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June 19, 2009

VIA HAND DELIVERY

**OFFICIAL COPY**

**FILED**

**JUN 19 2009**

Clerk's Office  
N.C. Utilities Commission

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

RE: Application of Duke Energy Carolinas, Inc. for Approval of Save-a-Watt  
Approach, Energy Efficiency Rider and Portfolio of Energy Efficiency  
Programs.  
DOCKET NO.: E-7 Sub 831

Dear Ms. Vance:

Enclosed please find for filing an original and thirty (30) copies of the Testimony of John D. Wilson filed on behalf of Environmental Defense Fund, Natural Resources Defense Council, Southern Alliance for Clean Energy and Southern Environmental Law Center in the above-captioned matter. By copy of this letter and enclosures, I am serving all parties of record.

Sincerely,



Kate Double  
Administrative Legal Assistant

Cc: Parties of Record (via electronic mail)

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

DOCKET NO. E-7, Sub 831

**FILED**

**JUN 19 2009**

Clerk's Office  
N.C. Utilities Commission

In the Matter of: )  
Application of Duke Energy )  
Carolinas, Inc. for Approval of Save- )  
a-Watt Approach, Energy Efficiency )  
Rider and Portfolio of Energy )  
Efficiency Programs )

**SETTLEMENT TESTIMONY  
OF JOHN D. WILSON ON BEHALF  
OF ENVIRONMENTAL  
INTERVENORS**

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

2    A.    My name is John D. Wilson. I am Director of Research for Southern Alliance for Clean  
3       Energy, 34 Wall Street, Suite 607, Asheville, North Carolina.

4    **Q.    PLEASE STATE BRIEFLY YOUR EDUCATION, BACKGROUND AND**  
5       **EXPERIENCE.**

6    A.    I-graduated from Rice University in 1990 with a Bachelor of Arts degree in physics and  
7       history. I received a Masters in Public Policy Degree from the John F. Kennedy School  
8       of Government at Harvard University in 1992 with an emphasis in energy and  
9       environmental policy and economic and analytic methods. Since 1992, I have worked in  
10       the private, non-profit and public sectors on a wide range of public policy issues, usually  
11       related to energy, environmental and planning topics.

12           I became the Director of Research for the Southern Alliance for Clean Energy in  
13       2007. I have participated in North Carolina Climate Action Plan Advisory Group and  
14       the South Carolina Climate, Energy & Commerce Advisory Committee as an alternate  
15       for Dr. Stephen A. Smith, Executive Director of SACE. I have also served as a member  
16       of various technical work groups dealing with energy supply and efficiency issues. I am  
17       the senior staff member responsible for our energy efficiency program advocacy, as well  
18       as being responsible for work in other program areas.

19           I have testified before the South Carolina Public Service Commission in the Duke  
20       Energy Carolinas Save-a-Watt proceeding. I have also appeared before the Florida  
21       Public Service Commission and presented to the Board of the Tennessee Valley  
22       Authority.

23           I have testified before the legislatures of Florida, North Carolina and Texas, the  
24       Texas Natural Resource Conservation Commission, and the U.S. Environmental

1 Protection Agency on numerous occasions. I have served on numerous state and local  
2 government advisory committees dealing with environmental regulation and local  
3 planning issues in Texas. I have been an invited speaker to a wide variety of academic,  
4 industry and government conferences on a number of energy, environmental and  
5 planning related topics.

6 A copy of my resume is attached as Wilson Exhibit 1.

7 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?**

8 A. I am testifying on behalf of Environmental Defense Fund, Natural Resources Defense  
9 Council, Southern Alliance for Clean Energy and the Southern Environmental Law  
10 Center (collectively, the "Environmental Intervenors").

11 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

12 A. The Environmental Intervenors, the Public Staff of the North Carolina Utilities  
13 Commission and Duke Energy Carolinas, LLC ("Duke" or "the Company") have entered  
14 into an Agreement and Joint Stipulation of Settlement ("Agreement") resolving the issues  
15 between them in this proceeding. The purpose of my testimony is to explain why the  
16 Environmental Intervenors believe that the Agreement protects ratepayers and the  
17 environment while providing a reasonable incentive to Duke to pursue energy efficiency,  
18 and is therefore in the public interest.

19 **Q. PLEASE EXPLAIN WHY THE ENVIRONMENTAL INTERVENORS OPPOSED**  
20 **SAVE-A-WATT AS ORIGINALLY PROPOSED BY DUKE.**

21 A. Duke filed its original Save-a-Watt proposal on May 7, 2007. To be clear, the  
22 Environmental Intervenors supported the fundamental concept behind Duke's original  
23 Save-a-Watt proposal—that a utility should receive a financial incentive sufficient to  
24 encourage pursuit of all cost-effective energy efficiency. However, as originally

1 proposed, Duke's Save-a-Watt program would have produced meager reductions in  
2 annual energy use, allowed the Company to capture an unreasonable share of the total  
3 savings in supply costs, i.e., the benefits, of energy efficiency, and resulted in little  
4 benefit to customers. The original proposal was also structured in a manner that appeared  
5 to provide a disincentive to certain cost-effective energy efficiency programs.

6 **Q. PLEASE EXPLAIN HOW THE AGREEMENT ADDRESSES THOSE**  
7 **CONCERNS.**

8 A. The Agreement will nearly double the short-term energy savings potential of the  
9 programs, and establishes an earnings cap that protects customers' interests in fair rates.  
10 I will focus on four primary aspects of the Agreement that accomplish this: enhanced  
11 energy savings targets, an earnings cap, lost revenue recovery for a limited period and a  
12 "tiered" performance incentive structure. Taken together, these modifications to the  
13 Save-a-Watt proposal contained in the Agreement provide Duke with a strong incentive  
14 to achieve energy savings, while ensuring that customers benefit financially by taking  
15 advantage of low cost energy efficiency resources rather than paying for higher cost  
16 power plants.

17 **Q. IS THE REVISED LEVEL OF AVOIDED COST RECOVERY IN THE PUBLIC**  
18 **INTEREST?**

19 A. Yes. The revised level of avoided cost recovery is set at a level that gives Duke the ability  
20 to recover its program costs plus achieve a reasonable level of earnings under the cap  
21 described above. If Duke's program costs are higher than expected (while achieving the  
22 same level of program impacts), then it might not achieve the full level of earnings  
23 allowed under the cap. In combination with the earnings cap, the avoided cost recovery

1 structure provides customers with an assurance that the Company has an incentive to  
2 control costs.

3 **Q. PLEASE EXPLAIN THE ENERGY SAVINGS TARGETS UNDER THE**  
4 **AGREEMENT.**

5 The energy savings targets contained in the Agreement represent a commitment by Duke  
6 to ramp up its energy efficiency offerings in the Carolinas to levels that will make the  
7 Company a leader in the industry. For example, the Company's target incremental  
8 reduction in annual energy use by year 4 under the Agreement is equal to 0.75% of its  
9 forecast sales for that year – this is 250% of the the year 4 target in its original proposal.  
10 If the Company meets these higher annual targets, the cumulative reduction in annual  
11 energy consumption by year 4 will be almost 2% of annual sales in that year. These  
12 higher targets have the potential to achieve a cumulative reduction in annual energy  
13 consumption of over 8% within 10 years.

14 If Duke achieves its target, by 2020 the cumulative energy savings impact in the  
15 Carolinas will reach about 6,784 GWh. This is slightly more than the annual output of an  
16 800 MW baseload power plant.<sup>1</sup> The cumulative annual energy savings impact is  
17 illustrated in Wilson Exhibit 2. The estimated annual energy savings for years 1 - 4 are  
18 the targets under the Agreement. Projected annual energy savings for subsequent years  
19 are my own extrapolation based on my interpretation of the Agreement and the  
20 assumption that Duke achieves 100% of its target or goal in each year up to year 4 and its  
21 goal of 1% of 2009 retail sales thereafter.

22 **Q. HOW DOES THE AGREEMENT PROTECT RATEPAYERS?**

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<sup>1</sup> Assumes an average annual capacity factor of 90%.

1 The Agreement contains two important modifications to Duke's original proposal that  
2 will help ensure that customers receive fair value and their rates remain reasonable. First,  
3 the Agreement establishes an earnings cap that ensures that the Company's earnings on  
4 energy efficiency are commensurate with the allowable earnings rate for investments in  
5 power plants and other capital assets. Second, the Agreement limits recovery for "lost  
6 revenues" due to reduced sales of electricity to three years.

7 **Q. PLEASE EXPLAIN WHY THE EARNINGS CAP IS REASONABLE.**

8 A. The earnings cap addresses our concern that the original Save-a-Watt proposal could  
9 result in an unreasonable level of earnings. I will discuss the performance-based tiered  
10 earnings caps later in my testimony.

11 In the original Save-a-Watt proposal, the Company's earnings could be calculated  
12 as 90% of avoided costs, less program costs, less net lost revenues. Using data supplied  
13 by the Company, assuming the modifications to Save-a-Watt ordered by the  
14 Commission<sup>2</sup>, and assuming that net lost revenues are valued at the 36-month limit  
15 agreed to in this Agreement, I estimate that the Company's post-tax earnings would have  
16 been about 44% of program costs on a nominal basis. Using the same method of  
17 analysis, but if Duke achieved the target established under the Agreement, its post-tax  
18 earnings under the original proposal would have been somewhat higher, about 49% of  
19 program costs.

20 In contrast, the performance-based earnings cap in the Agreement limits the  
21 Company's maximum earnings substantially. If Duke achieves 90% of the new target,

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<sup>2</sup> Order Resolving Certain Issues, Requesting Information on Unsettled Matters, and Allowing Proposed Rider to Become Effective Subject to Refund (Feb. 26, 2009).

1 then the applicable earnings cap is 15%. These findings are summarized in the table  
2 below.

Cumulative Energy Reduction Target By Year 4 And Maximum Earnings			
	Save-a-Watt As Filed, With Commission Ordered Modifications	Save-a-Watt As Filed, With Commission Ordered Modifications and Higher Energy Reduction Target	Agreement
Cumulative impact (GWh)	926	1,440	1,440
Post-tax earnings as % of program costs	44%	49%	15%

3 When the Company invests in a power plant or some other long-lived asset the  
4 Commission allows it the opportunity to recover that investment over its life and to earn  
5 an annual return expressed as a percentage of the book value of that capital asset, or "rate  
6 base" each year. This is referred to as its weighted average cost of capital, and includes a  
7 component that is the return on debt and a component that is the return on equity. The  
8 earnings referred to below are the return on equity component.

9 Under N.C. Gen. Stat. § 62-133.9(d), a utility may "defer and amortize" energy  
10 efficiency program costs that are intended to produce further benefits. In layman's terms,  
11 Duke is allowed to "capitalize" its efficiency program expenditures and recover them  
12 over a period of time.<sup>3</sup> We used that statute as the basis for analyses that led us to  
13 conclude that the earnings caps under the Agreement are consistent with the Company's  
14 allowed return on equity established by the Commission.

15 For conservation (energy savings) programs, we compared the maximum earnings  
16 allowed under the Agreement to the earnings that Duke would earn if it "capitalized" its

<sup>3</sup> The demand response programs created as a result of the Save-a-Watt proceeding assume that the benefits occur in the same year as the expenses; it is therefore inappropriate to use capitalization or deferred accounting to analyze the return associated with demand response programs.



1 energy efficiency program costs and recovered them over several years using its current  
2 capital structure and authorized returns. Using data provided by Duke, we calculated the  
3 post-tax earnings-to-program-cost ratios for conservation programs for amortization  
4 periods varying from one to ten years. We tested various amortization periods because  
5 North Carolina law does not establish a specific period over which capitalization is  
6 allowed; instead it leaves that decision to the Commission.

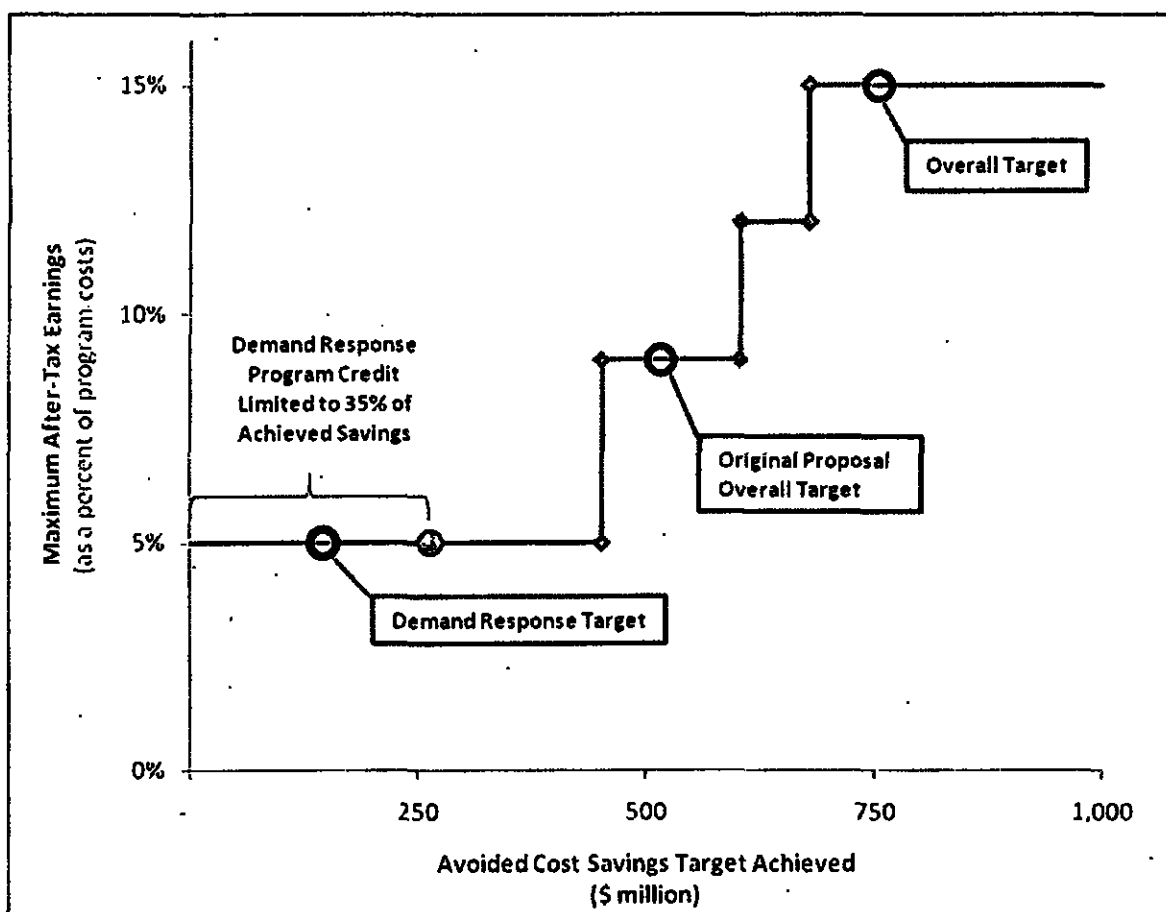
7 Analysis of amortization periods varying from two to eleven years indicated that  
8 the maximum ratio of post-tax earnings to program costs allowed under the Agreement  
9 would range from 1.7% to 15.2%, as illustrated in Wilson Exhibit 3. Therefore, the  
10 proposed range of earnings cap tiers from 5% to 15% is consistent with the Company's  
11 potential earnings if it chose to capitalize its program costs using an amortization period  
12 of 4 to 11 years.

13 For the purposes of the Agreement we consider this to be reasonable. The  
14 efficiency measures will produce energy reductions over that period and this maximum  
15 level of earnings represents a reasonable balancing of ratepayer and Company interests.  
16 Because of the differences between the Company's investment in and recovery of a  
17 capital asset and its expenditures on and recovery of energy efficiency program costs, I  
18 acknowledge that the discussion above does not provide a direct link between a utility's  
19 authorized return on equity and the financial incentive it might receive for an energy  
20 efficiency program. Nevertheless, I believe that the earnings caps in the Agreement limit  
21 the earnings opportunity to reasonable levels consistent with Duke's authorized return on  
22 equity.

1 Q. PLEASE ELABORATE ON THE TIERED EARNINGS LEVELS.

2 A. The Agreement establishes a “tiered” approach to earnings – the more successful the  
3 Company is in achieving energy savings, the greater its earnings opportunity becomes.  
4 This approach provides Duke with a strong incentive to achieve high levels of energy  
5 efficiency as rapidly as possible. The tiers established in the Agreement are depicted in  
6 the following chart.

**Tiered Earnings Levels Recommended in Agreement**



7  
8 Q. WHAT ABOUT THE INCENTIVE FOR DEMAND RESPONSE?

9 A. Our organizations agree that some level of financial incentive for demand response  
10 programs is justified for two main reasons. First, demand response programs benefit

1       ratepayers by enabling the utility to avoid investments or acquisition of new capacity as  
2       well as avoiding higher-than-average fuel costs associated with meeting demand during  
3       peak periods. Second, we recognize that the providers of demand response programs  
4       view them as a business opportunity. If the Company is going to deliver those programs  
5       it is reasonable that it will expect to earn a return commensurate with the risk it incurs to  
6       offer them. In some other jurisdictions, unregulated companies, referred to as curtailment  
7       service providers, compete to offer demand response programs and have the opportunity  
8       to earn a profit on them if they are successful. Thus, in order to attract investment in high  
9       quality demand response programs it appears that the program provider should have an  
10      earnings opportunity.

11             For the purposes of the Agreement, and based on these observations, we have  
12      agreed to support application of the earnings cap framework to demand response at the  
13      agreed levels. We were not able to identify a specific empirical rationale for the proposed  
14      levels in a manner that is similar to that of the conservation incentive. Nevertheless, we  
15      consider these levels to be in the public interest for two reasons.

16             First, Duke estimates that the avoided cost savings associated with its demand  
17      response programs will be about 20% of its total avoided cost savings. Thus, the demand  
18      response incentive is a relatively small part of the total package. To ensure that energy  
19      savings is the larger part of the package, the Agreement specifies that the avoided cost  
20      savings associated with demand response can make up no more than 35% of the total  
21      avoided cost savings considered when establishing the percent of target achievement.

22             Second, the demand response programs represent the measures that will come on  
23      line most quickly and with the least program development effort. Accordingly, I think of

1 the demand response programs as earning the 5% performance incentive, with the higher  
2 performance incentive levels being marginally responsive to the energy savings impact of  
3 Save-a-Watt. This limitation is illustrated above for reference.

4 **Q. WHAT STEPS SHOULD THE COMMISSION TAKE TO FURTHER**  
5 **INVESTIGATE THE APPROPRIATE LEVEL OF FINANCIAL INCENTIVE**  
6 **FOR DEMAND RESPONSE PROGRAMS?**

7 A. The Agreement is a settlement that we consider to be in the public interest for its four  
8 year term, i.e., on an interim basis. Prior to the end of the four year period covered by  
9 this Agreement, I encourage the Commission to undertake a study of best practices of  
10 delivering and funding demand response programs in order to determine the best  
11 approach for this region's particular regulatory and economic characteristics. I would  
12 encourage the Commission to consider investigating this matter on a regional basis.

13 **Q. PLEASE ELABORATE ON THE LOST REVENUE RECOVERY PROVISION.**

14 A. Under the Agreement, Duke will recover its lost revenues due to lost sales for a period of  
15 three years. The intent of this mechanism is to mitigate the disincentive to pursue energy  
16 efficiency created by the existing electric rate structure in North Carolina. Limiting this  
17 mechanism to three years, however, ensures that Duke does have a strong incentive to  
18 adjust its supply-side resources (power plants and contracts) to reflect reduced demand.

19 I note that the Environmental Intervenors generally prefer the use of decoupling,  
20 which is a different rate structure that breaks the link between utility revenues and energy  
21 sales and thus inherently removes the disincentive to offer energy efficiency programs,  
22 aligning the interests of utility shareholders with those of consumers. Therefore we are  
23 only accepting net lost revenue recovery as an interim approach. We expect that the  
24 complexity and other fundamental issues associated with the use of net lost revenue

1 recovery will ultimately demonstrate the value of shifting to a decoupling-based utility  
2 rate structure as it has in other states.

3 **Q. TAKEN AS A WHOLE, HOW DOES THE AGREEMENT PROVIDE DUKE**  
4 **WITH A FINANCIAL INCENTIVE TO ACHIEVE HIGH LEVELS OF ENERGY**  
5 **EFFICIENCY?**

6 A. The combination of the performance-based tiered earnings cap and a reasonable level of  
7 lost revenue recovery provide Duke with the opportunity to maintain or even increase  
8 slightly its overall earnings relative to business-as-usual. However, if the Company fails  
9 to achieve high levels of efficiency and its program costs are substantially higher than  
10 expected, its earnings could decrease. I base these conclusions generally on my own  
11 examination of various scenarios, but most specifically on the findings in a recent report  
12 by Lawrence Berkeley National Laboratory.

13 The report, "Financial Analysis of Incentive Mechanisms to Promote Energy  
14 Efficiency: Case Study of a Prototypical Southwest Utility" (Cappers et al., LBNL-  
15 1598E, March 2009), examined several financial structures for utility energy efficiency  
16 programs. Among the structures examined are "Save-A-Watt (NC)," which reflects the  
17 original proposal design, and "Save-a-Watt (OH)," a structure that is quite similar to the  
18 Agreement. I should disclose that I was a reviewer for this report and provided extensive  
19 input into the type of analysis that the report ultimately presented, including several of  
20 the findings I will discuss in my testimony.

21 It should be noted that there are a number of important differences between the  
22 "prototypical southwest utility" and utilities in the Carolinas (or elsewhere in the  
23 southeast). For example, the model assumes frequent rate cases, which tends to limit the  
24 duration of earnings erosion due to under-recovery of fixed costs due to a reduction in

1 retail sales between rate cases. Nevertheless, the report provides important findings that  
2 give us confidence that the financial structure in the Agreement will promote energy  
3 efficiency in the public interest.

4 I would like to offer several observations based on my review of the report.

5 First, a positive financial structure is needed for an investor-owned utility to  
6 invest in energy efficiency. With no financial incentive, both absolute earnings and ROE  
7 are lower than they would be without energy efficiency, illustrating the classic  
8 disincentive to energy efficiency facing a vertically integrated utility. (This is illustrated  
9 in Figure ES-4 in the report.) In short, the model results demonstrate how important a  
10 fair and properly structured utility incentive structure is to energy efficiency.

11 Second, energy efficiency programs reduce total ratepayer bills for all financial  
12 structures studied (including the original Save-A-Watt (NC) proposal) and at all scenario  
13 levels for energy efficiency. Consistent with other studies and historical findings, the  
14 reduced revenue requirement occurs even though the model indicates small retail rate  
15 increases (see Figure 20 of the report). The original Save-A-Watt (NC) proposal stands  
16 out as saving customers less than other financial structures studied, and aggressive levels  
17 of energy efficiency save customers the most money.

18 Third, the Save-a-Watt (OH) structure performs quite similarly to structures such  
19 as a cost capitalization with decoupling (includes a bonus ROE), shared net benefits with  
20 decoupling, and performance target with decoupling (program costs plus earnings). As  
21 illustrated in Wilson Exhibit 4, which is Figure ES-7 in the report, all of these financial  
22 structures offer an enhanced ROE at any level of energy efficiency performance, thus  
23 illustrating that the combination of a shareholder incentive mechanism with a fixed cost

1 recovery mechanism (decoupling or lost revenue recovery) puts energy efficiency on the  
2 positive side of the balance sheet compared to business-as-usual.

3 Fourth, the Save-A-Watt (OH) structure (similar to the Agreement) is a major  
4 improvement over the Save-A-Watt (NC) structure (original proposal). As I previously  
5 commented, the model findings are that customer savings for the OH structure are greater  
6 than the NC structure; this is because the rate impact of the NC structure is approximately  
7 twice as much as the OH structure at the same level of impact. Returning to Wilson  
8 Exhibit 4, the model indicates that the NC structure (original proposal) has far higher  
9 absolute earnings and ROE than the OH structure.

10 Earlier in my testimony, I presented evidence to support my opinion that the  
11 proposed range of earnings cap tiers from 5% to 15% is consistent with the Company's  
12 potential earnings if it chose to capitalize its program costs using an amortization period  
13 of 4 to 11 years. Based on the LBNL report, I can broaden this opinion to the entire  
14 financial structure in the Agreement. Taken as a whole, the Agreement appears likely to  
15 result in an opportunity for the Company to maintain or increase slightly its overall  
16 earnings relative to business-as-usual if it achieves the targets set out in the Agreement at  
17 a cost similar to the one it anticipates. If the Company falls short in meeting either of  
18 those objectives, its opportunity to maintain or increase its earnings would diminish.

19 **Q. WOULD YOU LIKE TO MENTION ANY OTHER ASPECTS OF THE**  
20 **AGREEMENT?**

21 **A.** Yes. The Agreement includes provisions for greater flexibility to allow the utility to  
22 rapidly implement higher-performing programs. The agreement also includes provisions  
23 for a strong stakeholder advisory group to ensure transparency and encourage new ideas.

1        These provisions are consistent with the recommendations of Brian Henderson, who  
2        testified for Environmental Intervenors regarding the proposed Save-a-Watt programs.

3        **Q.       DOES THAT CONCLUDE YOUR TESTIMONY?**

4        **A.       Yes, it does.**



**John D. Wilson****Director of Research, Southern Alliance for Clean Energy**

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Asheville, NC 28801

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**EXPERIENCE****Southern Alliance  
for Clean Energy**

Director of Research, Asheville, North Carolina, 2007 – present

<http://www.cleanenergy.org/>

- Member, several state climate committees and workgroups
- Testified and presented before utility regulators and boards in four states
- Published numerous reports and presentations

**Galveston-Houston  
Association for  
Smog Prevention**

Executive Director, Houston, Texas, 2001 – 2006

<http://www.ghasp.org/>

- Member, Regional Air Quality Planning Committee
- Member, Transportation Policy Technical Advisory Committee
- Member, Steering Committee, TCEQ Interim Science Committee
- Published over a dozen reports
- In the media over 250 times
- Awards & recognition from the City of Houston, *Houston Press*, and environmental groups

**The Goodman  
Corporation**

Senior Associate, Houston, Texas, 2000 – 2001

<http://www.thegoodmancorp.com/>

- Project Manager, Houston Main Street Corridor
- Project Manager, Houston Downtown Circulation Study
- Project Manager, Austin Corridor Planning
- Project Manager, Ft. Worth Berry Street Corridor Initiative

**Florida Legislature**

Senior Legislative Analyst and Technology Projects Coordinator, Office of Program Policy Analysis and Government Accountability, Tallahassee, Florida, 1997- 1999

<http://www.oppaga.state.fl.us/>

- Coordinator, Florida Government Accountability Report, 1999
- Coordinator, Project Management Software Implementation, 1999
- Creator and Editor, *Florida Monitor Weekly*, 1998 - 99
- Author or team member for reports on water supply policy, environmental permitting, community development corporations, school district financial management and other issues – most recommendations implemented by the 1998 and 1999 Florida Legislatures

**Florida State  
University**

Environmental Management Consultant, Tallahassee, Florida, 1997

<http://www.pepps.fsu.edu/FACT97/index.html>

- Project staff, *Florida Assessment of Coastal Trends*, 1997

**Houston Advanced  
Research Center**

Research Associate, Center for Global Studies, Woodlands, Texas, 1992 - 96

<http://www.harc.edu/>

- Performance Award, 1995
- Coordinator of regional environmental projects for Houston, the Rio Grande river basin, and the state of Texas

**US Environmental  
Protection Agency**

Student Assistant, Office of Policy, Planning and Evaluation, Washington, DC, 1991

- Special Achievement Award, 1991

**EDUCATION****Harvard University**

Master in Public Policy, John F. Kennedy School of Government, 1992

- Concentration areas: Environment, negotiation, economic and analytic methods

**Rice University**

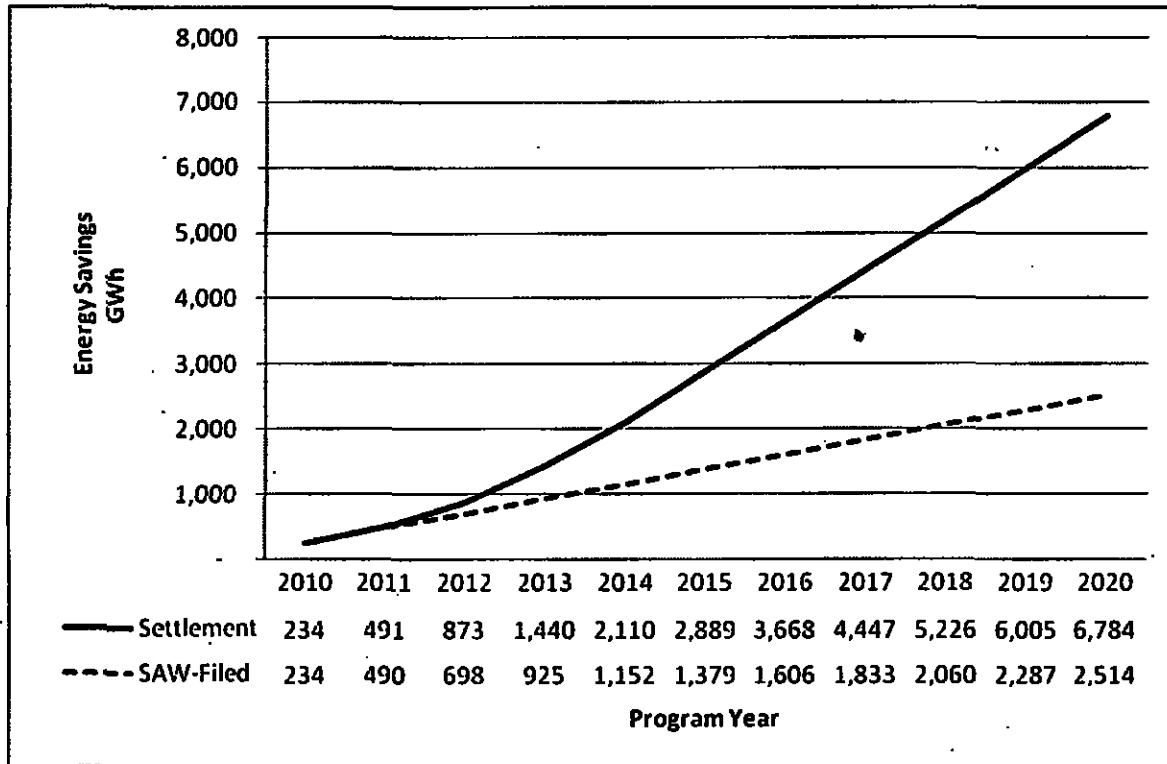
Bachelor of Arts, conferred cum laude, 1990

- Majors: Physics (with honors) and history

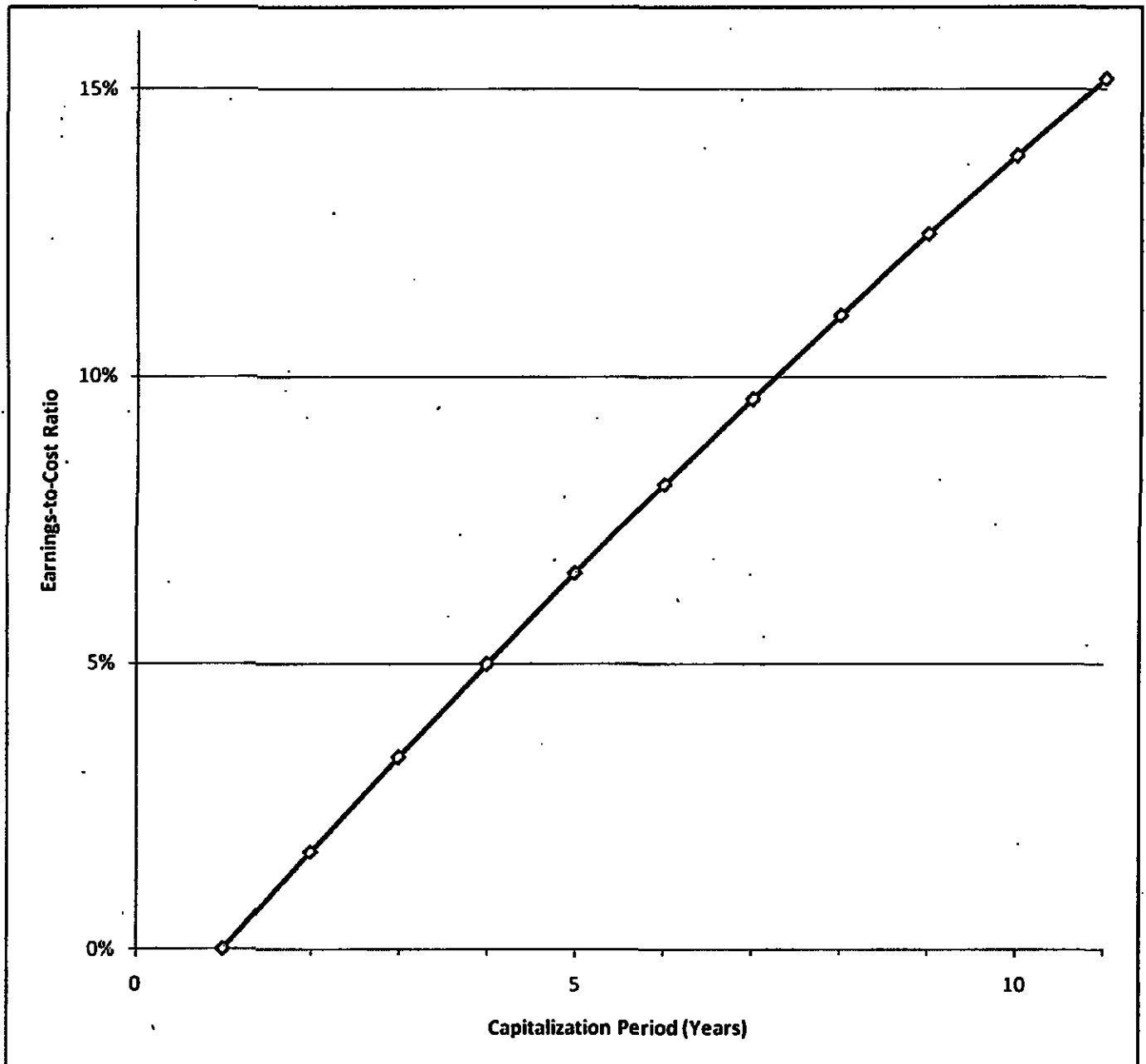
**Additional Training  
and Experience**

Spanish language; Advanced computer skills; Certified Master Wildlife Conservationist, Leon County Extension Service

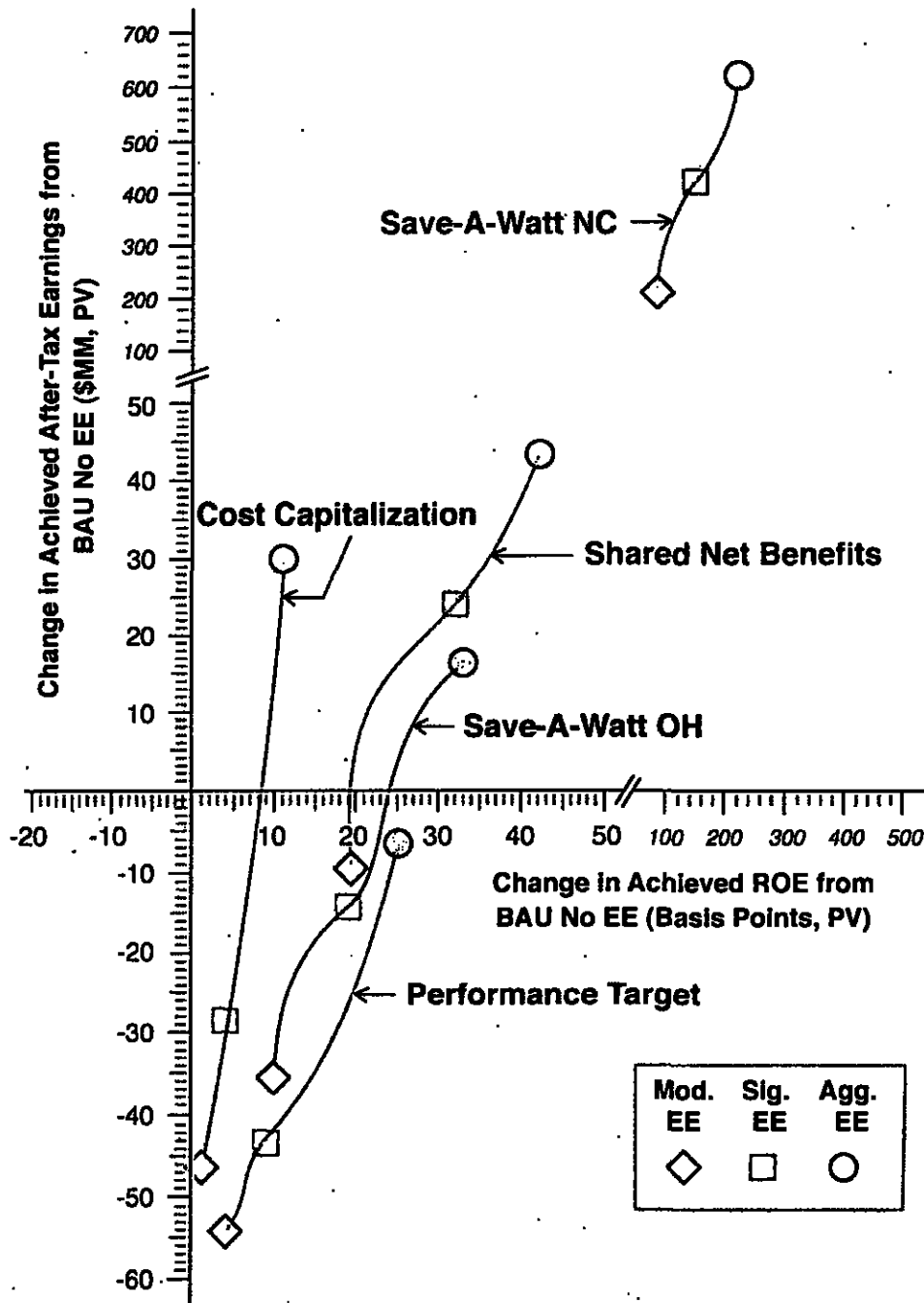
**Cumulative Energy Savings Impact of Energy Efficiency Programs Assuming Targets in Agreement Are Achieved and Maintained**



**Post-tax Earnings-to-Program-Cost Ratios for Conservation Programs, Varying  
Amortization Period from One to Five Years**



**Earnings and return on equity (ROE): Combined effect of fixed cost recovery and shareholder incentive mechanism**



## CERTIFICATE OF SERVICE

I hereby certify that the following persons on the docket mailing list have been served with the Testimony of John D. Wilson on behalf of Environmental Defense Fund, Natural Resources Defense Council, Southern Alliance for Clean Energy and Southern Environmental Law Center by electronic service:

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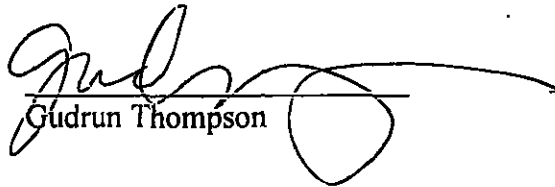
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