 to state based on kWh sales				
4	NC Retail	Line 1 / Line 3	**73.0077318%**		
Demand Allocators			**NC**	**SC**	**Total**
5	Residential	Company Records	5,281,284	1,692,049	6,973,333
6	Non Residential	Company Records	6,218,623	2,386,563	8,605,186
7	Total	Line 5 + Line 6	11,499,907	4,078,612	15,578,519
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	**73.8190004%**		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line 5 / Line 7	**33.9010659%**		
10	NC Non-residential	Line 6 / Line 7	**39.9179344%**		

McManeus Exhibit 5 pg. 2

Duke Energy Carolinas
EE Vintage 1 True Up for the Period January 1, 2010 to December 31, 2010
Docket Number E-7, Sub 1001
Allocation Factors

			MWH		
SAW Sales Allocator					
1	NC RetailMWH Sales Allocation	Company Records	57,382,346		
2	SC Retail MWH Sales Allocation	Company Records	21,540,084		
3	Total Retail	Line 1 + Line 2	78,922,430		
	Allocation 1 to state based on kWh sales				
4	NC Retail	Line 1 / Line 3	**72.7072722%**		
Demand Allocators			**NC**	**SC**	**Total**
5	Residential	Company Records	5,494,974	1,731,591	7,226,565
6	Non Residential	Company Records	6,437,669	2,290,766	8,728,435
7	Total	Line 5 + Line 6	11,932,643	4,022,357	15,955,000
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	**74.7893638%**		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line 5 / Line 7	**34.4404513%**		
10	NC Non-residential	Line 6 / Line 7	**40.3489126%**		

McManeus Exhibit 5 pg. 3

Duke Energy Carolinas
DSM/EE Cost Recovery Rider 4 for the Period January 1, 2011 to December 31, 2011
Docket Number E-7, Sub 1001
Allocation Factors

			MWH		
SAW Sales Allocator					
1	NC RetailMWH Sales Allocation	Company Records	55,966,071		
2	SC Retail MWH Sales Allocation	Company Records	21,019,094		
3	Total Retail	Line 1 + Line 2	76,985,165		
	Allocation 1 to state based on kWh sales				
4	NC Retail	Line 1 / Line 3	**72.6972151%**		
Demand Allocators			**NC**	**SC**	**Total**
5	Residential	Company Records	5,179,896	1,627,477	6,807,373
6	Non Residential	Company Records	6,788,010	2,476,617	9,264,627
7	Total	Line 5 + Line 6	11,967,906	4,104,094	16,072,000
	Allocation 2 to state based on peak demand				
8	NC Retail	Line 7, NC / Line 7 Total	**74.4643230%**		
	Allocation 3 NC res vs non-res Peak Demand to retail system peak				
9	NC Residential	Line 5 / Line 7	**32.2293181%**		
10	NC Non-residential	Line 6 / Line 7	**42.2350050%**		

Duke Energy Carolinas, LLC

McManeus Exhibit 6
Electricity No. 4
North Carolina Sixth (Proposed) Revised Leaf No. 62
Superseding North Carolinas Fifth Revised Leaf No. 62

RIDER EE (NC)
ENERGY EFFICIENCY RIDER

APPLICABILITY (North Carolina Only)

Service supplied under the Company's rate schedules is subject to approved adjustments for new energy efficiency and demand-side management programs approved by the North Carolina Utilities Commission (NCUC). The Rider Adjustments are not included in the Rate Schedules of the Company and therefore, must be applied to the bill as calculated under the applicable rate. Cost recovery under Rider EE is a four-year limited term pilot.

GENERAL PROVISIONS

This Rider will recover the cost of new energy efficiency and demand-side management programs, using the method approved by the NCUC, for programs implemented over a four-year period (*i.e.*, comprising four 12-month program years or "Vintage Years"). In each year this Rider will include components to recover revenue requirements related to demand-side management and energy efficiency programs implemented in that Vintage Year, as well as net lost revenues resulting from the energy efficiency programs. Net lost revenues are revenue losses, net of both marginal costs avoided at the time of the lost kilowatt hour sale(s) and increases in revenues resulting from any activity by the Company's public utility operations that cause a customer to increase demand or energy consumption. Net lost revenues associated with each Vintage Year will be recovered for 36 months upon implementation, except that the recovery of net lost revenues will end upon implementation of new rates approved by the Commission in a general rate case or comparable proceeding to the extent that rates are set in a rate case for vintages up to that point. To recover net lost revenues for programs implemented in years 3 and 4, the Rider will continue beyond the four-year period.

Revenue requirements will be determined on a system basis and allocated to North Carolina retail customers based on the North Carolina retail contribution to system retail peak demand for demand side management programs and North Carolina retail contribution to system retail kWh sales for energy efficiency programs. Residential customer classes will pay for residential programs and non-residential customer classes will pay for non-residential programs through methods found appropriate by the Commission for demand-side management and energy efficiency programs, respectively. All allocation factors will be based on the Company's most recently completed cost of service study utilizing the allocation method approved by NCUC in the Company's most recent general rate proceeding and will exclude the amounts related to customers that elect to opt out of this Rider.

TRUE-UP PROVISIONS

Rider amounts will initially be determined based on estimated kW and kWh impacts related to expected customer participation in the programs, and will be trued-up as actual customer participation and actual kW and kWh impacts are verified. If a customer participates in any vintage of programs, the customer is subject to the true-ups as discussed in this section for any vintage of programs in which the customer participated.

Participation true-ups: After the completion of the first Vintage Year, the Rider will include a true-up of previous Rider amounts billed to reflect actual customer participation in the programs.

Measurement and verification true-up: In the sixth year a final true-up will be based on changes in participation combined with actual verified kW and kWh savings.

Earnings cap true-up: In the sixth year, a true up will adjust customer bills, if applicable, to refund with interest, amounts collected through the Rider in excess of the earnings cap, in accordance with the following levels of achievement of actual energy and peak demand reductions and allowed return on investment.

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

DETERMINATION OF ENERGY EFFICIENCY RIDER ADJUSTMENT

Energy Efficiency Adjustments (EEA) will be applied to the energy in kilowatt hours (kWh) billed of all rate schedules for each vintage as determined by the following formula, adjusted as appropriate for the time value of money:

Duke Energy Carolinas, LLC

McManeus Exhibit 6
Electricity No. 4
North Carolina Sixth (Proposed) Revised Leaf No. 62
Superseding North Carolinas Fifth Revised Leaf No. 62

RIDER EE (NC)
ENERGY EFFICIENCY RIDER

ENERGY EFFICIENCY RIDER ADJUSTMENTS (EEA)
The EEA applicable to the residential and nonresidential rate schedules for the period January 1, 2013 through December 31, 2013 including revenue-related taxes and utility assessments are as follows:

Residential	Vintage 1, 2, 3,4	0.1695¢ per kWh *
Nonresidential		
Vintage 1		
	Energy Efficiency	0.0155¢ per kWh
	Demand Side Management	-0.0013¢ per kWh
Vintage 2		
	Energy Efficiency	0.0488¢ per kWh *
	Demand Side Management	0.0142¢ per kWh
Vintage 3		
	Energy Efficiency	0.0053¢ per kWh
	Demand Side Management	NA
Vintage 4		
	Energy Efficiency	0.0744¢ per kWh
	Demand Side Management	0.0594¢ per kWh
Total Nonresidential		0.2163¢ per kWh

*Does not include recovery of the third year of net lost revenues for Vintage 2. Such lost revenues will be addressed in a general rate case.

Each factor listed under Nonresidential is applicable to nonresidential customers who are not eligible to opt out and to eligible customers who have not opted out. If a nonresidential customer has opted out of a Vintage(s), then the applicable energy efficiency and/or demand-side management charge(s) shown above for the Vintage(s) during which the customer has opted out, will not apply to the bill.

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, SUB 1001

In the Matter of Application of Duke Energy Carolinas, LLC for Approval of Vintage 4 Rider EE	))))	DIRECT TESTIMONY OF ASHLIE J. OSSEGE FOR DUKE ENERGY CAROLINAS, LLC

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Ashlie J. Ossege and my business address is 139 East Fourth Street, Cincinnati, Ohio 45202.

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

A. I am employed as Manager, Market Analytics for Duke Energy Business Services LLC ("Duke Energy Business Services"), a wholly-owned service company subsidiary of Duke Energy Corporation ("Duke Energy").

Q. PLEASE SUMMARIZE YOUR EDUCATION AND PROFESSIONAL QUALIFICATIONS.

A. I have a Bachelor's degree from the University of Cincinnati in Marketing and Real Estate. I have completed additional coursework at the graduate level in Quantitative Analysis. I am an Instructor in the Graduate Economics department at the University of Cincinnati, teaching Applied Statistical Programming Methods for Economists.

From 1994 to 1997, I was employed by various real estate brokers, including Comey & Shepherd Realtors as a certified Realtor in Ohio. From 1997 to 2006, I worked for Cinergy and Duke Energy as a Lead Market Analyst developing and managing product/program design activities as well as market research projects. Since 2006, I have been employed by Duke Energy Business Services (formerly Duke Energy Shared Services, Inc.), currently in the role of Manager, Market Analytics supporting energy efficiency ("EE") analytics.

Q. PLEASE DESCRIBE YOUR DUTIES AS MANAGER, MARKET ANALYTICS.

A. As Manager, Market Analytics, I have responsibilities for a variety of analytical functions in support of product development and operations, including managing impact and process evaluation studies, market research data collection and analysis, marketing design testing, energy load analysis, EE cost effectiveness analysis, and product design research. In this role, I provide Evaluation, Management and Verification ("EM&V") services for Duke Energy affiliates, including Duke Energy Carolinas, LLC ("Duke Energy Carolinas" or the "Company"), and have represented the Company on various national EM&V and energy consortiums.

Q. HAVE YOU PREVIOUSLY PROVIDED TESTIMONY BEFORE ANY OTHER REGULATORY AGENCIES?

A. Yes. I have presented testimony before the North Carolina Utilities Commission (the "Commission") in Docket No. E-7 Sub 979, before the Indiana Utility Regulatory Commission in Cause No. 43955 and Cause No. 42693, and before the Ohio Public Utilities Commission in Case No. 11-4393-EL-RDR.

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

A. My testimony supports Duke Energy Carolinas' Application to update its demand-side management ("DSM") and EE cost recovery rider, Rider EE, to incorporate the fourth vintage of programs ("Rider 4"). In particular, my

testimony: (1) provides an overview of the EM&V process and activities; and (2) details the current findings from the Company's EM&V work.

Q. PLEASE DESCRIBE THE EXHIBITS ATTACHED TO YOUR TESTIMONY.

A. Ossege Exhibit 1 provides a summary of the EM&V results from program activities to date, descriptions of the North Carolina EM&V activities to be conducted during the rate period, and estimated timeframe for completion. Ossege Exhibit 2 provides the actual and expected dates when the EM&V for each EE program or measure will become effective, in compliance with Ordering Paragraph 7 of the Commission's *Order Approving DSM/EE Rider and Requiring Filing of Proposed Customer Notice* issued November 8, 2011 in Docket No. E-7, Sub 979 ("Rider 3 Order").[1] Ossege Exhibit 3 provides an overview of the Company's planned EM&V activities for Smart Energy Now. Ossege Exhibits A through Q provide the detailed completed EM&V reports and memos for the following programs:

Ossege Exhibit	Program	State	Evaluation Type	Report Finalization Date
A	2010 PER and OHEC	Carolinas	Impact	11/15/2011
B	2010 PER and OHEC	Carolinas	Process	7/14/2011
C	2010 HEHC	Carolinas	Process and Impact	6/13/2011
D	2010 Curriculum	Carolinas	Process and Impact	11/17/2011
E	2010 Power Manager	Carolinas	Process and Impact	9/2/2011
F	2010 Smart$aver CFL (revised)[2]	Carolinas	Process and Impact	2/15/2011 (revised 4/26/2011)

[1] For DSM programs, the contracted amounts of kW reduction capability from participants are considered to be components of actual participation. As a result, the Vintage 2 true-up and Vintage 1 true-up adjustment reflect the actual quantity of demand reduction capability for the Vintage 2 and Vintage 1 periods, respectively.

[2] The original EM&V report for the CFL component of Smart$aver was filed in the previous Rider EE filing in Docket No. E-7, Sub 979 ("Rider 3 filing"). A revised version of that report was received by the Company after the Rider 3 filing date.

G	2009 Low Income CFLs[3]	Carolinas	Process	9/22/2010
H	2009 Residential Smart$aver	Carolinas	Process	10/3/2011 (revised 11/21/2011)
I	2011 Power Manager	Carolinas	Process	11/14/2011
J	2010 Residential Retrofit Pilot (ES@Home)	South Carolina	Process	7/26/2011
K	2010 Non-Res Smart$aver, Prescriptive[4]	Carolinas	Process and Impact	2/26/2011(revised 6/16/11)
L	2010 Non-Res Energy Assessments	Carolinas	Process and Impact	10/24/2011
M	2010 Non-Res Smart Saver, Custom	Carolinas	Process	8/12/2011
N	Low Income Program FreeRidership - Memo	Carolinas	Memo	7/11/11
O	Residential Smart$aver HVAC	Carolinas	Impact	12/31/2011
P	Evaluated Savings for 3 Lamp High Bay Fixture - Memo	Carolinas	Impact Memo	12/29/2011
Q	Non-Residential Smart$aver - VFD Update Memo	Carolinas	Impact Memo	2/2/2012

Q. WERE OSSEGE EXHIBITS 1, 2, 3, AND A THROUGH Q PREPARED BY YOU OR AT YOUR DIRECTION AND SUPERVISION?

A. Yes, they were. However, the evaluation reports were prepared by the Company's independent third party evaluator.

II. OVERVIEW OF EVALUATION, MEASUREMENT, AND VERIFICATION

Q. WHAT IS EVALUATION, MEASUREMENT, AND VERIFICATION?

[3] This EM&V report was inadvertently omitted from the Rider 3 filing.
[4] The original EM&V report for the CFL measure of the Low Income Energy Efficiency and Weatherization Assistance Program was filed in E-7, Sub 979. A revised version of that report was received after the Rider 3 filing date.

A. Evaluation, measurement and verification of EE programs, referred to as "EM&V," determines both program and measure impacts. Evaluation studies determine the impacts and effectiveness of EE programming from both the utility and customer perspective. Evaluation also allows the Company to refine and improve existing programs by analyzing feedback from customers. Measurement and verification activities, on the other hand, encompass the data collection, monitoring, and analysis associated with the calculation of gross energy and demand savings from individual sites or projects, and can be a subset of program evaluation. The data from measurement and verification is used to determine a program or measure's cost-effectiveness.

Q. WHY IS EM&V AN IMPORTANT COMPONENT OF EE AND DSM?

A. As stated in Witness Schultz's testimony in Docket No. E-7, Sub 831 and the Agreement and Joint Stipulation of Settlement between Duke Energy Carolinas, the Public Staff, and Southern Alliance for Clean Energy ("SACE"), Environmental Defense Fund, Natural Resources Defense Council, and the Southern Environmental Law Center filed June 12, 2009 in the same Docket ("Settlement Agreement"), all programs will have EM&V performed in order to appropriately calculate the lost margins, avoided costs, and savings generated. Further, the 2009 Settlement Agreement established aggressive kWh and kW reduction goals for Duke Energy Carolinas to achieve, and EM&V is the mechanism to demonstrate the Company's progress towards meeting those goals. Duke Energy Carolinas also believes successful, reliable and cost-effective EE programs require EM&V activities for two primary reasons. First and foremost,

reliably measuring savings achieved from EE provides certainty for resource planning and provides accountability to customers and shareholders. Second, properly executed evaluation activities support program improvements. Accurately understanding savings estimates and program efficacy enables Duke Energy Carolinas to drive increased energy savings through improved program design, including insights surrounding the targeting and marketing of specific programs to improve overall participation and how best to cost-effectively generate kW and kWh yield from the Company's EE investments.

Q. WHAT METHODOLOGY DOES THE COMPANY USE TO EVALUATE, MEASURE, AND VERIFY EE PROGRAMS?

A. There are five types of evaluation that the Company relies upon. First, there is a cost-effectiveness evaluation, which requires establishing a set of assumptions around impacts and market potential before the program has been implemented. Second, there is an impact evaluation, which strives to accurately estimate the actual energy and demand load reductions realized from a program through billing analysis, engineering analysis, or statistically adjusted engineering models. Third, the Company relies upon measurement activities performed after the program has been implemented to determine actual program results. Measurement typically refers to metering, sub-metering, hours-use logger meter, statistical pre- and post-analyses, or other methods of measuring load reduction. Measurement may often be a subset of an impact evaluation. Fourth, there is verification, which refers to the confirmation that customers actually installed the intended measures that vendors are performing to expectation and that other

operational factors on the customer site are occurring such that the expected load savings are being realized. Finally, there are also process evaluations that refer to a set of review and auditing methods that ascertain program effectiveness, EE, customer satisfaction and experience, vendor satisfaction and other factors that contribute substantially to program success. These activities also help the Company understand which programs might not be as well understood or appreciated by customers. Evaluating impacts carefully across different segments can contribute substantially to savings yields by helping product managers adjust their programs to better meet customer needs.

Q. HOW DOES DUKE ENERGY CAROLINAS MEASURE, MONITOR AND VERIFY THE PROGRAMS?

A. In general, the following approach is used for measurement and verification of programs:

Paper and Electronic Verification: Paper or electronic verification will be completed on all applications for EE incentives by customers. As part of the application process, specific customer and measure data will be requested from applicants. Data requested will vary depending on the program, the measure, the equipment and the delivery of the application. Customers and/or contractors will be contacted for clarification and completion of the application if they fail to provide necessary information. Incentives will only be processed once verification is complete and information is entered into the electronic tracking systems. Verification

information and all customer applications for incentives will be maintained by Duke Energy Carolinas.

Field Verification and Monitoring: Field verification and monitoring, in most cases, will occur on customer premises using randomly selected samples of approximately 5% of installations. On-site visits will verify the installation of the claimed equipment in the proper application, confirm appropriate contractor or vendor processes and performance, and bring to light potential discrepancies or process improvements for the programs. Sample size will be larger for very large projects with significant incentives or energy impacts at risk. The size of such samples will be commensurate with the increased load savings as determined by Duke Energy Carolinas. Field training and support will be given to auditors performing assessments, to ensure quality both for communications and technical capabilities.

Customer Satisfaction Surveys: Customer satisfaction surveys will be utilized to monitor satisfaction with program delivery and design, seek additional improvements to the program, and potentially uncover latent problems or issues with the measure/installation.

System Performance Tests: System performance tests for load control resources will be conducted periodically to ensure that operational systems are working correctly, and that the projected load reductions are reliably available when needed. Load research metering samples and tracking will also be used to verify energy reductions.

Early feedback is an important element in EM&V for all components of process and impact evaluations. If a problem is found with EE-related installations or program operations, the contractor and customer will be notified for correction. In addition, subsequent work or projects performed by that contractor will be monitored until Duke Energy Carolinas is satisfied that the work is being completed according to program specifications and operational standards. If the problems are not resolved to the satisfaction of Duke Energy Carolinas, that contractor, at the Company's discretion, may be eliminated from the program.

Duke Energy Carolinas has provided for the independent review and evaluation of its proposed programs by establishing initial evaluation plan summaries that propose specific EE evaluation studies and activities that have been competitively bid, designed, managed, supervised or conducted by independent and qualified evaluation professionals.

Evaluation studies will generally include methods such as loggers to capture appliance usage times, load research metering for hourly load analysis, statistical pre- and post-billing analysis using comparison control groups, engineering analysis and modeling, reference and comparisons to impact studies conducted in other regions for similar programs, phone and online interviews, and other methods reviewed within the International Performance Measurement and Verification Protocols, the California Evaluation Framework, and the Model Energy Efficiency Program Impact Evaluation Guide prepared as part of the National Action Plan for Energy Efficiency.

Consistent with historical industry experience, Duke Energy Carolinas estimates that 5% of total portfolio program costs will be required to adequately and efficiently perform evaluations, monitoring and verification on the portfolio for the modified save-a-watt period.

Q. PLEASE DESCRIBE HOW EE PROGRAMS AND MEASURES ARE ANALYZED FOR COST-EFFECTIVENESS.

A. EE measure analysis consists of determining the net present value of the financial stream of costs versus benefits, *i.e.*, the costs to implement the measures are valued against the savings or avoided costs. The resultant benefit/cost ratios, or tests, provide a summary of a measure's cost-effectiveness relative to the benefits of its projected load impacts. The Participant Test is the first screen for a program or measure to make sure a program makes economic sense for the individual consumer. Duke Energy Carolinas also uses the Utility Cost Test ("UCT"), the Total Resource Cost ("TRC") Test, and the Ratepayer Impact Measure ("RIM") Test for a comprehensive screening of EE measures.

- The Participant Test compares the benefits to the participant through bill savings and incentives from the utility, relative to the costs to the participant for implementing the EE measure. The costs can include incremental equipment and installation costs as well as increased annual operating cost, if applicable.

- The UCT compares utility benefits (avoided energy and capacity related costs) to utility costs incurred to implement the program such as marketing, customer incentives, and measure offset costs, and does not

consider other benefits such as participant savings or societal impacts. This test compares the cost (to the utility) to implement the measures with the savings or avoided costs (to the utility) resulting from the change in magnitude and/or the pattern of electricity consumption caused by implementation of the program. Avoided costs are considered in the evaluation of cost-effectiveness based on the projected cost of power, including the projected cost of the utility's environmental compliance for known regulatory requirements. The cost-effectiveness analyses also incorporate avoided transmission and distribution costs, and load (line) losses.

- The TRC test compares the total benefits to the utility and to participants relative to the costs to the utility to implement the program along with the costs to the participant. The benefits to the utility are the same as those computed under the UCT. The benefits to the participant are the same as those computed under the Participant Test, however, customer incentives are considered to be a pass-through benefit to customers. As such, customer incentives or rebates are not included in the TRC though some precedent exists in other jurisdictions to consider non-energy benefits in this test.
- The RIM Test, or non-participants test, indicates if rates increase or decrease over the long-run as a result of implementing the program.

The use of multiple tests can ensure the development of a reasonable set of EE programs, indicate the likelihood that customers will participate, and also

protect against cross-subsidization. It should also be noted that none of the tests described above include external benefits to participants and non-participants that can also offset the costs of the programs.

Q. HOW WILL THE EM&V RESULTS BE UTILIZED IN DEVELOPING THE PROPOSED RIDER 4?

A. The EM&V process produces two important data sets used in the development of the rider: actual customer participation and evaluated load impacts. As described in Witness McManeus' testimony, the Vintage 1 and Vintage 2 Experience Modification Factor ("EMF"), or true-up, components of Rider 4 incorporate actual customer participation and evaluated load impacts from the EM&V process as agreed upon by the Company, SACE and the Public Staff and approved by the Commission in the Rider 3 Order ("EM&V Agreement"). In addition, actual participation and evaluated load impacts are used prospectively to update avoided cost revenue requirements and net lost revenues estimated for Vintage 4.

III. RESULTS FROM EM&V

Q. WHICH PROGRAMS OR MEASURES HAVE COMPLETED THEIR EM&V?

A. The completed process and impact evaluation studies for Carolinas-based residential Personalized Energy Report® ("PER") and Online Home Energy Calculator ("OHEC"), Home Energy House Call ("HEHC"), Energy Efficiency Education Program for Schools ("Schools Program"), 2010 Power Manager, Residential Smart$aver HVAC, and Revised Smart$aver CFL are included as Ossege Exhibits A through F and O, respectively. The revised CFL report was

developed at the request of Duke Energy Carolinas to depict the Carolinas system impacts from CFLs.

The Company has also received process evaluation reports on the 2009 Low Income Energy Efficiency and Weatherization Assistance Program ("Low Income Program"), the Smart$aver Residential HVAC program, the 2011 Power Manager program, and the South Carolina Residential Retrofit Pilot (ES@Home) which are included as Ossege Exhibits G through J, respectively. A memorandum regarding freeridership for the Low Income Program is included as Ossege Exhibit N.

Likewise, the Company has received a revised Carolinas-based Non-Residential lighting EM&V process and impact evaluation report (as part of the Non-Residential Smart$aver® Program) and the Non-Residential Energy Assessments. Those reports are attached as Ossege Exhibits K and L, respectively. Ossege Exhibit P is a memo that includes an additional impact to a specific lighting measure offered after the initial Non-Residential High Bay Lighting measures were analyzed. Ossege Exhibit Q is a memorandum summarizing an analysis of impacts obtained from Variable Frequency Drives ("VFDs") and HVAC in the Smart$aver Prescriptive Program.

The Company has also received a process evaluation on the Non-Residential Custom Incentive Program (as part of the Non-Residential Smart$aver® Program) attached in Ossege Exhibit M.

Q. WHAT WERE THE LOAD IMPACTS FROM THE EM&V AND HOW DO THEY COMPARE TO THE COMPANY'S INITIAL IMPACT ESTIMATES?

A. Gross energy savings[5] from PER were originally estimated to be 384 kWh. Based on the EM&V for this program, the gross savings are 377 kWh (net[6] energy savings were modified from 353 kWh to 346 kWh), indicating the recognized impacts were approximately the same as estimated. The coincident kW had a minor adjustment from 0.0327 kW to 0.0377 kW, contributing to a small increase to recognized impacts.

Gross energy savings from HEHC were originally estimated to be 1000 kWh. Based on the EM&V for this program, the gross savings are 901 kWh (net energy savings were modified from 972 kWh to 691 kWh), reducing the initial estimates net impacts by approximately 29%. Reasons for the reduction include, but are not limited to the fact that a small percentage of customers indicated they made small to midsize improvements, and many indicate having financial options to make larger capital improvements would be influential in their decision to make appliance upgrades. These economic barriers contribute to the reduction in impacts realized. The coincident kW had a minor adjustment from 0.206 kW to 0.128 kW, contributing to a small reduction to recognized impacts.

Gross energy savings from the Schools Program were originally estimated to be 299 kWh for the curriculum component and 384 kWh for the CFL component. Based on the EM&V for this program, the gross savings are 249

[5] These savings are annual kWh, gross without losses.
[6] Net adjustments include free-ridership, spillover, and line losses.

kWh in total (net energy savings were modified from 275 kWh (curriculum component) and 353 (CFL component) to 221 kWh in total), reducing the total recognized impacts for the curriculum component by approximately 16.8%. Research noted that while a majority of the students installed the 13-Watt and 20-Watt bulbs from the kit, other items from the kit experienced lower installation rates. It should also be noted that student families were hard to reach for EM&V assessment due to privacy concerns, and survey responses relied upon the students returning a business reply card provided in the kit, about their actions. In addition, the additional CFLs were not distributed at originally projected levels, thus no significant savings were realized from additional CFLs. The coincident kW had a minor adjustment from 0.084 kW (curriculum) and 0.033 kW (CFLs) to 0.0411 kW in total, contributing to a reduction to recognized curriculum impacts.

Gross energy savings from the Residential Smart$aver AC and HP Program were originally estimated to be 842 kWh for AC and 842 kWh for HP. Based on the EM&V for this program, the gross savings are 830 kWh for AC and 997 kWh for HP. (net energy savings were modified from 682 kWh to 650 kWh for AC and from 682 kWh to 781 kWh for HP), resulting in a small decrease to original estimates net impacts for AC and a small increase to original estimates net impacts for HP. The coincident kW had an adjustment from 0.114 kW to 0.138kW for AC and from .114 kW to 0.165 kW for HP, contributing to a small increase in recognized impacts.

Load impacts for lighting measures and VFDs from Non-Residential Smart$aver were also updated. For lighting, the original version of the report

filed in Docket No. E-7, Sub 979 used measure savings estimates based on program planning projections from 2008. The revised version of the report included in this filing as Ossege Exhibit K uses more current estimates from 2010. The update affects the measure savings realization rates and total program projected savings. These revised estimates, similar to the original EM&V report, still represent an increase from original estimates. Specific impacts by measure can be found in Ossege Exhibit K. Gross energy savings for VFDs were revised downward. The original estimates assumed all HVAC applications were VFD pumps; however, on review, most of the applications were HVAC fans, which carry a lower savings value. Consequently, the savings per VFD were generally reduced by this analysis. The process VFD savings decreased slightly, from a range of 808 to 816 net kWh/hp (depending on VFD size) to 722 net kWh/hp. The HVAC/VFD savings went from 1528 net kWh/hp (for all HVAC applications) to 2097 net kWh/hp per HVAC pump and 1039 net kWh/hp per HVAC fan. Specific impacts by measure can be found in Ossege Exhibit Q.

Q. WHAT IS THE APPROPRIATE COINCIDENT PEAK TO BE USED TO CALCULATE THE PROJECTED AVOIDED COSTS BENEFITS OF SPECIFIC DSM & EE PROGRAMS?

A. Projected demand impacts are an output of the DSMore model. EE and DSM peak load reductions are estimated based on the peak load reductions occurring at the time of the system peak, typically 4 PM in August.

Within DSMore, the coincident kW load reductions can (1) be entered directly, (2) be calculated via different pre- and post- load shapes, or (3) be

specified from hourly energy savings reported from metering data, sub-metering data, or from engineering models. This third method is typically used for Duke Energy Carolinas' customized EE measures.

Q. HOW ARE THE EM&V RESULTS APPLIED TO THE RIDER, AND TO WHICH PROGRAMS OR MEASURES DO THE RESULTS APPLY AND WHEN?

A. The EM&V Agreement provides that initial EM&V results shall be applied retrospectively to program impacts that were based upon estimated impact assumptions derived from industry standards (rather than EM&V results for the program in the Carolinas), specifically the EE programs initially approved by the Commission in Docket No. E-7, Sub 831 ("Sub 831 Programs"), with the exception of the Non-Residential Smart$aver Custom Rebate Program and the Low Income Program.

The EM&V Agreement provides that EM&V for the Non-Residential Smart$aver Custom Rebate Program would not apply retrospectively and that the current true-up process, which recognizes actual participants and actual projects undertaken, should remain in effect. A detail of the dates and application dates of impact results from EM&V are supplied in Ossege Exhibit 2, in accordance with Ordering Paragraph 9(a) of the Rider 3 Order.

In response to Ordering Paragraph 9(d) of the Rider 3 Order, it is reasonable to apply the results of the Residential CFL EM&V (impact analysis) to the CFL component of the Low Income Program back to the beginning of the program offering, consistent with the EM&V Agreement. It is also reasonable

that the characteristics of the customers targeted by the Low Income Program would not have the freeridership/spillover effects from the CFL EM&V, as outlined in Ossege Exhibit N, Low Income Memo on FreeRidership.

All other program impacts from EM&V apply only to the programs for which the analysis was directly performed, though Duke Energy Carolinas' new product development may utilize actual impacts and research about EE and behavioral conservation directly attributed to existing Duke Energy Carolinas program offerings not already accounted for.

In response to Ordering Paragraph 9(c) of the Rider 3 Order, since all other program impacts from EM&V apply only to the programs for which the analysis was directly performed, there are no costs associated with performing additional EM&V for other measures, other than the original cost for EM&V for these programs. As indicated previously, Duke Energy Carolinas estimates that 5% of total portfolio program costs will be required to adequately and efficiently perform evaluations, monitoring and verification on the portfolio. The level of EM&V required varies by program and depends on that program's contribution to total portfolio, the duration the program has been in the portfolio without material change, and whether the program and administration is new and different in the energy industry. However, Duke Energy Carolinas estimates no additional costs will be associated with performing EM&V for all measures in the portfolio above 5% of total program costs.

Pursuant to the EM&V Agreement, for purposes of the vintage true-ups, initial EM&V results would be considered actual results for a program and would continue to apply and until superseded by new EM&V results, if any.

Pursuant to the EM&V Agreement, for all new programs and pilots approved after the Sub 831 Programs, the initial estimates of impacts will be used until Duke Energy Carolinas has EM&V results, which will then be applied back retrospectively to the beginning of the offering and will be considered actual results until a second EM&V is performed.

Q. WHICH PROGRAM EVALUATIONS ARE CURRENTLY IN PROGRESS AND WHAT ARE THEIR ESTIMATED COMPLETION DATES?

A. The Non-Residential Smart$aver Custom impacts evaluation is in progress and is estimated to be delivered in the Second Quarter of 2012. A final review of the Carolinas ES@Home program will also be delivered in the Second Quarter of 2012.

Q. WHAT IS "SNAPBACK?"

A. Snapback can be thought of as the additional energy and capacity used by customers who feel they can consume more because they have implemented an energy-efficient product. For example, snapback occurs when a customer decides not to turn off a newly-installed CFL when he leaves the room, because he figures that his energy consumption does not matter as the CFL is more efficient than his previously-installed incandescent light bulb.

Q. WHAT IS "PERSISTENCE?"

A. Generally speaking, persistence is the measurement of how long an energy-efficient product remains installed and utilized after its initial acquisition. For example, persistence measures if a customer decides to remove a CFL after it has been installed because they do not like the quality of light produced.

Q. DO THE COMPANY'S CURRENT AND FUTURE EM&V REPORTS EVALUATE SNAPBACK AND PERSISTENCE?

A. Yes. Both snapback and short-term persistence are measured and included (though not explicitly) in the EM&V reports, as it applies to EE programs. Billing analysis and on-site metering capture the short-term effects of snapback and persistence, because they capture the impacts that occur soon after an EE action is taken. Because metering and utility bill analyses often examine electric consumption records before and after an action is taken, the effects of snapback and persistence are embedded in the analysis results.

The long-term effects of persistence, however, cannot be directly measured during the current 12- to 18-month cycle for each EM&V report. Long-term analysis of persistence requires regular, cyclical studies with the same respondents over the life of each measure. Such long-term evaluations would increase the cost of EM&V reporting significantly but would provide little, if any, increased accuracy in the analysis. Furthermore, the results from such a long-term study would only be available well after the end of the four-year modified save-a-watt pilot.

Future EM&V reports will include an explicit paragraph explaining the evaluation of snapback and persistence, as described above.

Q. HAVE PARTICIPANTS IN THE SCHOOLS PROGRAM INCLUDED STUDENTS WHO ARE NOT CUSTOMERS OF DUKE ENERGY CAROLINAS?

A. Yes. Duke Energy Carolinas serves various elementary, middle, and high schools where student households may or may not be customers of the Company. As such, some impacts from the Schools Program may occur in student households outside of Duke Energy Carolinas' service territory. Accordingly, the EM&V study for this program delineated impact results for Duke Energy Carolina's customers from non-customers. The results for non-Duke Energy Carolinas customers are provided in the report for informational purposes only, because the Company feels it is important to recognize all of the impacts its EE programs have had on the Carolinas. However, Duke Energy Carolinas will not use impacts from non-Duke Energy Carolinas customers to calculate the impacts, avoided costs, or net lost revenues from the Schools Program.

Q. **WHAT IS THE PROJECTED SCHEDULE FOR EM&V?**

A. The projected schedule for EM&V can be found in Ossege Exhibit 1.

Q. PLEASE EXPLAIN ANY DELAYS OR CHANGES TO THIS SCHEDULE FROM THE PRIOR PROCEEDING?

A. There were a few changes made from the previous EM&V Schedule filed as Ossege Exhibit 1 in the Rider 3 Filing. In particular, the evaluation for HECR was not performed in North Carolina because the program was not filed at that time. The weatherization component of the Low Income Program was not evaluated because the program was not administered due to no participation and

cannibalization from ARRA funds. The Schools Program had a program administrator third party vendor change, and Duke Energy Carolinas' independent evaluation consultant recommended delaying the process and impact evaluation until the new vendor began implementing the program. This delays the next EM&V report for the Schools Program from the Second Quarter of 2012 to the First Quarter of 2013. The Residential Smart$aver HVAC program impact evaluation was delayed from April 2011 to January 2012 due to a marked difference in the results of the billing analysis and engineering analysis. While constructing the statistically adjusted engineering ("SAE") model, it was noted that the samples used for the engineering analysis did not match the billing analysis. Therefore, a new extract of the participation data was conducted in order to ensure that both samples were consistent, and the SAE model could be run with the full set of program participants. This analysis is complete and provided in Ossege Exhibit O. In addition, the Power Manager program impact evaluation review will continue as planned, but the Power Manager program will not undergo another process evaluation until the year 2013, as the program process has not changed in many years, and it has been recommended by Duke Energy Carolinas' independent evaluator that a third process evaluation, so close to the last in depth evaluation and post-event research would not yield significantly different results.

Q. PLEASE EXPLAIN ANY REASONS WHY THE EM&V SCHEDULE, REFERENCED IN OSSEGE EXHIBITS 1 AND 2 COULD CHANGE.

A. It is important to note that EM&V schedules require flexibility due to many uncertainties including but not limited to: (1) delays in Duke Energy Carolinas filings or in regulatory approval for new programs; (2) program administration launch schedules not beginning at the time anticipated; (3) program administration vendor selection and start dates; (4) realized customer participation rates; (5) customer participation start dates which if later than projected can also cause a delay for there to be enough participation to have a statistically significant sample from which to perform EM&V analysis; (6) having enough pre- and post-usage, which is billing data and consumption prior to installing measure and consumption post installation of measures; (7) having post measurement data that extends through multiple seasons (summer and winter) for weather sensitive measures, typically 12 months or longer; (8) data quality control and issues that may be found through the EM&V process that need to be cleaned or re-pulled before analysis can be performed; and (9) EM&V resource allocation towards measures with the largest impact to the portfolio.

Reliable measurement and verification of EE impacts requires time. However, the Company has a strong incentive to have these studies completed in a timely manner as possible. Besides for being at risk for results under the modified save-a-watt recovery mechanism, the Company needs to know quickly if these programs work in order to make sure the long term generation plan is not affected.

IV. LOST REVENUES

Q. PLEASE EXPLAIN HOW THE ENERGY AND CAPACITY REDUCTIONS FOR THE NET LOST REVENUE CALCULATIONS WERE CALCULATED.

A. Based on the available EM&V analysis, the Company ran the DSMore model in order to calculate the kWh and kW reductions associated with net lost revenues. These results are inputs to the calculation of net lost revenues as explained in the testimony of Witness McManeus. Energy and capacity associated with net lost revenues for Vintage 4 were calculated beginning January 1, 2013 and ending December 31, 2013 using rates in effect as of the beginning of 2012.

V. CONCLUSION

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

A. Yes.