### Southern Environmental Law Center

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May 20, 2015

Via Electronic Filing and Federal Express

Ms. Gail Mount Chief Clerk North Carolina Utilities Commission 430 North Salisbury Street Dobbs Building Raleigh, NC 27603-5918

> RE: In the Matter of: Application of Duke Energy Carolinas, LLC for Approval of DSM and Energy Efficiency Cost Recovery Rider Pursuant to G.S. 62-133.9 and Commission Rule R8-69 *Docket No. E-7, Sub 1073*

Dear Ms. Mount:

Enclosed for filing in the referenced docket is the Testimony of Taylor Allred Mims on Behalf of Southern Alliance for Clean Energy. Pursuant to Commission Rule R1-28(e), we are also submitting fifteen (15) paper copies of the testimony and accompanying exhibits via Federal Express, for delivery on May 21, 2015.

By copy of this letter, I am serving all parties of record on the service list. Please let me know if you have any questions about this filing.

Sincerely,

s/ Robin G. Dunn Administrative Legal Assistant

RGD Enclosures cc: Parties of Record

### BEFORE THE NORTH CAROLINA UTILITIES COMMISSION DOCKET NO. E-7, SUB 1073

In the Matter of:	)	
Application of Duke Energy Carolinas,	)	
LLC For Approval of Demand-Side	)	<b>TESTIMONY OF TAYLOR ALLRED</b>
Management and Energy Efficiency	)	ON BEHALF OF SOUTHERN
Cost Recovery Rider Pursuant to N.C.	)	ALLIANCE FOR CLEAN ENERGY
Gen. Stat. § 62-133.9 and Commission	)	
Rule R8-69	)	

1	Q.	PLEASE STATE YOUR NAME, POSITION AND BUSINESS ADDRESS.
2	А.	My name is Taylor Allred. I am an energy policy manager for Southern
3		Alliance for Clean Energy ("SACE"), and my business address is P.O. Box
4		1842, Knoxville, TN 37901.
5 6	Q.	ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS PROCEEDING?
7	А.	I am testifying on behalf of SACE.
8 9	Q.	PLEASE SUMMARIZE YOUR QUALIFICATIONS AND WORK EXPERIENCE.
10	А.	I graduated from the University of Virginia in 2008 with a Bachelor of Arts in
11		History. In 2008, I joined data vendor SNL Financial ("SNL") as an analyst
12		specializing in energy research and product operations. In that role, I published
13		research reports on utility sector trends and created models for analyzing
14		financial and operations data. I was promoted to senior analyst in 2010, and
15		later in that year, I transferred to serve as a senior analyst in SNL's Financial
16		Institutions Group, where I took the lead in publishing analysis on the United
17		States Department of the Treasury's Troubled Asset Relief Program, among
18		other responsibilities. In 2011, I was promoted to serve as a financial analyst at

1	SNL subsidiary Regulatory Research Associates, where I was the lead analyst
2	in charge of publishing analysis on investor impacts of regulatory commission
3	proceedings for electric and gas utilities in the Mid-Atlantic. In that role, I
4	provided timely reporting on utility and intervenor testimony, issued investor
5	outlooks based on commission decisions, and issued ratings for each
6	jurisdiction based on how utility investors are affected by state regulatory
7	environments and energy policy.
8	I joined SACE in 2014, and I have been contributing to SACE's utility

9 energy efficiency advocacy in states across the Southeast, including 10 Mississippi, Florida, North Carolina, South Carolina and Tennessee. In this capacity, I am responsible for leading and contributing to written comments and 11 12 testimony related to energy efficiency policy, program design, and evaluation. My focus is on analyzing energy savings and cost-effectiveness and providing 13 14 recommendations to improve the performance of demand-side management 15 ("DSM") and energy efficiency ("EE") programs. A copy of my resume is included as Allred Exhibit 1. 16

### 17Q.HAVE YOU TESTIFIED PREVIOUSLY BEFORE THE NORTH18CAROLINA UTILITIES COMMISSION ("THE COMMISSION")?

A. I have not yet had the opportunity to testify in person before the Commission;
 however, I submitted testimony in Docket No. E-2, Sub 1044, concerning Duke
 Energy Progress' 2014 annual DSM/EE rider application.

Testimony of Taylor Allred Southern Alliance for Clean Energy NCUC Docket No. E-7, Sub 1073 Page 2

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## Q. WHAT IS DUKE ENERGY CAROLINAS REQUESTING THAT THE COMMISSION APPROVE IN THIS PROCEEDING?

Duke Energy Carolinas ("DEC" or the "Company") has applied for approval of 3 A. 4 its annual DSM/EE cost-recovery and incentive rider for 2016 ("Rider 7"). The 5 proposed Rider 7 consists of components calculated under DEC's "modified 6 Save-A-Watt" ("SAW") cost-recovery and incentive mechanism approved in 7 Docket No. E-7, Sub 831, as well as components calculated under the 8 replacement mechanism approved in Docket No. E-7, Sub 1032. The Company 9 also requests recovery of costs associated with its Interruptible Service and 10 Stand-By Generator programs ("Existing DSM Programs") as a separate 11 component of Rider 7.

### 12 Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

13 A. The purpose of my testimony is to describe my evaluation of DEC's proposed 14 Rider 7. I will discuss DEC's performance in delivering energy-efficiency 15 savings to its customers over the past year and over the four-year term of the 16 modified SAW pilot; the Company's energy savings projections; opportunities 17 for DEC to increase its energy savings, particularly in the energy-intensive non-18 residential sector; the growing rate of eligible customers opting out of DEC's 19 EE programs; new program recommendations designed to increase DEC's 20 achievement of cost-effective energy savings in future years; and ways to 21 improve transparency and stakeholder engagement surrounding the Company's 22 DSM/EE portfolio.

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### Q. DOES SACE SUPPORT APPROVAL OF RIDER 7?

Yes, SACE generally supports DEC's application for approval of Rider 7 (the 2 A. 3 "Application"). Since launching its modified SAW pilot, DEC has achieved energy efficiency savings impacts that have exceeded the Company's 4 projections in four out of five years.<sup>1</sup> Moreover, DEC reversed a two-year trend 5 6 of declining savings in 2014 by achieving the highest savings level for any 7 program year so far. However, the Application raises several concerns: (1) 8 DEC's 2014 savings, while higher than in 2013, lag behind savings achieved by 9 leading regional and national utilities, and fall short of the level needed to 10 ensure that the Company fulfills the EE savings targets it agreed to in 11 connection with the Duke Energy-Progress Energy merger; (2) DEC projects 12 low levels of energy savings in the future; and (3) the rate of eligible customers opting out of DEC's DSM/EE programs and rider is persistently high and 13 14 significantly increasing. My testimony discusses these concerns and provides 15 recommendations designed to increase DEC's achievement of cost-effective 16 energy savings in future years.

### 17 DEC'S ENERGY SAVINGS ACHIEVEMENTS AND PROJECTIONS

# 18 Q. DID DEC MEET ITS ENERGY EFFICIENCY SAVINGS PROJECTION 19 IN 2014?

A. Yes. In fact, DEC's DSM/EE programs exceeded the Company's projected 406
gigawatt-hours ("GWh") of savings in 2014, and achieved 546 GWh of energy

<sup>&</sup>lt;sup>1</sup> The modified Save-A-Watt targets were established in NCUC Docket E-7, Sub 831. The 2014 savings estimate was reported in Docket No. E-7, Sub 1050, Company Application, Duff Testimony at 29.

- savings, equivalent to 0.72% of the prior year's sales—more than in any year
- 2 since launching the SAW programs.

Vintage Year	Target (GWh) <sup>2</sup>	Actual First- Year Savings (GWh) <sup>3</sup>	Target First- Year Cost (\$/kWh) <sup>4</sup>	Actual First- Year Cost $(\$/kWh)^5$
Vintage 1 (2010)	234	479	\$0.16	\$0.09
Vintage 2 (2011)	257	533	\$0.18	\$0.09
Vintage 3 (2012)	382	506	\$0.19	\$0.10
Vintage 4 (2013)	567	442	\$0.18	\$0.11
Year 2014	434 <sup>6</sup>	546	\$0.25	\$0.16 <sup>7</sup>
Vintage Year	Projected Savings (GWh) <sup>8</sup>	Projected First-Year Cost (\$/kWh) <sup>9</sup>		
Year 2015	414	\$0.25		
Year 2016	591	\$0.21		
Year 2017	434	\$0.26		

### Table 1. DEC Estimated Annual Energy Savings and First-Year Cost

### 4 Q. WAS THE COMPANY'S EE PORTFOLIO COST-EFFECTIVE IN 2014?

A. Yes. DEC's 2014 savings were achieved at a first-year cost of \$0.16 per kWh,

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less than the Company predicted. I commend DEC for achieving its highest

level of energy savings yet while keeping costs low.

<sup>&</sup>lt;sup>2</sup> The SAW targets were established in Docket No. E-7, Sub 831. The 2014 savings estimate was reported in Docket No. E-7, Sub 1050, Company Application, Testimony of Timothy Duff at 29. <sup>3</sup> Docket No. E-7, Sub 1073, Barnes Exhibit 1 for each vintage.

<sup>&</sup>lt;sup>4</sup> SAW first year cost calculations are based on information contained in the Modified SAW Settlement Agreement, Docket No. E-7, Sub 831, Exhibit B at 23. First year cost is calculated by dividing the firstyear budget into the first-year savings; it does not cover the lifetime of the measure. This is a NC-only cost.

<sup>&</sup>lt;sup>5</sup> Estimated first-year cost calculations are based on information provided in Docket No. E-7, Sub 1050, Testimony of Timothy Duff, Exhibit 1 at 2-3 and Exhibit 3. First-year cost is calculated by dividing the first-year budget into the first-year savings; it does not cover the lifetime of the measure. System-wide costs are reported here.

<sup>&</sup>lt;sup>6</sup> Revised goal from Docket No. E-7, Sub 1050, Company Application, Testimony of Timothy Duff at 29. The original SAW goal for Vintage Year 4 was 567 GWh, based on the targets approved in Docket No. E-7, Sub 831.

<sup>&</sup>lt;sup>7</sup> Calculated based on data provided in Docket No. E-7, Sub 1073, Testimony of Conitsha Barnes, Table 2.

<sup>&</sup>lt;sup>8</sup> I<u>d.</u>

 $<sup>9 \</sup>frac{101}{\text{Id.}}$ 

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## Q. HOW DO THE COMPANY'S 2014 SAVINGS COMPARE TO SAVINGS ACHIEVED BY LEADING UTILITIES?

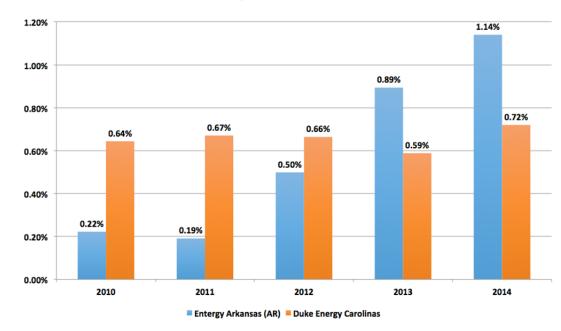
3 DEC'S incremental savings of 0.72% of prior-year sales in 2014 are Α. 4 significantly lower than the savings achieved by leading utilities. For example, 5 as shown in Figure 1 on the following page, Entergy Arkansas achieved 1.14% net savings in 2014 after ramping up from levels significantly below those 6 7 achieved by DEC in 2012 and earlier. I will note that Entergy Arkansas' 8 baseline sales are adjusted downward for their self-direct customers, and DEC's 9 sales are not. However, even without adjusting for self-direct customers, 10 Entergy Arkansas achieved 0.99% savings as a percent of prior year sales, still exceeding DEC.<sup>10</sup> 11

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<sup>&</sup>lt;sup>10</sup> Entergy Arkansas net savings as a percent of sales was calculated based on savings data from Entergy Arkansas, 2014 Program Year Evaluation, Arkansas Public Service Commission Docket No. 07-085-TF, and sales data from EIA 861.

### 1 Figure 1. DEC Savings as a Percentage of Sales Compared to Entergy Arkansas<sup>11</sup>

Savings as % of Prior-Year Sales



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### Q. WHAT PROGRAMS PRIMARILY DROVE THE INCREASE IN ENERGY SAVINGS ACHIEVED BY DEC IN 2014?

As shown in Table 2 on the following page, new residential EE programs 5 A. 6 primarily drove the increase in energy savings achieved by DEC in 2014. 7 Overall, the Company's residential EE portfolio achieved 352 GWh in savings 8 in 2014, a 41% increase from 2013. The largest share of the savings achieved 9 by DEC's 2014 residential EE portfolio came from the new Energy Efficient 10 Appliances and Devices program, which achieved 167 GWh in savings in 2014. 11 The next-largest share came from the new My Home Energy Report behavioral program, which achieved 2014 savings of nearly 143 GWh - 34 GWh higher 12

<sup>&</sup>lt;sup>11</sup> DEC net savings as a percentage of sales was calculated based on savings data from Company Application, Barnes Exhibit 1 for each vintage in Docket No. E-7, Sub 1073, and retail sales data from EIA 861. Entergy Arkansas net savings as a percentage of sales from Arkansas Public Service Commission, Docket No. 07-078-TF, Direct Testimony of Lovita Griffin, Table 3, filed May 8, 2015.

than the 2013 savings from the program it replaced, Home Energy Comparison
 Report. Each of the residential programs that operated in both 2013 and 2014
 yielded increased savings.

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### Q. HOW DID DEC'S NON-RESIDENTIAL PROGRAM SAVINGS COMPARE TO SAVINGS FROM RESIDENTIAL PROGRAMS?

While DEC's residential EE programs performed well in 2014, the Company's 6 A. 7 non-residential EE programs performed poorly by comparison, as shown in 8 Table 2. Overall, DEC's non-residential portfolio achieved 194 GWh of savings 9 in 2014, remaining roughly flat compared to 2013. Large commercial 10 customers in South Carolina were able to opt out of the energy efficiency 11 programs for the first time in 2014, and this may have contributed to the weak 12 performance of DEC's non-residential portfolio. Three of the non-residential 13 programs showed notably weaker performance in 2014 than in the prior year, including the two programs that accounted for the vast majority of the 14 15 Company's non-residential EE portfolio savings in 2013. In particular, the 16 Smart Saver Custom Rebate program savings dropped from 101 GWh in 2013 17 to 78 GWh in 2014 — a decline of 22%. The declining performance of key 18 non-residential EE programs was only offset by the addition of new programs, 19 including Smart Energy in Offices, which achieved 18 GWh of savings in 2014.

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Program Name	2013 Savings (GWh)	2014 Savings (GWh)	% Change
Appliance Recycling	4.9	5.1	5%
Residential Energy Assessments	7.7	10.6	38%
Smart Saver for Residential Customers	122.8	NA	NA
Low-Income EE and Weatherization Assistance	1.1	3.4	196%
Energy Efficiency Education Program for Schools	5.5	7.1	30%
Home Energy Comparison Report	108.7	NA	NA
My Home Energy Report	NA	142.9	NA
Energy Efficient Appliances and Devices	NA	167.0	NA
HVAC Energy Efficiency	NA	4.5	NA
Multi-Family Energy Efficiency	NA	11.6	NA
Residential Total	250.6	352.2	41%
Smart Saver – Lighting	76.7	70.3	-8%
Smart Saver – Motors	8.1	NA	NA
Smart Saver – Process Equipment	0.1	0.7	397%
Smart Saver – Food Service Products	1.1	2.3	107%
Smart Saver – HVAC	5.1	4.7	-8%
Smart Saver – Custom Rebate	100.7	78.2	-22%
Smart Saver Customer Technical Assessments	NA	9.1	NA
Energy Efficient Pumps and Drives Products	NA	6.5	NA
Energy Efficient ITEE	NA	0.1	NA
Small Business Energy Saver	NA	3.8	NA
Smart Energy in Offices	NA	18.1	NA
Non-Residential Total	191.8	193.8	1%
Portfolio Total	442.4	546.0	23%

Table 2. EE Program Energy Savings in 2013 and 2014

# 2 Q. DOES DEC'S FORECAST OF ENERGY SAVINGS FOR 2015 BUILD 3 ON THE PAST SUCCESS OF ITS EE PROGRAMS?

A. No. Despite the overall success of the modified SAW pilot and the Company's
best-ever savings year in 2014, the energy savings impacts of DEC's programs
are projected to decline in 2015. DEC projects that it will achieve only 414

1 GWh of net savings in 2015, representing 0.49% of 2014 retail sales<sup>12</sup> – not 2 only less than savings achieved in 2014, but also less than the savings achieved 3 in 2010, the first year of the modified SAW pilot. DEC estimates that portfolio 4 savings will rebound in 2016 to 591 GWh, representing 0.70% of 2015 sales.<sup>13</sup> 5 However, the Company projects 2017 savings of just 434 GWh, which would 6 represent 0.50% of 2016 sales and the lowest savings level achieved since the 1 launch of the SAW pilot.<sup>14</sup>

# 8Q.HOW DOES THE COMPANY'S FORECASTED EE GROWTH9COMPARE TO THE ENERGY SAVINGS TARGETS IN THE MERGER10SETTLEMENT?

In a settlement agreement with SACE, Environmental Defense Fund and the 11 Α. South Carolina Coastal Conservation League in connection with the then-12 proposed merger of Duke Energy and Progress Energy, DEC agreed to an 13 annual energy savings target of at least 1% of prior-year sales beginning in 14 15 2015 and a cumulative savings target of at least 7% over the period from 2014 16 through 2018 (the "Merger Settlement"). While the Company ramped up its 17 savings in 2014, they still fall short of the EE goals in the Merger Settlement. If 18 DEC's savings projections for 2015 through 2017 come to fruition, the 19 Company would fail to fulfill the EE goals approved in the Merger Settlement.

 <sup>&</sup>lt;sup>12</sup> Calculated from savings provided in Docket No. E-7, Sub 1073, Testimony of Conitsha Barnes, Table
 2. 2014 retail sales (without efficiency) data from DEC's 2014 Integrated Resource Plan filed in Docket
 No. E-100, Sub 141.

 <sup>&</sup>lt;sup>13</sup> Calculated from savings provided in Docket No. E-7, Sub 1077, Testimony of Conitsha Barnes,
 Exhibit 1 at 7. 2015 retail sales (without efficiency) data utilized from DEC's 2014 Integrated Resource
 Plan filed in Docket No. E-100, Sub 141.
 <sup>14</sup> Id.

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### **OPPORTUNITIES TO INCREASE ENERGY SAVINGS**

### Q. ARE THERE STEPS THAT DEC COULD TAKE TO INCREASE ITS BINERGY SAVINGS?

4 A. Yes. DEC could offer additional programs to decrease the opt-out rate for
5 commercial and industrial customers and improve participation among
6 residential customers. In developing new programs, DEC should look to best
7 practices of exemplary EE programs across the country. Examples of such
8 programs are discussed in the following subsections.

# 9Q.PLEASE DESCRIBE THE STATUS OF OPT-OUTS BY INDUSTRIAL10AND LARGE COMMERCIAL CUSTOMERS FROM THE11COMPANY'S PROGRAMS.

12 Qualifying industrial and large commercial customers may opt out of DEC's A. 13 efficiency programs and associated rider by providing the Company with 14 written notification that they have installed their own DSM/EE measures. 15 Unfortunately, the trend in opt-outs is headed in the wrong direction, as shown 16 in Table 3, below. In 2013, North Carolina customers making up 23% of non-17 residential sales opted out of participation in the Company's EE programs for 18 Vintage 4. In 2014, Vintage 4 opt-outs jumped to 34% of non-residential sales, 19 and opt-outs for Vintage Year 2014 made up 37% of non-residential sales.

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Vintage	EE opt-outs as % of	non-residential sales
Year	2013	2014
2010(1)	25%	37%
2011 (2)	25%	36%
2012 (3)	24%	35%
2013 (4)	23%	34%
2014	NA	33%

# Q. WHY ARE YOU CONCERNED ABOUT THE COMPANY'S HIGH 4 OPT-OUT RATE?

A. Non-residential customers represent a large pool of efficiency potential that the
 Company could tap to boost its savings achievements. In addition, without
 greater accountability, opted-out customers that do not install energy efficiency
 measures on their own can act as "free riders" that receive, at no cost, the
 system-wide benefit of energy efficiency savings produced by participating
 customers.

# 11Q.WHAT STEPS DO YOU RECOMMEND THAT DEC TAKE TO12INCREASE PARTICIPATION BY NON-RESIDENTIAL CUSTOMERS?

A. DEC has taken several steps to increase non-residential EE participation,
 including: obtaining a waiver to allow customers to make separate decisions
 about opting out of EE versus DSM programs; adding an "Opt-In Window" for
 customers who had previously opted out of the Company's programs and rider;
 and restructuring its non-residential program offerings.<sup>17</sup> DEC has also

<sup>&</sup>lt;sup>15</sup> Calculated based on data provided in Docket No. E-7, Sub 1050, Company Application, McGee Exhibit 6.

<sup>&</sup>lt;sup>16</sup> Calculated based on data provided in Docket No. E-7, Sub 1073, Company Application, Miller Exhibit 6.

<sup>&</sup>lt;sup>17</sup> Docket No. E-7, Sub 1073, Company Application, Barnes Testimony at 21.

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indicated that it planned to investigate adding new measures and programs to its portfolio and to continue to work to educate vendors, trade allies and suppliers.

3 These are positive steps, but have not succeeded in reducing the opt-out rate. The Company should look for even more ways to attract and retain 4 5 participants from this energy-intensive sector. To this end, DEC should work 6 with the Collaborative to develop and launch a "self-direct" EE program 7 targeted to its non-residential customers. Self-direct programs allow some 8 customers, usually large industrial or commercial, to "self-direct" the energy 9 efficiency tariff directly to energy efficiency investments in their facilities instead of into a broader aggregated pool of funds.<sup>18</sup> This recommendation is 10 11 particularly urgent due to the increasing opt-out rate, the recent and forecasted 12 performance of the Company's non-residential programs, and the lack of 13 measures in the new non-residential programs targeting large customers.

14 Self-direct programs offered by other utilities could serve as models for 15 a DEC program. For example, Rocky Mountain Power offers a self-direct credit 16 program that is available to Utah business customers who meet minimum usage 17 requirements of 5,000,000 kWh per year or have a peak load of at least 1,000 18 kW in the prior 12 months. Customers are responsible for providing the energy 19 engineering work necessary to document the energy savings of proposed 20 projects. Incentives of 50-80% of the eligible expense are provided in the form

<sup>&</sup>lt;sup>18</sup> ACEEE, Self-Direct Programs for Large Energy Users. Available at <u>http://aceee.org/sector/state-policy/toolkit/industrial-self-direct</u>.

- of credits used to offset the DSM Cost Adjustment surcharge on the monthly
   bill and are available for both new construction and retrofit projects.<sup>19</sup>
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### Q. TURNING TO THE RESIDENTIAL SECTOR, DO YOU HAVE ANY RECOMMENDATIONS FOR ADDITIONAL PROGRAMS THAT THE COMPANY COULD OFFER TO ITS RESIDENTIAL CUSTOMERS?

One of the main barriers to customer participation in EE programs is the up-6 A. 7 front cost of installing cost-effective efficiency measures. Even for EE 8 programs that include customer incentives, customers must often bear much of 9 the up-front cost of energy-efficient appliances or home improvements. Many 10 customers do not have money in the bank to pay for these upgrades, or may not 11 be able to obtain financing on favorable terms. SACE recommends that DEC 12 work with the Collaborative to develop and implement on-bill financing ("OBF") programs for residential and non-residential customers, as a cost-13 14 effective way to give customers access to capital. We have discussed the 15 importance of exploring OBF in past comments, and we plan to discuss this in 16 the June DEC Collaborative meeting, making use of the Company's program 17 suggestion template.

# 18 Q. DO YOU HAVE ANY RECOMMENDATIONS FOR EE PROGRAMS 19 TO ASSIST LOW- AND FIXED-INCOME CUSTOMERS IN 20 MANAGING THEIR ENERGY USE?

A. Robust EE programs for low- and fixed-income households are essential to
ensuring that all customers are able to afford basic utility service on a

<sup>&</sup>lt;sup>19</sup> Evaluation Report for Utah's Self-Direction Credit Program (PY 2012 through 2013) Prepared by Navigant for Rocky Mountain Power. Available at: <u>http://www.pacificorp.com/content/dam/pacificorp/doc/Energy\_Sources/Demand\_Side\_Management/20</u> 15/Self-Direction Program Evaluation.pdf.

sustainable basis. According to the Georgia Environmental Finance Authority ("GEFA"), low-income customers typically spend 19% of their income on energy, far exceeding other residents, who spend 3.5% of their income on energy.<sup>20</sup> Low-income residents also tend to live in less efficient housing.<sup>21</sup> As a result of these factors, low-income programs can yield very high levels of 6 energy savings, with even basic weatherization creating an average of \$350 or more in savings per year per household.<sup>22</sup>

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In addition to energy savings, low-income energy efficiency programs 8 9 have significant, often unaccounted for, non-energy benefits ("NEBs"). These include reduced utility bill arrearages and disconnections, improved health, 10 safety and comfort, increased productivity, environmental benefits, and 11 12 economic development and job creation. Two states that utilize quantitative 13 estimates of NEBs, Massachusetts and Rhode Island, have found that by appropriately quantifying all benefits, the overall benefits associated with low-14 income programs increase by 70% and 39%, respectively.<sup>23</sup> 15

16 It is essential to recognize NEBs in program cost-effectiveness 17 screening, particularly for low-income programs. In order to appropriately 18 value all energy savings, Petitioners recommend that DEC work with the Collaborative to develop values for the non-energy benefits associated with 19

<sup>&</sup>lt;sup>20</sup> GEFA, Weatherization Facts and Figures, http://gefa.georgia.gov/weatherization-facts-and-figures. <sup>21</sup> ACEEE, Myths of Low-Income Energy Efficiency Programs: Implications for Outreach, http://bit.lv/1EMO7KZ.

<sup>&</sup>lt;sup>22</sup> GEFA, Weatherization Facts and Figures, http://gefa.georgia.gov/weatherization-facts-and-figures.

<sup>&</sup>lt;sup>23</sup> Tim Woolf, Synapse Energy Economics, Non-Energy Benefits and Efficiency Screening Tests, March 5, 2015.

low-income programs, and then evaluate new programs with this more robust evaluation framework. A starting point could be quantifying the cost of involuntary disconnections that occur. According to a recent DEC filing with the Public Service Commission of South Carolina, more than 13,000 accounts were disconnected due to non-payment in the first quarter in South Carolina.<sup>24</sup>

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In addition to quantifying NEBs, SACE recommends that DEC 6 implement a Single-Family Residential Low-Income Add-On Program and a 7 8 Multifamily Low-Income Add-On Program to complement current 9 Weatherization Assistance Programs. I recommend that the Company implement these programs to add on to the existing WAP in the following 10 11 ways: (1) expanding customer eligibility to 80% of the state median household 12 income; (2) providing direct installation of all cost-effective energy efficiency 13 measures; (3) funding statewide implementation teams to alleviate any waiting periods at community action agencies; and, (4) offering all measures to renters 14 15 with streamlined landlord approval.

16In developing the new programs with the Collaborative, DEC should17consider the best practices from existing programs. These include Efficiency18Vermont's Weatherization Assistance Add-On Program and Major Appliance19Rehabilitation Services,<sup>25</sup> as well as National Grid's Low-Income Retrofit

 <sup>&</sup>lt;sup>24</sup> Duke Energy Carolinas, Quarterly Reports on Involuntary Termination of Electric and/or Gas Service
 Report for the First Quarter of 2015. Docket No. 2006-193-EG. Data on North Carolina disconnections are not available.

<sup>&</sup>lt;sup>25</sup> ACEEE's Third National Review of Exemplary Energy Efficiency Programs, June 2013, http://bit.ly/18jRRhL.

Program and Low Income Multi Family Energy Retrofits Program.<sup>26</sup> SACE participates in the Collaborative and would be pleased to offer additional details on these programs for DEC to consider.

Beyond WAP add-ons, there are other opportunities to expand low-4 5 income access to and participation in efficiency programs. SACE has 6 previously recommended that DEC work with the Collaborative to develop an 7 upstream EE program that is targeted at manufactured homes, similar to a program offered by the Tennessee Valley Authority ("TVA").<sup>27</sup> In TVA's 8 9 program, each home saves approximately 12,000 kWh when it is purchased with a heat pump heater instead of electric resistant heat.<sup>28</sup> The Collaborative 10 should also consider Idaho Power's Rebate Advantage program, where 11 customers that purchase new all-electric ENERGY STAR manufactured homes 12 13 receive a \$1000 sales rebate and sales consultants receive a \$200 sales bonus 14 every time they sell a new all-electric ENERGY STAR manufactured home to an Idaho Power customer.29 15

SACE acknowledges that DEC has recently implemented the
Weatherization and Equipment Replacement component of the IncomeQualified EE and Weatherization Program with a new program implementation

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<sup>&</sup>lt;sup>26</sup> Cadmus Group, Low Income Single Family Program Impact Evaluation, June 2012, <u>http://bit.ly/17QpwzL</u>; ACEEE's Third National Review of Exemplary Energy Efficiency Programs, June 2013, http://bit.ly/18jRRhL.

<sup>&</sup>lt;sup>27</sup> Witness Mims, Docket No. 2013-208-E; Petitioners' comments, Docket No. 2014-44-E.

<sup>&</sup>lt;sup>28</sup> ACEEE's Third National Review of Exemplary Energy Efficiency Programs, June 2013, http://bit.ly/18jRRhL.

<sup>&</sup>lt;sup>29</sup> Idaho Power, 2014 DSM Annual Report,

http://www.puc.idaho.gov/fileroom/cases/elec/IPC/IPCE1404/20140317DSM%20ANNUAL%20REPO RT%202013.PDF.

partner. We look forward to learning more about the implementation of the new
 measures and working through the Collaborative to provide feedback on ways
 to enhance the program further.

4 SACE plans to request that the Company devote part of one or more 5 upcoming Collaborative meetings to discuss these and other low-income 6 program opportunities, and report to the Commission the results of the 7 Company's exploration of these topics and the Collaborative discussion.

#### 8 IMPROVING TRANSPARENCY AND STAKEHOLDER ENGAGEMENT

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### Q. ARE THERE IMPROVEMENTS THE COMPANY COULD MAKE TO INCREASE THE TRANSPARENCY IN ITS EE PROGRAM REPORTING?

A. Yes. Another essential element in quickly ramping up cost-effective energy savings is maintaining adequate transparency and stakeholder engagement through EE proceedings and Collaborative activities. SACE appreciates the opportunity to engage with DEC and with other stakeholders through the Collaborative, and we look forward to continuing to contribute to future discussions. DEC could take two steps.

One step DEC could take to increase transparency is to provide access to detailed program cost data. This would allow stakeholders to identify more easily program opportunities based on the successes at utilities elsewhere in the Southeast, and benchmark cost and performance. Identification of optimal and sub-optimal program design and performance is the basis for a streamlined, cost-effective portfolio. If, for example, a highly cost-effective program is

1 struggling to achieve its savings targets due to low participation rates, 2 stakeholders may be able to use detailed cost data to identify potential under-3 spending on marketing and outreach, and point to best practices of similar programs that have had success in cost-effectively driving high participation 4 5 rates. Currently, the Company has only reported total program costs and has not 6 provided a breakdown of program costs that could shed light on the distribution 7 of spending across various components of program implementation and 8 administration. Petitioners request that in future EE rider applications, the 9 Company report detailed projected and actual cost components for each of its 10 DSM programs. Petitioners further recommend that DEC work with the 11 Collaborative to develop cost reporting procedures using the Florida Power & 12 Light tables in Allred Exhibit 2 as an example.

# 13Q.PLEASESUMMARIZEYOURCONCLUSIONSAND14RECOMMENDATIONSWITHREGARDTODEC'SAPPLICATION15FOR APPROVAL OF RIDER 7.

16 In conclusion, SACE generally supports DEC's request for approval of the Α. 17 proposed Rider 7. However, I am concerned about several aspects of the 18 Application, including the Company's historical and projected energy savings 19 performance, and the persistently high opt-out rates among non-residential 20 customers. In order to expeditiously ramp up its energy savings towards the 21 goals in the Merger Settlement, SACE recommends that the Company: (1) 22 adopt new programs based on best practices from around the country, including 23 a non-residential self-direct program, on-bill financing programs for residential 24 and non-residential customers, and additional lower-income residential EE

> Testimony of Taylor Allred Southern Alliance for Clean Energy NCUC Docket No. E-7, Sub 1073 Page 19

programs; and, (2) enhance the reporting of EE program performance metrics in
 future applications for new DSM cost-recovery and incentive riders, by
 including detailed cost category fields for each EE program.

### 4 Q. DOES THAT CONCLUDE YOUR TESTIMONY?

5 A. Yes, it does.

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### **TAYLOR ALLRED**

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Knoxville, TN 37901	Email: taylor@cleanenergy.org

### EXPERIENCE

2014-	Southern	Alliance for	Clean Energy,	Knoxville, Tenn.

### Present Energy Policy Manager

- Track and participate in energy efficiency regulatory proceedings in the Southeast, including integrated resource planning, cost-recovery filings, energy efficiency program pilots and existing program modifications.
- Develop comments and testimony in energy efficiency proceedings before commissions in South Carolina, North Carolina, Mississippi and Florida.
- Lead advocacy work for energy efficiency programs and renewable energy at local power companies served by the Tennessee Valley Authority.
- Coordinate with allied organizations and rally grassroots support for energy efficiency programs and renewable energy in Tennessee.

### 2011- Regulatory Research Associates (RRA), Jersey City, N.J.

### 2013 Subsidiary of SNL Financial

### Financial Analyst, Mid-Atlantic Electric and Gas Utility Regulation

- Took over publication of financial analysis on the investor impacts of utility rate cases and rider proceedings in the Mid-Atlantic. Analyzed testimony and exhibits, focusing on recommended returns on equity (ROEs), and adjustments to rate base and net operating income. Coverage consisted of timely articles on new developments throughout every proceeding and RRA Final Reports with investor outlooks for each commission rate decision.
- Authored RRA State Regulatory Reviews, which provide updated RRA Commission Rankings and utility-commission profiles containing analyses of each state regulatory environment and its financial implications for utilities.
- Wrote and edited breaking news and research reports analyzing legislation, mergers and acquisitions (M&A), industry restructuring, renewable portfolio standards, energy efficiency programs, decoupling, reliability and more.
- Served as the RRA analyst in charge of planning and leading online product development. Employed an Agile project management framework as the subject matter expert interfacing with development teams, project managers, product managers, executives and other stakeholders. Originated a deep pipeline of ideas for new product enhancements, created graphic mock-ups, assisted in the management of technical requirements (including some basic SQL database work), answered developers' questions, led user acceptance testing (UAT), and helped to develop and present formal business cases to SNL Financial's executive board, including cost analysis, usage projections, and targets for subscription-value growth, ROE and profitability margins.

### 2008- **SNL Financial**, Charlottesville, Va.

### 2011 Senior Analyst, Financial Institutions Group, Editorial

• Specialized in publishing Data Dispatch reports on complex, high-priority banking data, focusing on post-crisis recapitalization, M&A, branch deposits and data reported under the Troubled Asset Relief Program (TARP).

200

• Utilized an Agile framework as the UAT coordinator on an industry awardwinning, \$1 million-budget mapping application's development team.

### Senior Analyst, Energy Research and Product Operations

- Managed the development of SNL Energy's Excel-based data models, often utilizing Visual Basic for Applications. Advanced models created include an ROE comparison and DuPont analysis model for utilities, a regional power market supply-and-demand model, a customizable template for analyzing pipeline financials, a benchmarking model for power plants, and a credit-scoring model for utilities and electric cooperatives.
- Authored a Data Dispatch report on renewable power plants in Virginia and the Carolinas that was reprinted by the *Charlotte Business Journal*.
- Designated as the lead trainer and team expert on commodities, coal, emissions and electric generation technologies.
- Implemented enhancements to an internal training program that reduced the lead time for new analysts by 33% while including more energy-sector topics.

### Analyst, Energy Research and Product Operations

- Pioneered the establishment of a highly successful data analysis feature, publishing weekly Data Dispatch reports comparing SNL Energy-covered companies, and analyzing financial and operating trends in the energy sector.
- Produced custom data reports and Excel templates for SNL Energy clients.
- Supported clients with data services covering equity markets, debt securities, merchant generators, gas and oil pipelines, power plant operations, coal production, commodities, and electric and gas utility financials.
- Maintained an average feedback rating of 9.6 out of 10 while assisting equity research analysts, utility analysts and consultants in interpreting and utilizing energy data for projects such as research reports, M&A, asset valuation, fuel scheduling, commodity hedging, utility rate cases and power purchases.

### **EDUCATION**

Corporate	Mid-Atlantic Conference of Regulatory Utility Commissioners
Training	Annual Education Conference, Hershey, Pa., 2012-2013
-	National Association of Regulatory Utility Commissioners
	Annual Education Conference, St. Louis, 2011
	New York analyst meetings — Edison Electric Institute, American Gas
	Association and energy companies' quarterly meetings, 2011-2013
	SNL Center for Financial Education — Analyst Training in the Power and
	Gas Sectors, Stamford, Conn., 2009
	Enerdynamics — Understanding the Electric Business, Washington, 2008
	Training the Street — Fundamentals of Corporate Valuation, self-study, 2008
2008	Completed SNL's internal analyst-training programs, covering energy
	infrastructure and operations, accounting, finance, auditing, and more.
2004-	University of Virginia (UVA), Charlottesville, Va.
2008 •	Bachelor of Arts in History, minor in economics.
•	Dean's List four semesters; Jefferson Scholar finalist.

#### FLORIDA POWER & LIGHT COMPANY ENERGY CONSERVATION COST RECOVERY CONSERVATION PROGRAM COSTS

JANUARY THROUGH DECEMBER 2013

				UGH DEGEMBER 2							
ECCR - CT-2 - Page 2	Depreciation & Return	Payroll & Benefits	Materials & Supplies	Outside Services	Advertising	Rebates	Vehicles	Other	Sub-Total	Program Revenue	Total for Period
1. Residential Home Energy Survey	\$32,152	\$4,438,063	\$19,885	\$1,052,161	\$5,586,826		\$99,523	\$482,192	\$11,710,801	\$0	\$11,710,801
2. Residential Building Envelope		\$360,944	\$742	\$186,442	\$799	\$2,645,958	\$12,600	\$22,712	\$3,230,196	\$0	\$3,230,196
3. Residential Duct System Testing & Repair		\$525,037	\$1,790	\$51,945		\$127,735	\$6,000	(\$87,120)	\$625,387	\$0	\$625,387
4. Residential Air Conditioning		\$2,159,735	\$3,786	\$286,878		\$62,891,554	\$50,895	\$125,437	\$65,518,286	\$0	\$65,518,286
5. Residential New Construction (BuildSmart®)		\$494,038	\$532	\$107,066	\$2,325	\$13,642		\$50,167	\$667,770	\$0	\$667,770
6. Residential Low-Income Weatherization		\$48,187	\$50			\$74,400		\$14,790	\$137,427	\$0	\$137,427
7. Residential Load Management ("On Call")	\$6,064,339	\$61,494	\$319,028	\$2,549,502	\$3,996	\$45,534,348	\$52,759	\$512,842	\$55,098,307	\$0	\$55,098,307
8. Business Energy Evaluation		\$3,955,912	\$6,475	\$477,116	\$2,782,744		\$21,450	\$307,904	\$7,551,601	\$0	\$7,551,601
9. Business Efficient Lighting		\$213,119	\$146	\$51,642		\$288,666		\$10,767	\$564,340	\$0	\$564,340
10. Business Heating, Ventilating & A/C		\$604,744	\$1,039	\$144,740		\$5,879,875	\$5,000	\$72,691	\$6,708,088	\$0	\$6,708,088
11. Business Custom Incentive		\$29,771				\$781,767		\$2,164	\$813,702	\$0	\$813,702
12. Business Building Envelope		\$477,291	\$684	\$114,634		\$6,395,145		\$25,055	\$7,012,809	\$0	\$7,012,809
13. Business Water Heating		\$11,178	\$13	\$4,749		\$17,150		\$1,869	\$34,958	\$0	\$34,958
14. Business Refrigeration		\$17,472	\$186	\$6,700		\$4,800		\$1,797	\$30,955	\$0	\$30,955
15. Business On Call	\$339,620	\$85,539	\$1,829	\$276,937		\$3,199,965		\$32,931	\$3,936,822	\$0	\$3,936,822
16. Commercial/Industrial Load Control		\$232,173	\$101	\$550	\$14	\$39,489,194	\$30	\$51,144	\$39,773,207	\$0	\$39,773,207
17. Commercial/Industrial Demand Reduction		\$233,320	\$138	\$276	\$0	\$15,952,941		\$61,661	\$16,248,336	\$0	\$16,248,336
18. Res. Solar Water Heating Pilot		\$197,530	\$175	\$105,161		\$1,084,000		\$5,987	\$1,392,853	\$0	\$1,392,853
19. Res. Solar Water Heating (LINC) Pilot		\$62,257	\$46			\$414,319		\$3,531	\$480,153	\$0	\$480,153
20. Residential Photovoltaic Pilot		\$174,735	\$206	\$7,014		\$4,224,696		\$6,324	\$4,412,975	\$0	\$4,412,975
21. Business Solar Water Heating Pilot		\$32,276	\$8	\$72,640		\$19,917		\$1,466	\$126,308	\$0	\$126,308
22. Business Photovoltaic Pilot		\$90,717	\$46	\$65,634		\$1,790,055		\$2,502	\$1,948,955	\$0	\$1,948,955
23. Business Photovoltaic for Schools Pilot	\$136,977	\$100,847		\$150,607			\$176	\$25,465	\$414,071	\$0	\$414,071
24. Renewable Research & Demo. Project		\$68,709		\$474,885				\$54,088	\$597,682	\$0	\$597,682
25. Solar Pilot Projects Common Expenses	\$475,492	\$72,777		\$3,203				\$2,502	\$553,974	\$0	\$553,974
26. Cogeneration & Small Power Production		\$750,440	\$14					(\$172,172)	\$578,282	\$0	\$578,282
27. Conservation Research & Development		\$78,091	\$121,191	\$266,843	\$7,993			\$656	\$474,773	\$0	\$474,773
28. Common Expenses	\$2,387,061	\$8,908,881	\$4,759	\$895,090	\$46,137		\$23,027	\$1,535,561	\$13,800,517	\$0	\$13,800,517
29. Subtotal All Programs	\$9,435,641	\$24,485,275	\$482,869	\$7,352,417	\$8,430,834	\$190,830,125	\$271,459	\$3,154,913	\$244,443,534	\$0	\$244,443,534
30. Less: Included in Base Rates		(\$147,281)							(\$147,281)	\$0	(\$147,281)
31. Recoverable Conservation Expenses	\$9,435,641	\$24,337,995	\$482,869	\$7,352,417	\$8,430,834	\$190,830,125	\$271,459	\$3,154,913	\$244,296,253	\$0	\$244,296,253

Totals may not add due to rounding.

May 20 2015

SCHEDULE: CT-2

#### FLORIDA POWER & LIGHT COMPANY ENERGY CONSERVATION COST RECOVERY CONSERVATION PROGRAM VARIANCE

JANUARY THROUGH DECEMBER 2013											
ECCR - CT-2 - Page 3	Depreciation & Return	Payroll & Benefits	Materials & Supplies	Outside Services	Advertising	Rebates	Vehicles	Other	Sub-Total	Program Revenue	Total for Period
1. Residential Home Energy Survey	(11,866)	(399,676)	10,364	36,477	(298,080)	-	11,602	116,478	(534,701)	0	(534,701)
2. Residential Building Envelope		(6,611)	551	3,059	799	(392,310)	6,300	(6,723)	(394,935)	0	(394,934)
3. Residential Duct System Testing & Repair		(145,518)	1,355	(28,711)		(21,561)	210	(10,793)	(205,017)	0	(205,017)
4. Residential Air Conditioning		29,430	1,544	(57,124)		5,146,552	13,868	29,335	5,163,606	0	5,163,606
5. Residential New Construction (BuildSmart®)		13,255	532	21,138	(7,800)	(1,174)		15,551	41,503	0	41,503
6. Residential Low-Income Weatherization		(\$10,974)	\$29	(\$1,664)		(\$32,354)		(\$1,698)	(\$46,660)	\$0	(\$46,660)
7. Residential Load Management ("On Call")	(\$56,400)	(\$805,618)	\$4,149	\$902,448	\$3,996	(\$1,093,160)	(\$19,033)	(\$58,109)	(\$1,121,726)	\$0	(\$1,121,726)
8. Business Energy Evaluation		(\$201,815)	(\$4,991)	(\$421,616)	\$214,458		(\$1,485)	\$99,476	(\$315,973)	\$0	(\$315,973)
9. Business Efficient Lighting		(\$390)	\$143	\$7,070		\$31,750		\$1,249	\$39,823	\$0	\$39,823
10. Business Heating, Ventilating & A/C		(\$45,468)	\$572	\$4,753		(\$809,555)	\$2,274	\$6,197	(\$841,226)	\$0	(\$841,226)
11. Business Custom Incentive		\$9,242		(\$11,672)		\$104,106		\$445	\$102,122	\$0	\$102,122
12. Business Building Envelope		(\$35,438)	\$648	\$16,472		(\$1,103,903)		\$3,908	(\$1,118,314)	\$0	(\$1,118,314)
13. Business Water Heating		\$2,762	\$13	\$954		(\$1,552)		\$1,123	\$3,300	\$0	\$3,300
14. Business Refrigeration		\$2,390	\$185	\$1,295		\$1,827		\$276	\$5,974	\$0	\$5,974
15. Business On Call	(\$3,045)	(\$2,202)	(\$520)	\$24,417		(\$171,788)	(\$297)	(\$5,305)	(\$158,740)	\$0	(\$158,740)
16. Commercial/Industrial Load Control		\$19,154	\$44	\$441	\$14	(\$201,188)	\$30	(\$15,512)	(\$197,016)	\$0	(\$197,016)
17. Commercial/Industrial Demand Reduction		(\$5,217)	(\$45)	(\$6,390)	\$0	\$3,330	(\$99)	(\$26,665)	(\$35,086)	\$0	(\$35,086)
18. Res. Solar Water Heating Pilot		\$7,772	\$173	(\$55,681)		(\$165,000)		(\$60)	(\$212,796)	\$0	(\$212,796)
19. Res. Solar Water Heating (LINC) Pilot		(\$2,377)	\$46	(\$16,752)		(\$492,319)		\$383	(\$511,019)	\$0	(\$511,019)
20. Residential Photovoltaic Pilot		(\$2,317)	\$201	(\$5,486)		\$521,199		\$1,276	\$514,874	\$0	\$514,874
21. Business Solar Water Heating Pilot		(\$2,330)	\$8	(\$70,057)		(\$475,891)		(\$902)	(\$549,173)	\$0	(\$549,173)
22. Business Photovoltaic Pilot		\$7,479	\$46	(\$16,154)		(\$72,870)		(\$182)	(\$81,681)	\$0	(\$81,681)
23. Business Photovoltaic for Schools Pilot	(\$214,694)	\$405		\$8,379			(\$660)	\$10,254	(\$196,317)	\$0	(\$196,317)
24. Renewable Research & Demo. Project		\$25,839		(\$623,217)				\$643	(\$596,734)	\$0	(\$596,734)
25. Solar Pilot Projects Common Expenses	(\$1)	\$125		\$6,889				\$1,860	\$8,873	\$0	\$8,873
26. Cogeneration & Small Power Production		(\$11,712)	(\$197)					(\$8,474)	(\$20,383)	\$0	(\$20,383)
27. Conservation Research & Development		\$1,437	\$121,191	\$26,372	\$7,993			\$638	\$157,630	\$0	\$157,630
28. Common Expenses	(\$2,768)	(\$439,534)	\$587	(\$261,528)	\$17,298		(\$22,354)	(\$144,635)	(\$852,935)	\$0	(\$852,935)
29. Subtotal All Programs	(\$288,774)	(\$1,997,905)	\$136,628	(\$515,887)	(\$61,321)	\$774,140	(\$9,643)	\$10,034	(\$1,952,729)	\$0	(\$1,952,729)
30. Less: Included in Base Rates										\$0	\$0
31. Recoverable Conservation Expenses	(\$288,774)	(\$1,997,905)	\$136,628	(\$515,887)	(\$61,321)	\$774,140	(\$9,643)	\$10.034	(\$1,952,729)	\$0	(\$1,952,729)

Totals may not add due to rounding.

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### May 20 2015

### CERTIFICATE OF SERVICE

I certify that the persons on the service list have been served with the foregoing Testimony of Taylor Allred on Behalf of Southern Alliance for Clean Energy either by electronic mail or by deposit in the U.S. Mail, postage prepaid.

This the 20th day of May, 2015.

un Robin G. Dunn