

**BEFORE THE  
NORTH CAROLINA UTILITIES COMMISSION**

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**IN RE.**

**Application of Duke Energy Corporation and  
Progress Energy, Inc. to Engage in a  
Business Combination Transaction and to Address  
Regulatory Conditions and Codes of Conduct**

**Docket No. E-2, Sub. 998  
Docket No. E-7, Sub. 986**

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**DIRECT TESTIMONY AND EXHIBITS OF**

**ROGER D. COLTON**

***ON BEHALF OF THE***

**North Carolina Waste Awareness and Reduction Network (NC-WARN)  
Raleigh, North Carolina**

**September 8, 2011**

1 **Q. PLEASE STATE YOUR NAME AND ADDRESS FOR THE RECORD.**

2 A. My name is Roger Colton. My business address is 34 Warwick Road, Belmont, MA  
3 02478.

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

6 A. I am a principal in the firm of Fisher Sheehan & Colton, Public Finance and General  
7 Economics of Belmont, Massachusetts. In that capacity, I provide technical assistance to a  
8 variety of federal and state agencies, consumer organizations and public utilities on rate and  
9 customer service issues involving telephone, water/sewer, natural gas and electric utilities.

10

11 **Q. FOR WHOM ARE YOU TESTIFYING IN THIS PROCEEDING?**

12 A. I am testifying on behalf of North Carolina Waste Awareness and Reduction Network (NC  
13 WARN).

14

15 **Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.**

16 A. I work primarily on low-income utility issues. This involves regulatory work on rate and  
17 customer service issues, as well as research into low-income usage, payment patterns, and  
18 affordability programs. At present, I am working on various projects in the states of  
19 Maryland, Pennsylvania, Illinois, Iowa, Colorado, Idaho and Washington State, as well as in  
20 the provinces of Manitoba, Ontario and Nova Scotia. My clients include state agencies  
21 (*e.g.*, Pennsylvania Office of Consumer Advocate, Maryland Office of Peoples Counsel,  
22 Iowa Department of Human Rights), federal agencies (*e.g.*, the U.S. Department of Health  
23 and Human Services), community-based organizations (*e.g.*, Energy Outreach Colorado,

1 Community Action Partnership Association of Idaho), and private utilities (*e.g.*, Entergy  
2 Services, Xcel Energy d/b/a Public Service of Colorado, Tacoma Public Utilities). In  
3 addition to state- and utility-specific work, I engage in national work in the United States.  
4 For example, in 2008/2009, I worked on a national study of the responses of water utilities  
5 to the payment troubles of residential customers for the American Water Works Association  
6 Research Foundation. In 2007, I was part of a team that performed a multi-sponsor  
7 public/private national study of low-income energy assistance programs.

8  
9 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.**

10 A. After receiving my undergraduate degree in 1975 (Iowa State University), I obtained further  
11 training in both law and economics. I received my law degree in 1981 (University of  
12 Florida). I received my Masters Degree (economics) from the MacGregor School in 1993.

13  
14 **Q. HAVE YOU EVER PUBLISHED ON PUBLIC UTILITY REGULATORY**  
15 **ISSUES?**

16 A. Yes. I have published more than 80 articles in scholarly and trade journals, primarily on  
17 low-income utility and housing issues. I have published an equal number of technical reports  
18 for various clients on energy, water, telecommunications and other associated low-income  
19 utility issues. A list of my professional publications is presented in Appendix A.

20  
21 **Q. HAVE YOU EVER TESTIFIED BEFORE THIS OR OTHER UTILITY**  
22 **COMMISSIONS?**

1 A. Yes. I have testified before the North Carolina Utilities Commission (NCUC or  
2 Commission) on numerous occasions, for the Office of Attorney General and for various  
3 public interest intervenors, regarding utility issues affecting low-income customers. I have  
4 also testified in regulatory proceedings in more than 30 states and various Canadian  
5 provinces on a wide range of low-income utility issues. Proceedings in which I have  
6 previously appeared as an expert witness are listed in Appendix A.

7  
8 **Q. PLEASE EXPLAIN THE PURPOSE OF YOUR TESTIMONY.**

9 A. My testimony will consider the following issues:

- 10 ➤ In Part 1, I identify adverse impacts to consumers that will likely arise from the  
11 merger;
- 12 ➤ In Part 2, I will assess the extent to which these harms will likely fall  
13 disproportionately on low-income households;
- 14 ➤ In Part 3, I will identify why low-income households, by the very nature of their  
15 poverty, do not have the capacity to take steps to avoid these adverse impacts; and
- 16 ➤ In Part 4, I will propose a series of merger-related conditions that will help mitigate  
17 the identified harms, and deliver positive benefits, to the low-income population.

18

19 **Part 1. The Potential Harms of the Proposed Duke Merger.**

20 **Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR**  
21 **TESTIMONY.**

22 A. In this section of my testimony, I identify the ways in which the proposed merger will  
23 impose disproportionate harms on low-income customers. These harms arise because of

1 the expected impacts of the merger on the ability of the Company to deliver the full range  
2 of customer services, including customer services to payment-troubled low-income  
3 customers. The issue is not one of whether Duke will remain in “compliance” with  
4 regulatory requirements, but rather whether the merger will result in a degradation in the  
5 level of service that is needed to address the full range of needs by low-income  
6 customers.

7  
8 **Q. MUST THE ADVERSE IMPACTS OF A MERGER OCCUR TO ALL**  
9 **CUSTOMERS TO BE COGNIZABLE?**

10 A. No. No question exists but that the impact which a merger has on the type, level and quality  
11 of service need not affect all consumers to become a factor to consider in an assessment of  
12 merger impacts. Consider, for example, the case of one hospital where a group of customers  
13 challenged a merger which allowed the merged firm to refuse to treat them except on an  
14 emergency basis. This result, according to a reviewing court, was a reduction in output  
15 (denying non-emergency care to plaintiffs). The merger analysis should have taken  
16 cognizance of this injury. Turning away this “high maintenance,” less profitable, more  
17 demanding client, represented the very essence of injury occurring due to a merger. While  
18 treating these customers was “perhaps not a matter of major moment in dollars and cents,”  
19 the merger and the adverse impacts on these customers strike at the very heart of the  
20 prevention of merger harms.<sup>1</sup>

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<sup>1</sup> 925 F.2d at 1568 (Cudahy concurring).

1 While not involving an energy utility, this medical care situation presents the identical types  
2 of harms that have been identified with the Duke/Progress merger. The hospital case  
3 implicitly recognizes that even though mergers and other forms of competitive collaboration  
4 can achieve important benefits for the majority of consumers, they can also create providers  
5 that can ignore the needs of the uninsured and the hard-to-treat. In considering the harms  
6 caused by the Duke/Progress merger, the low-income sub-market of “high maintenance,”  
7 less profitable, more demanding clients must be addressed.

8  
9 **Q. WILL THE PROPOSED MERGER OF DUKE AND PROGRESS ENERGY**  
10 **HAVE AN ADVERSE IMPACT ON LOW-INCOME CUSTOMERS?**

11 A. Yes. The proposed merger of the two North Carolina utilities will have an adverse impact  
12 on the services offered to low-income consumers. As I discussed in detail below, a  
13 disproportionate number of low-income customers have arrears. These low-income  
14 customers are in substantial need of services provided through Company customer service  
15 representatives. These customers will be adversely affected through consolidation and  
16 dilution.

17  
18 **Q. PLEASE EXPLAIN THE HARMS CAUSED BY “CONSOLIDATION.”**

19 A. One result of the proposed merger is that Duke and Progress Energy will combine their  
20 information systems and require their customer service representatives to use uniform  
21 platforms through which to interact with their customers. (Joint Testimony of Rogers and  
22 Johnson, at 7). The companies intend ultimately to combine business practices, operating  
23 procedures, rate schedules, service regulations, and computer systems. (Joint Testimony of  
24 Rogers and Johnson, at 7). There is a term for this merger impact: “consolidation.”

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Consolidation refers to the process of combining functions and offices so that a larger geographic area can be served, possibly with a smaller staff in fewer offices, using a unified system and procedures. As a company --be it health care, financial services, or electric utility-- expands its geographic service territory, however, the customer and institutional base to whom it is accountable becomes bigger as well. The larger group to which the firm is accountable is less focused on specific services responding to individualized or localized needs.

One impact of consolidation into the uniform information system of the merged companies will be to take discretion away from customer service representatives to deliver the very services which the members of the low-income payment-troubled population rely upon.

The merger's consolidation of information systems, by its very nature, takes away many of the consumer protections that the NCUC has granted to payment-troubled customers. When you move from two companies having two different systems to one company having a single system, where there has been the ability to exercise discretion at the local level in the past, then the consolidation of those systems, whether it's an information system or a billing and collection system, that discretion is constrained.

**Q. CAN YOU PROVIDE ANY EXAMPLES OF WHERE THIS IS LIKELY TO OCCUR?**

1 A. Yes. Whenever the NCUC regulations provide for an exercise of discretion in North  
2 Carolina, the required use of the uniform consolidated data processing system will constrain  
3 that discretion. This discretion is constrained in any one of a number of situations. Without  
4 limitation:

5 1. **Decisions within a range:** NCUC consumer protection regulations require Duke  
6 customer service representatives to exercise discretion within ranges. Words such as  
7 “up to,” “at least,” and “not to exceed” confer upon low-income customers a right to  
8 have decisions made based upon their individual circumstances, and, conversely, confer  
9 upon Duke customer service representatives an obligation to exercise their discretion  
10 based upon a consideration of those individual circumstances. Consider, for example,  
11 NCUC regulations regarding cash security deposits. The regulations allow the company  
12 to impose a deposit not in excess of two-twelfths of the bills for the ensuing twelve  
13 months of billing. (Rule R12-4(a)). The payment due date on a bill, which not only  
14 governs whether a customer pays late fees but which “could result in the lowering of a  
15 customer’s credit code relating to one which permits the utility to disconnect on an  
16 earlier date,” (Rule R12-11) “shall not be less than” twenty-five days. (Rule R12-11).  
17 The utility is required to enter into a payment plan if a customer cannot pay his bill,  
18 which payment plan will be designed to bring the account in balance “not later than six  
19 months” from the date of the agreement. (Rule 12-11(l)). Clearly, a utility is granted  
20 substantial discretion to operate within ranges of action prescribed by regulation and  
21 customers can be treated more or less strictly within that range while the utility remains  
22 in regulatory compliance. Requiring customer service representatives to operate within

1 uniform business rules incorporated into a single computer system, however, will  
2 constrain these discretionary decisions.

3 2. **Enabled, not mandatory, actions:** There are also areas in which NCUC regulations  
4 *allow* discretion about which actions or inactions should occur on the part of Duke  
5 customer service representatives. The NCUC regulations, for example, allow but do not  
6 require service termination in the event of nonpayment. (Rule R12-8). The regulations  
7 explicitly provide, for example, that “nothing in this rule shall preclude an electric utility  
8 from exercising reasonable discretion in waiving or extending the times provided herein  
9 pertaining to termination of service. . .” (Rule R12-11(r)). The regulations allow, but do  
10 not require, a utility to require a customer “to reestablish his credit. . .in case the  
11 conditions of service or basis on which credit was originally established have materially  
12 changed.” (Rule R12-3(c)). The decision on whether to exercise the discretion rests with  
13 a consideration of the individualized circumstances of the North Carolina low-income  
14 customer. After the merger, however, the discretion of the Duke customer service  
15 representative is constrained by the uniform data processing system.

16 3. **Exercise of judgment:** There are consumer protections granted by NCUC regulations  
17 that require the exercise of judgment based upon individualized circumstances. Under  
18 NCUC regulations, for example, a winter disconnect is to be postponed if the “customer  
19 is unable to pay for such service in full.” (Rule R12-11(l)(6)(b)). Whether or not during  
20 the winter months, a utility must offer a payment plan if “he is unable to pay his account  
21 in full” and he “agrees to enter into a reasonable installment agreement. . .” (Rule R12-  
22 11(l)(3)). The extent to which a deposit is required is based on whether an applicant can  
23 “demonstrate(...) that he is a satisfactory credit risk by appropriate means. . .” (Rule

1 R12-2(a)(2)). Clearly, utilities are allowed to exercise considerable discretion (e.g.,  
2 “unable to pay in full,” “reasonable installment agreement,” “satisfactory credit risk”)  
3 under the rules. After the merger, however, the discretion of the Duke customer service  
4 representative is constrained by the uniform data processing system.

5 The merger constrains the rights conferred upon North Carolina customers (to have their  
6 individualized circumstances taken into account) and imposes upon Duke’s customer  
7 service representatives the obligation to instead work within the confines of a standardized  
8 data processing system. After the merger, Duke’s customer service representatives may be  
9 in no violation of any particular NCUC rule or regulation. That does not detract from the  
10 observation, however, that payment-troubled Duke consumers, who are disproportionately  
11 low-income, will be harmed because their right to have their individual circumstances taken  
12 into account will have been reduced.

13  
14 **Q. WHAT DO YOU CONCLUDE?**

15 A. Duke acknowledges that after the proposed merger, it will be “the largest utility in the  
16 United States.” (Joint Testimony of Rogers and Johnson, at 13). An increase in the  
17 geographic scope of the markets served by the merged utility can reasonably be expected to  
18 lead to a reduced emphasis on, and focus upon, the specific needs of Duke customers  
19 standing alone, as well as the localities and the local norms of treating payment-troubled  
20 customers. My work with local providers of service to low-income utility customers has  
21 found this to be true in areas such as negotiating payment plan terms, establishing  
22 creditworthiness, and responding to inability to pay.

23

1 Local utilities offer more than energy (kWh) as the “service” provided to consumers.  
2 However, my experience counsels that increased consolidation will decrease utility attention  
3 on the needs of individual customers and how those needs affect the interface between the  
4 company and its customers. These local needs range, for example, from the closing of a  
5 major employer (thus putting substantial numbers of customers out of work), to the quality  
6 of housing, and the prevalence of fixed income older customers in a community. My work  
7 with utilities around the nation has found that local communities can have very localized  
8 needs that go into the calculus of how the utility best interacts with the community. These  
9 localized needs are precisely the needs that are less well-served by a merged company with  
10 uniform data processing and business systems serving a broader territory.

11  
12 **Q. PLEASE EXPLAIN THE HARMS CAUSED BY “DILUTION.”**

13 A. Aside from the problems associated with consolidation, specific harms accruing to low-  
14 income payment-troubled customers will result from dilution as well. The proposed merger  
15 will dilute the resources available to low-income payment-troubled customers of Duke as  
16 the blending of low-income and customer service resources will divert resources from low-  
17 income customers. The problem arises in one of two ways.

18  
19 First, there is no question but that the merger is ultimately intended to result in a reduced  
20 number of customer service representatives serving ratepayers (Joint Testimony of Rogers  
21 and Johnson, at 14). One source of long-term merger savings is in the area of customer  
22 service staff. The observation that such staff reductions occur based on retirements and  
23 attrition does not change the fact of the reduced work force. Whether the reduction occurs

1 through direct layoffs, or through attrition and reassignment does not change the impacts on  
2 Duke's low-income customers.

3  
4 Reductions in customer service representatives will result in harms to payment-troubled  
5 customers, who are disproportionately low-income. Personal contact with low-income  
6 customers is almost always associated with the event of nonpayment. Payment troubles give  
7 rise to the customer initiating contact with the utility, either to obtain information about  
8 public assistance or to work out payment arrangements. In these situations, information is  
9 provided to low-income customers during the collection process.

10  
11 Second, in addition to this staff reduction, the dilution of resources available to low-income  
12 ratepayers will occur because the low-income customers in Duke communities tend to face  
13 lower energy burdens than their counterparts with Progress. As I describe below, energy  
14 burdens are a good predictor of payment-troubled status. Given higher bills, it is reasonable  
15 to expect that the utility with higher bills will experience higher payment-troubles within its  
16 low-income population as well and thus demand greater attention and resources.

17  
18 Not surprisingly, a company prioritizes its collection and its customer service functions. Its  
19 limited resources are devoted to the oldest and highest arrears first. Its staffpersons are  
20 devoted to the accounts with the oldest and highest arrears. To the extent that two  
21 companies are merged, therefore, with one company facing greater payment troubles, that  
22 company will receive a higher level of resources and attention.

1 **Q. WHAT DO YOU KNOW ABOUT THE COMPARATIVE CONDITION OF**  
2 **PROGRESS AND DUKE?**

3 A. In the past three years for which Energy Information Administration (EIA) Form 861 data is  
4 available (2007, 2008, 2009), the extent to which Progress Energy's residential average  
5 revenue per kWh exceeds Duke's (North Carolina) residential average revenue per kWh has  
6 increased. While the two companies were virtually identical in 2007 (\$0.0941: Carolina  
7 Power and Light vs. \$0.0923: Duke), Progress Energy's rates were seven percent higher in  
8 2009 (\$0.1044: Progress vs. \$0.0977: Duke). By 2009, the Progress Energy residential bill  
9 was nearly \$100 higher than Duke's residential bill (\$1,437 vs. \$1,526). The Progress  
10 Energy residential bill was higher than Duke's by \$100 or more for all three comparison  
11 years. On an average income of \$8,000, for example, increased bills of \$100 represent a  
12 higher burden by 1.2% of income. On an average income of \$5,000, these bills represent an  
13 increased burden of 2%.

14  
15 **Q. WHAT IS THE MERGER-RELATED IMPACT OF THESE OBSERVATIONS?**

16 A. The conclusion is inescapable. The merged company will be devoting fewer resources to its  
17 combined payment-troubled population. At the same time these resource reductions are  
18 occurring, Duke is being combined with a company that has greater affordability problems  
19 and thus more significant payment-troubles. As a result of the combined effect of this  
20 reduction in resources directed toward an increase in payment-troubles, the resources  
21 available to deal with the existing payment troubles will be diluted. To the extent that two  
22 companies are merged, therefore, with one company's customers facing greater payment  
23 troubles, that company will receive a higher level of resources and attention.

1 **Q. WHAT DO YOU CONCLUDE?**

2 A. The proposed merger, in the absence of the merger conditions that I recommend below, will  
3 have an adverse impact on low-income customers. While the Company acknowledges its  
4 obligation to ensure that the merger does not adversely affect its ability “to provide reliable,  
5 *affordable* service to our customers” (Joint Testimony of Rogers and Johnson, at 7,  
6 emphasis added), the impacts that I have identified demonstrate that the Company’s ability  
7 to meet that obligation will degrade in the post-merger environment.

8  
9 Low-income consumers frequently require assistance in dealing with their payment troubles.  
10 Low-income consumers rely upon the company to deliver a variety of services, taking into  
11 account their individual circumstances, including, but not limited to, the negotiation of  
12 payment plans, the negotiation of deposits, and the avoidance of service disconnections for  
13 nonpayment. For all of the reasons outlined above, the merger will necessarily reduce the  
14 legal rights conferred upon payment-troubled customers, and have an adverse impact on  
15 low-income payment-troubled customers through consolidation and dilution. These harms  
16 justify the implementation of the proposed merger conditions described below.

17

18 **Part 2. The Disproportionate Impact on Low-Income Customers.**

19 **Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR**  
20 **TESTIMONY.**

21 A. In this section of my testimony, I explain why the harms that I identify above are likely to  
22 have a disproportionate adverse impact on low-income households. In the absence of

1 mitigation, these harms will accrue to the direct and substantial detriment of low-income  
2 consumers.

3  
4 **Q. PLEASE EXPLAIN THE UNDERLYING THESIS OF YOUR TESTIMONY.**

5 A. The underlying thesis of my testimony is that, given the inability-to-pay of low-income  
6 households, the untreated energy consumption of low-income households will lead to  
7 increasing bill payment troubles leading to a reliance on customer service processes. As  
8 the merger of Duke Energy and Progress Energy leads to an ever-bigger utility, with less  
9 flexibility in the pursuit of customer service processes coupled with less knowledge of  
10 local external resources to help address the inability-to-pay problems, an increasing  
11 burden will fall on the low-income customer population as the existing customer service  
12 processes become less effective.

13  
14 **Q. UPON WHAT DO YOU BASE YOUR CONCLUSION THAT PAYMENT-  
15 TROUBLES ARE ASSOCIATED WITH LOW-INCOME STATUS?**

16 A. Substantial research supports the conclusion that utility bill payment problems flow from  
17 an inability-to-pay. One tool that is used to comprehensively measure the impact of  
18 energy unaffordability on household well-being is the Home Energy Insecurity Scale.  
19 The Home Energy Insecurity Scale was developed by me for the U.S. Department of  
20 Health and Human Services (HHS) to take into account the multiple aspects of energy  
21 unaffordability.<sup>2</sup> When households face unaffordable home energy bills, they can engage  
22 in different types of behavior. They might pay their energy bills while experiencing

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<sup>2</sup> Colton (2003). *Measuring the Outcomes of Low-Income Energy Assistance Programs through a Home Energy Insecurity Scale*, LIHEAP Committee on Managing for Results, U.S. Department of Health and Human Services.

1 deprivation in other household necessities. They might *not* pay their energy bills, while  
2 maintaining their other necessities. Or they might engage in a reduction in energy use,  
3 beyond mere conservation, and face household deprivation in those respects.

4  
5 In a study of “energy poverty” in Missouri, performed for the National Low-Income  
6 Energy Consortium (NLIEC)<sup>3</sup> in 2004, I found that home energy insecurity was not  
7 simply a function of poverty and/or income but rather a function of energy burdens.<sup>4</sup>

8 “Energy burden” is a household’s home energy bill as a percentage of income.

9 Households with lower energy burdens tended to have higher home energy security in  
10 Missouri.<sup>5</sup> Twice as many households with energy burdens of 6% or less had Home  
11 Energy Insecurity thresholds of Stable or higher as compared to households with energy  
12 burdens in excess of 12%. In addition, households with higher energy burdens (i.e., their  
13 home energy bills took increasingly larger portions of their income) had progressively  
14 lower Home Energy Insecurity ratings.

15  
16 Other research is consistent with these findings. The 2006 evaluation of the New Jersey  
17 Universal Service Fund (USF), for example, left little question but that energy  
18 unaffordability problems were a function of energy burdens. The USF Evaluation  
19 expressly found that increasing the percentage of income burdens charged to USF

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<sup>3</sup> NLIEC is a public-private partnership, governed by a board of organizations representing the full spectrum of perspectives in the low income energy community.

<sup>4</sup> Colton (2004). *Paid but Unaffordable: The Consequences of Energy Poverty in Missouri*, National Low-Income Energy Consortium: Washington D.C..

<sup>5</sup> “Energy insecurity” is a comprehensive measurement of the impacts of home energy affordability developed for the U.S. Department of Health and Human Services (HHS), the federal agency that administers the federal fuel assistance program in the United States. The Home Energy Insecurity Scale, modeled after the U.S. Department of Agriculture’s “food security” scale, places households in one of five levels of “energy security,” depending upon their ability to pay their home energy bills. The lowest level of energy security is “in-crisis” while the highest level is “thriving.” The middle levels in order from top to bottom are “capable,” “stable” and “vulnerable.”

1 participants had an adverse impact on the ability of USF participants to maintain payment  
2 compliance under the program. The New Jersey evaluation reported:

- 3
- 4 ➤ “More than 80% of households with an effective [energy burden] below 3 percent  
5 covered 100 percent or more of their annual bill. Less than 60 percent of households  
6 with a [net energy burden] at or above 8 percent covered 100 percent of their annual  
7 bill.”
  - 8
  - 9 ➤ While 26% of the participants with net energy burdens exceeding 8% of income paid  
10 between 50% and 90% of their bill, only 6% of households with energy burdens of  
11 between 2% and 3% had coverage rates that low.
  - 12

13 The USF evaluation reported the same types of results for gas/electric combination USF  
14 participants.

- 15 ➤ While nearly 80% of participants with burdens of less than 4% paid 100% or more of  
16 their bills, only 43% of participants with burdens exceeding 12% did.
- 17
- 18 ➤ While 31% of USF participants with burdens exceeding 12% paid between 50% and  
19 90% of their bills, only 9.0% of participants with burdens less than 4% had bill  
20 coverage rates that low.
- 21

22 The New Jersey USF evaluation documents quite clearly that as percentage of income  
23 payment responsibilities increase, payment compliance decreases.

24

25 **Q. IS THERE ANY RESEARCH SPECIFIC TO NORTH CAROLINA THAT**  
26 **CONFIRMS THESE FINDINGS ARE APPLICABLE TO THE DUKE AND**  
27 **PROGRESS SERVICE TERRITORIES?**

28 A. No research is specific to North Carolina with which I am familiar. However, recent  
29 national research supports the conclusion that the findings I outline above are not specific  
30 to any individual state or to any individual region. A study undertaken by Apprise, Inc.  
31 for the U.S. Department of Health and Human Services, which administers federal fuel  
32 assistance (Low-Income Home Energy Assistance Program, or “LIHEAP”) nationwide,

1 concluded that “households with income at or below the HHS Poverty Guidelines had the  
2 highest rate of heat interruptions of all types – 12.9%. Similarly, those lowest income  
3 households –those with incomes less than \$10,000-- were the most likely to have heat  
4 interruptions.”<sup>6</sup> Households with income less than or equal to 100% of Poverty were  
5 three times more likely to report being unable to pay for electric service than were  
6 households with income greater than 150% of Poverty. Moreover, Apprise found,  
7 information on service interruptions does not capture “the entire set of risks faced by low  
8 income households because of energy affordability problems.”<sup>7</sup>  
9

10 **Q. IS THE PROBLEM WITH SERVICE DISCONNECTIONS A HEATING-ONLY**  
11 **PROBLEM NOT RELATED TO SOUTHERN STATES?**

12 A. No. Indeed, a similar study undertaken by Apprise for the federal LIHEAP office was  
13 based on the U.S. Census Bureau’s Survey of Income and Program Participation (SIPP).  
14 This SIPP study reports that “both the SIPP and RECS indicate that the low income  
15 households in the South region experience service disconnections at the highest rate”  
16 nationwide.<sup>8</sup>  
17

18 This conclusion is bolstered by the Congressionally-funded survey of LIHEAP recipients  
19 undertaken by the National Energy Assistance Directors Association (NEADA). The  
20 2009 study (there were previous surveys also in 2001, 2003, 2005 and 2008) found that

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<sup>6</sup> Apprise Inc. (February 2010). *LIHEAP Special Study of the 2005 Residential Energy Consumption Survey: Dimensions of Energy Insecurity for Low Income Households*, at 22, prepared for HHS, Administration for Children and Families, Office of Community Services, Division of Energy Assistance: Washington D.C. (hereafter, RECS—Insecurity Scale)

<sup>7</sup> RECS—Insecurity Scale, at 58.

<sup>8</sup> Apprise, Inc. (September 2010). *LIHEAP Study of Energy Affordability Using the SIPP*, at 4, prepared for HHS/ACF: Washington D.C.

1 the South had low-income energy burdens equal to other regions.<sup>9</sup> Moreover, the South  
2 had a higher incidence of people not paying their home energy bills because of an  
3 inability-to-pay than any region other than the West; had the highest incidence of  
4 households receiving a notice of disconnection for nonpayment of any region; and had  
5 the highest rate of disconnections for any region other than the Northeast.<sup>10</sup>  
6

7 **Part 3. The Lack of Mitigation in the Absence of Merger Conditions.**

8 **Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR**  
9 **TESTIMONY.**

10 A. In this section of my testimony, I explain why the harms that I identify above cannot be  
11 expected to be mitigated in the absence of specific merger-related conditions imposed by  
12 the Commission.  
13

14 **Q. PLEASE EXPLAIN THE MITIGATION MECHANISM THAT YOU HAVE**  
15 **CONSIDERED IN THIS SECTION OF YOUR TESTIMONY.**

16 A. The primary mitigation measure that I examine below involves efforts to reduce low-  
17 income home energy bills to a more affordable level through a series of usage reduction.  
18 By reducing energy consumption provided by the Company, these measures also help  
19 prevent the payment troubles that, in turn, are the foundation of the harms that I have  
20 identified above. The usage reduction measures that would contribute to the mitigation

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<sup>9</sup> NEADA (April 2009). *2009 National Energy Assistance Survey*, at 65, prepared for National Energy Assistance Directors Association: Washington D.C. (hereafter 2009 NEA Study).

<sup>10</sup> 2009 NEA Study, at 66 – 68.

1 of these harms, however, cannot be expected to be provided in the absence of specific  
2 merger-related conditions.

3  
4 **Q. HAS THE IMPLEMENTATION OF ENERGY EFFICIENCY BEEN FOUND TO**  
5 **BE AN EFFECTIVE TOOL IN RESPONDING TO UNAFFORDABILITY AND**  
6 **THE RESULTING BILL PAYMENT TROUBLES?**

7 A. Yes. The most complete study of the positive impacts of energy usage reduction on bill  
8 payment was prepared by Penn State University for the Pennsylvania Public Utility  
9 Commission (PUC). Pennsylvania’s natural gas and electric utilities operate what that  
10 state’s PUC calls the Low-Income Usage Reduction Program (LIURP). LIURP involves  
11 the offer of the following types of usage reduction packages to low-income households:  
12 (1) an electric space heating package; (2) an electric water heating package; (3) a  
13 baseload electric package; and (4) a natural gas heating package. Pennsylvania’s electric  
14 utilities deliver “baseload” electric LIURP services to homes that do not heat with  
15 electricity. Since LIURP first began in 1989, baseload electric jobs have represented  
16 roughly two-in-five (115,098 of 292,071 total jobs: 39.4%) of all LIURP homes.<sup>11</sup> Over a  
17 20-year period, baseload electric usage reduction jobs have outnumbered every other type  
18 of usage reduction treatment, including the treatment of electric space heating homes  
19 (n=85,999 jobs).

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<sup>11</sup> Customer Services Information System Project, Pennsylvania State University (January 2009). *Long-Term Study of Pennsylvania’s Low-Income Usage Reduction Program: Results of Analyses and Discussion*, prepared for Pennsylvania Public Utility Commission, Penn State University: State College (PA).

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1 The objectives established for the Pennsylvania LIURP initiative are similar to the  
2 objectives that should underlie a low-income efficiency program in North Carolina,  
3 including:

- 4 ➤ To assist low-income residential customers in conserving energy by reducing their  
5 energy consumption;
- 6 ➤ To assist participating households in reducing their energy bills;
- 7 ➤ To decrease the incidence and risk of customer payment delinquencies and the  
8 attendant utility costs associated with customer arrearage and uncollectible  
9 accounts; and
- 10 ➤ To reduce residential demand for electricity and gas, and peak demand for  
11 electricity.

12 According to the January 2009 Penn State University evaluation of the LIURP initiative:

13  
14 To meet these goals, LIURP is targeted toward low-income households with  
15 the highest energy consumption. Of these households, those with payment  
16 problems and high arrearages are targeted. Since the program's inception in  
17 1988 through 2006, the major electric and gas companies required to  
18 participate in LIURP have spent over \$330 million to provide weatherization  
19 treatments to more than 292,071 low-income households in Pennsylvania.  
20  
21  
22  
23  
24  
25

26 **Q. WHAT DID THAT PENN STATE UNIVERSITY STUDY FIND?**

27 A. The Penn State evaluation examined data over the first 18 years of program operation.

28 The evaluation provides important lessons for the offer of electric usage reduction  
29 services. The LIURP evaluation reported:

- 30 ➤ “LIURP is a cost-effective method of reducing both energy consumption and  
31 energy bill arrearages. . .Sixty nine percent of LIURP households reduce their  
32 energy consumption following weatherization treatments, with an average  
33 reduction of 16.5 percent.” Electric baseload jobs generated a usage reduction of  
34 698.2 kWh, or 19.1%.
- 35 ➤ “Of those households with energy bill arrearages, 40 percent reduce their arrearage  
36 following weatherization services. Thirty-seven percent of electric industry  
37

1 households reduce their arrearages. . .”<sup>12</sup> LIURP was targeted to households with  
2 arrears (within the population of high use consumers). The LIURP evaluation  
3 found that “by the end of the year following weatherization, 68 percent of the  
4 households have an energy bill arrearage, a decrease of 29 percent. . .Although the  
5 average number of full payments made does not vary from the pre- to post-period,  
6 the percent of households with missed payments decreased and the average  
7 number of partial payments increased.”<sup>13</sup>

- 8  
9 ➤ “The [third] most significant, and most common, variable that is positively related  
10 to reductions in energy consumption is the amount of arrearage owed in the pre-  
11 period [before usage-reduction treatments are installed], suggesting that  
12 households with large arrearages are motivated to make the necessary behavioral  
13 changes to contribute toward additional reductions in energy consumption. It  
14 therefore makes sense to target households with higher arrearages when  
15 prioritizing LIURP jobs.”  
16

17 **Q. WILL USAGE REDUCTION STRATEGIES BE IMPLEMENTED IN THE**  
18 **ABSENCE OF PROGRAM FUNDING BY DUKE POWER?**

- 19 A. No. The presence of adverse market conditions, resulting in insurmountable market  
20 barriers unique to the low-income population, prevents the implementation of usage  
21 reduction measures by low-income households at their own expense.

22  
23 **Q. UPON WHAT DO YOU BASE THE CONCLUSION THAT THESE USAGE**  
24 **REDUCTION MEASURES WILL NOT BE PURSUED IN THE ABSENCE OF**  
25 **MERGER-RELATED OBLIGATIONS IMPOSED ON THE COMPANY?**

- 26 A. Market barriers impede the realization of cost-effective opportunities for energy efficiency  
27 investments for all customer classes. However, there can be no question but that the cost-  
28 effective opportunities that are lost due to market barriers overwhelmingly disproportionately  
29 adversely affect low-income households. A variety of undesirable market conditions are

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<sup>12</sup> The LIURP evaluation found that this result was consistent with prior U.S. Department of Energy (DOE) research, which found that “low-income families who receive weatherization have a lower rate of default on their utility bills and require less emergency heating assistance.” Bruce Tonn, et al. (2001). “Weatherizing the Homes of Low-Income Home Energy Assistance Program Clients: A Programmatic Assessment,” U.S. Department of Energy: Washington D.C.

<sup>13</sup> The evaluation noted that participation in LIURP was associated with increased participation in energy assistance programs. It was difficult to distinguish the impact of the two.

1 identified below along with an assessment of their unique (or overwhelmingly disproportionate)  
2 applicability to low-income customers:

- 3 ➤ **High initial capital costs**: This market barrier is overwhelmingly applicable to low-  
4 income customers rather than generic to all customers.  
5
- 6 ➤ **Lack of access to capital**: This market barrier is overwhelmingly applicable to low-  
7 income customers rather than generic to all customers. In addition, there would be  
8 customers who are near-poor (e.g., customers at 200-250% of Federal Poverty Level;  
9 customers at 200-300% of Federal Poverty Level), who would also be subject to a  
10 constraint on their access to capital.  
11
- 12 ➤ **High implicit discount rates/payback periods**: This market barrier is  
13 overwhelmingly applicable to low-income customers rather than generic to all  
14 residential customers.  
15
- 16 ➤ **High proportion of low-income renters**: This market barrier is overwhelmingly  
17 applicable to low-income customers rather than generic to all residential customers.  
18
- 19 ➤ **Split incentives between landlord and tenants**: This market barrier is  
20 overwhelmingly applicable to low-income customers rather than generic to all  
21 residential customers.  
22
- 23 ➤ **High mobility rate of low-income renters**: This market barrier is overwhelmingly  
24 applicable to low-income customers rather than generic to all residential customers.  
25

26 **Q. WHY IS IT SIGNIFICANT THAT THESE MARKET BARRIERS ARE UNIQUE**  
27 **TO, OR OVERWHELMINGLY APPLICABLE TO, LOW-INCOME**  
28 **CUSTOMERS RATHER THAN BEING GENERIC TO ALL RESIDENTIAL**  
29 **CUSTOMERS?**

30 A. Given the unique (or overwhelmingly disproportionate) applicability to low-income  
31 customers, these market barriers indicate that the merger-related conditions that address  
32 the delivery of low-income energy efficiency should be specifically targeted to low-  
33 income customers.  
34

1 **Q. PLEASE EXPLAIN THE PROBLEM POSED BY HIGH INITIAL CAPITAL**  
2 **COSTS.**

3 A. The “high initial capital costs” market barrier considers the extent to which low-income  
4 customers lack funds to invest in energy efficiency, even if that investment is “cost-  
5 effective.” If a household lacks the funds to invest in efficiency improvements in the first  
6 instance, the cost-effectiveness of those investments become irrelevant. The barrier  
7 posed by high initial capital costs was considered by examining the discretionary income  
8 of North Carolina households at different levels of the Federal Poverty Level.  
9 Discretionary income was determined for 2011 for five (5) different North Carolina  
10 metro areas (Asheville, Hickory/Morgantown, Charlotte/Gastonia/Rock Hill,  
11 Greensboro/Winston-Salem/High Point, Raleigh/Durham/Chapel Hill). The maximum  
12 income at two different levels of the Federal Poverty Level was considered (150% of  
13 FPL; 200% of FPL). To the extent that low-income households live with income below  
14 the maximum, the “deficits” reported below are even greater. The income deficits were  
15 considered for two different household types (1-parent/1-child; 1-parent/2-children).  
16 These present households of 2- and 3-persons.

17  
18 Schedule RDC-1 shows that but for one area at 200% of Federal Poverty Level, there are  
19 substantial income deficits for households living at the maximum of 150% of Poverty  
20 Level and 200% of Poverty Level in North Carolina. These households, which have  
21 insufficient funds to meet basic family needs, do not have sufficient income to invest in  
22 usage reduction measures, even should such measures be cost-effective from the  
23 consumer’s perspective.

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**Q. PLEASE EXPLAIN THE PROBLEM POSED BY THE PREVALENCE OF THE HIGH INCIDENCE OF LOW-INCOME RENTERS.**

A. The “tenure” of households considers whether such households own or rent their homes. Renters, particularly low-income renters, run into the problem of “split incentives” as an adverse market condition impeding investment in even cost-effective energy efficiency. Schedule RDC-2 sets forth the number and percentage of owners and renters by income range. The income ranges are those reported by the American Community Survey (ACS). Schedule RDC-2 shows that the market barriers created by renter status are overwhelmingly disproportionately the province of the poor. Schedule RDC-2 shows that:

- In 2009,<sup>14</sup> while between 90% and 95% of households with income \$100,000 or more were homeowners, between 34% and 38% of households with less than \$10,000 were.
- The penetration of renters amongst households with income of \$10,000 or less is twice or more of the overall statewide average. While 32% of all North Carolina households were renters in 2009, between 62% and 66% of households with income below \$10,000 are.
- Low-income status is over-represented in the renter population. While 4% of all households had income less than \$5,000, 7% of renters did; while 5% of all households had income between \$5,000 and \$10,000, 10% of renters did; while 6% of all households had income between \$10,000 and \$15,000, 11% of renters did.

It can hardly be contested that the energy efficiency market barrier represented by tenant-status primarily impedes low-income households.

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<sup>14</sup> References to “2009” are, in fact, references to the three-year averages published for the 2009 American Community Survey.

1 **Q. PLEASE EXPLAIN THE PROBLEM POSED BY HIGH HURDLE**  
2 **RATES/IMPLICIT DISCOUNT RATES.**

3 A. Low-income households tend to have extremely high implicit discount rates (also  
4 sometimes known as hurdle rates or internal rates of return). In a report for the Electric  
5 Power Research Institute (EPRI), Cambridge Systematics found that the implicit discount  
6 rate for low-income households ranged up to the 80 - 90 percent level. For residential  
7 households in general, however, the hurdle rate for energy efficiency investments was 30  
8 percent; that translates into a payback period of roughly three years. To the extent that an  
9 energy efficiency investment cannot meet a one-year payback (100% hurdle rate), the  
10 market excludes by implication all households which have that level of higher hurdle rate.  
11 One entire category of excluded households consists of low-income households.

12  
13 **Q. PLEASE EXPLAIN THE PROBLEM POSED BY THE LACK OF ACCESS TO**  
14 **CAPITAL.**

15 A. The access of low-income households to capital to invest in energy efficiency measures is  
16 measured by considering the percentage of household income that households devote to  
17 overall shelter costs. A common means of limiting access to capital is through a  
18 consideration of available household funds after the payment of shelter expenses.  
19 Common limitations on access to capital are based on shelter burdens of 30%.<sup>15</sup>

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<sup>15</sup> It is universally accepted that total shelter costs are “unaffordable” if they exceed 30% of income. Total shelter costs include not only rent/mortgage, but all utilities. See generally, Mary Schwartz and Ellen Wilson (2008). “Who Can Afford to Live in a Home: A Look at Data from the 2006 American Community Survey,” U.S. Census Bureau: Washington D.C. They state in relevant part:

The conventional public policy indicator of housing affordability in the United States is the percent of income spent on housing. Housing expenditures that exceed 30 percent of household income have historically been viewed as an indicator of a housing affordability problem. The

1  
2 Schedule RDC-3 presents housing costs as a percentage of income by income for 2009.  
3 Schedule RDC-3 further presents this data disaggregated by tenure. Schedule RDC-3  
4 documents how (and why) low-income households cannot access traditional capital  
5 markets. In 2009, between 55% and 90% of low-income renters have housing cost  
6 burdens in excess of 30%. In addition, between 45% and 66% of low-income households  
7 have “owner-cost” burdens exceeding the 30% level. In contrast, an insubstantial number  
8 of non-low-income households have either rent or owner-cost burdens of 30% or more  
9 (the line demarcating access to consumer capital).

10  
11 Particularly in combination with the data in Schedule RDC-1, it is understandable why  
12 low-income households cannot invest in energy efficiency measures. While Schedule  
13 RDC-1 documents that current income does not allow such investments out of

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conventional 30 percent of household income that a household can devote to housing costs before the household is said to be “burdened” evolved from the United States National Housing Act of 1937.

\* \* \*

Because the 30 percent rule was deemed a rule of thumb for the amount of income that a family could spend and still have enough left over for other nondiscretionary spending, it made its way to owner-occupied housing too. Prior to the mid-1990s the federal housing enterprises (Fannie Mae and Freddie Mac) would not purchase mortgages unless the principal, interest, tax, and insurance payment (PITI) did not exceed 28 percent of the borrower’s income for a conventional loan and 29 percent for an FHA insured loan. Because lenders were unwilling to hold mortgages in their portfolios, this simple lender ratio of PITI to income was one of many “hurdles” a prospective borrower needed to overcome to qualify for a mortgage. There are other qualifying ratios as well; most of which hover around 30 percent of income. The amount of debt outstanding and the size and frequency of payments on consumer installment loans and credit cards influence the lender’s subjective estimation of prospective homebuyers’ ability to meet the ongoing expenses of homeownership. Through the mid-1990s, under Fannie Mae guidelines for a conventional loan, total allowable consumer debt could not exceed eight percent of borrower’s income for conventional mortgage loans and 12 percent for FHA-insured mortgages. So through the mid-1990s, underwriting standards reflected the lender’s perception of loan risk. That is, a household could afford to spend nearly 30 percent of income for servicing housing debt and another 12 percent to service consumer debt. Above these thresholds, a household could not afford the home and the lender could not afford the risk. While there are many underwriting standards, none of them made their ways into the public policy lexicon like the 30 percent of income indicator of housing affordability.

1 discretionary income, Schedule RDC-3 indicates why current income does not allow such  
2 investments out of access to capital markets.

3  
4 **Q. PLEASE EXPLAIN THE PROLBEM POSED BY DISPROPORTIONATE LOW-**  
5 **INCOME MOBILITY.**

6 A. The mobility of households in North Carolina is measured by the extent to which they did  
7 not live in the same home at the same time the previous year (“12 months ago”).  
8 Schedule RDC-4 indicates that mobility is much more prevalent in the low-income  
9 population than it is within the non-low-income population. In 2009, while between one-  
10 fifth and one-quarter of low-income households had moved relative to their residence  
11 one-year prior, only one-in-ten non-low-income households had changed residences. The  
12 increase in mobility as income decreases is evident in Schedule RDC-4.

13  
14 **Q. WHAT DO YOU CONCLUDE BASED ON THE ABOVE ANALYSIS?**

15 A. The merger-related harms that I identified in the first section of my testimony will fall  
16 disproportionately on low-income households. Those harms will adversely affect not  
17 only the low-income customers directly affected by increased costs (e.g., late charges,  
18 reconnect fees, deposits) and an increased incidence of lost service, but will adversely  
19 affect other ratepayers as well who will help pay for collection costs, working capital  
20 costs, bad debt costs and the like. Usage reduction services can help mitigate the harms  
21 to both the low-income customers and all other customers. Usage reduction services,  
22 however, will not be pursued in the absence of the imposition of merger-related  
23 conditions requiring the direct investment in low-income usage reduction programs.

1 Market barriers that are unique to the poor, or that are overwhelmingly applicable to the  
2 poor, prevent the implementation of usage reduction measures in the absence of merger-  
3 related conditions involving usage reduction funding.  
4

5 **Part 4. The Proposed Merger Conditions.**

6 **Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR**  
7 **TESTIMONY.**

8 A. In this section of my testimony, I propose a set of merger conditions that should be  
9 implemented by Duke Power Company directed toward mitigation of the likely harms  
10 that I have identified above. In the absence of these conditions, the merger should be  
11 disapproved.  
12

13 **Q. PLEASE EXPLAIN THE FIRST MERGER CONDITION YOU PROPOSE.**

14 A. I propose that Duke Energy provide a payment to the NC Housing Finance Agency of  
15 \$27 million per year for ten (10) years to supplement the funding of low-income  
16 weatherization. Of these low-income housing units to be weatherized, to allow the  
17 program to work with the Arrearage Management Program (AMP) recommended below,  
18 the weatherization agencies should be required to target high-use low-income customers  
19 in arrears for service.  
20

21 **Q. PLEASE EXPLAIN WHY YOUR PROPOSED WEATHERIZATION PAYMENT**  
22 **IS A REASONABLE CONDITION OF THE MERGER.**

1 A. Duke Energy has a legal obligation to make those expenditures necessary to prevent  
2 harms that might arise from the merger and to mitigate the risks and potential risks that  
3 the merger creates for the customers of the merged company. I have identified in detail  
4 the harms, along with the risks, that the proposed merger present to low-income  
5 customers. Assuming that Duke’s residential customer base would have a low-income  
6 population that reflects the underlying population, the combined Duke/Progress service  
7 territory, with its 2,666,608 residential customers, would serve 664,000 low-income  
8 customers.

9  
10 To focus on the highest use customers, I have developed the merger-related mitigation  
11 costs based on the 30% of those customers with the highest consumption (i.e., the top  
12 three deciles), or 200,000 low-income customers. Using a 40% participation figure,  
13 which is typical for cost-estimation purposes, Duke would need to serve 80,000 low-  
14 income customers with weatherization services.

15  
16 In 2010, the average cost of weatherization through the North Carolina weatherization  
17 program was \$5,047 per unit. The total cost to Duke to meet its legal obligation to  
18 mitigate merger-created harms, therefore, would reach \$402 million. Spreading that over  
19 15 years yields an annual weatherization payment of \$27 million per year. I propose that  
20 Duke make a weatherization payment of \$27 million per year for ten years toward those  
21 mitigation costs.

22

1 The \$27 million is reasonable in light of the substantive need for mitigation costs; in light  
2 of the legal obligations of Duke to pursue the activity necessary to mitigate the harms  
3 created by the merger; and in light of the fact that the annual cost has been somewhat  
4 reduced by referencing an objective of reaching the top three deciles of usage within 15  
5 years rather than within ten years.

6  
7 **Q. IS THERE ANY OTHER REASON WHY THIS WEATHERIZATION**  
8 **PROPOSAL IS A REASONABLE CONDITION TO IMPOSE ON THE**  
9 **MERGER?**

10 A. The proposed funding is also consistent with other commitments that have been made by  
11 public utilities as a condition of their combination into larger companies. The  
12 reasonableness of imposing such a condition on a utility is evidenced by the Public  
13 Service Company of Colorado (PSCO) merger with Northern States Power Company in  
14 2000. In an agreement with the Colorado Public Utilities Commission (CPUC), PSCO  
15 offered to contribute \$2.6 million per year to the low-income weatherization program  
16 over the course of six (6) years and \$4.75 million to energy assistance over the course of  
17 seven (7) years. In addition, PSCO agreed to fund a pilot energy assistance program. A  
18 proportionate payment by Duke Energy in 2011 would reach \$10.0 million.

19  
20 When Scottish Power acquired PacifiCorp in 1999, the Company agreed to fund  
21 \$300,000 per year in low-income bill payment assistance and \$560,000 in weatherization  
22 over three years (\$860,000 total). PacifiCorp in Washington has roughly 105,000

1 customers. A proportionate 2011 payment by Duke in North Carolina would involve an  
2 agreement to provide close to \$29.7 million per year.

3  
4 **Q. HOW DOES YOUR PROPOSED DUKE WEATHERIZATION PAYMENT**  
5 **COMPARE TO THESE TWO PREVIOUS MERGER AGREEMENTS?**

6 A. My recommended \$27 million annual payment to North Carolina’s weatherization  
7 program over ten years is a smaller annual dollar amount than the Scottish Power  
8 contribution in Washington State (\$27 million per year compared to \$29.7 million per  
9 year) continued for a longer period of time (10 years compared to 3 years).<sup>16</sup>

10  
11 Increasing the length of time over which the weatherization dollars are to be provided is  
12 reasonable, also, in light of the purpose which they are intended to serve. While the  
13 Scottish Power and PSCO contributions were viewed as charitable in nature in 1999 and  
14 2000 respectively, much has been learned since that time. As I describe in detail above,  
15 it is now evident that substantial financial benefits are derived by the Company and its  
16 ratepayers from investing in low-income weatherization due to the arrearage reduction  
17 impacts (and related expense reductions). We now know, unlike at the time of the PSCO  
18 and Scottish Power contributions, that due to the offsetting expense reductions generated  
19 by low-income weatherization programs, a \$27 million weatherization payment  
20 represents a much smaller out-of-pocket dollar outlay by the sponsoring utility.

21  

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<sup>16</sup> For PacifiCorp, while the merger agreement ended after three years, the Company subsequently agreed to continue its funding of the low-income programs. The three year “merger agreement” thus does not accurately represent the ongoing financial commitment made by the Company.

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1 **Q. IS THERE ANY OTHER WAY IN WHICH YOUR DUKE WEATHERIZATION**  
2 **INVESTMENT DIFFERS FROM THE PSCO AND SCOTTISH POWER**  
3 **WEATHERIZATION CONTRIBUTIONS?**

4 A. Yes. There is a fundamental structural difference between the PSCO and Scottish Power  
5 contributions and the proposed Duke weatherization payment. PSCO and Scottish Power  
6 viewed their agreements as an agreement to make low-income payments in the nature of  
7 charitable contributions. Unlike those PSCO and Scottish Power contributions, the Duke  
8 weatherization investments are directed toward addressing and redressing specific harms  
9 that will be created by the merger. It is a mitigation expense, not a charitable  
10 contribution. Accordingly, it is to be measured by a different standard than the PSCO  
11 and Scottish Power contributions. The standard is not whether the contribution is  
12 somehow “reasonable” in a charitable sense, but rather whether it is “sufficient” to  
13 mitigate the harms that are created by the merger itself. The proposed \$27 million low-  
14 income weatherization expenditure by Duke, in other words, is not a “contribution” but  
15 rather a cost-to-achieve the merger savings.

16  
17 **Q. DO YOU HAVE ANY CONCERNS ABOUT THE PAYMENTS OF DUKE**  
18 **ENERGY TO LOW-INCOME WEATHERIZATION?**

19 A. Yes. The merger condition should require Duke to make annual cash contributions for  
20 weatherization. As discussed below, Duke can require that its funding be targeted toward  
21 high-use, high-arrearage households in order to facilitate the coordinated impact of  
22 weatherization funding and the AMP initiative. My concern is that the money not be  
23 administered by Duke, but rather by another agency. In the Order approving a settlement

1 of Duke’s Save-a-Watt proceeding --NC WARN and the low-income intervenors  
2 opposed that Save-a-Watt settlement-- the NCUC stated as follows:

3 NC WARN and the Public Interest Intevenors stated that, rather than address  
4 this increased disparity between its residential customers, Duke’s proposed  
5 Settlement Agreement does not propose any specific portfolio of low income EE  
6 programs. Instead, it merely states that Duke will “convene the Advisory  
7 Group. . .to guide efforts to expand cost-effective programs for low-income  
8 customers.”. . .Moreover, NC WARN and the Public Interest Intervenors  
9 explained that there is no time frame placed on the work of the Advisory Group  
10 regarding low-income programs. For example, the Advisory Group only meets  
11 twice a year. While the Advisory Group may ‘establish working groups on  
12 specific topics,’ no specific commitment to establish a low-income working  
13 group is made, let alone a work group with a specific workplan and a specific  
14 timeframe within which to complete that workplan. Docket No. E-7, Sub 831 at  
15 pages 38 – 39.

16  
17 While the NCUC refused to order specific low-income programs in the Save-a-Watt  
18 proceeding, the Commission *did* order as follows:

19  
20 “That having been said, the Commission does find value in *specifically directing*  
21 the Advisory Group to study the feasibility of expanding programs for low-  
22 income customers to the extent possible.” (Id., at page 42).

23  
24 Ordering Paragraph #8 of the NCUC’s February 9, 2010 Save-a-Watt decision explicitly  
25 stated that: “. . .Duke shall be, and hereby is, required to direct the Advisory Group in  
26 studying the feasibility of expanding programs for low-income customers and, to the  
27 extent found appropriate, shall file such additional programs for Commission approval.”  
28 (Id., at page 47).

29  
30 Despite this “specific direction” to Duke, and the explicit ordering paragraph of the  
31 NCUC decision, today, more than 1½ years after that NCUC Order was issued, no  
32 Advisory Group meeting has been convened to consider the expansion of programs for

1 low-income customers; no study of the “feasibility of expanding programs for low-  
2 income programs to the extent possible” has been produced; and, certainly, no expansion  
3 of low-income efficiency programs has been implemented. In light of this inaction by  
4 Duke, the proposed merger conditions outlined above are particularly reasonable.

5  
6 **Q. IS THERE ANY FINAL REASON THE MERGER CONDITION YOU PROPOSE**  
7 **IS A SUBSTANTIVELY REASONABLE CONDITION?**

8 A. Yes. The provision of low-income weatherization funding will help to redress the issues  
9 that I have identified above. I have discussed in some detail the findings of the Penn  
10 State University evaluation of the first 20 years of operation of the Pennsylvania Low-  
11 Income Usage Reduction Program (LIURP). As can be seen from this LIURP  
12 evaluation, low-income weatherization helps to prevent the conditions that give rise to  
13 the concerns which I have expressed above regarding customer service for payment  
14 troubled customers.

15  
16 **Q. PLEASE EXPLAIN THE SECOND CONDITION YOU RECOMMEND BE**  
17 **IMPOSED ON THE MERGER.**

18 A. I recommend that Duke accompany its low-income weatherization program with an  
19 Arrearage Management Program (AMP). This AMP should be modeled on the  
20 Massachusetts programs of the same name. Every investor-owned utility in  
21 Massachusetts operates an AMP.

1 **Q. PLEASE DESCRIBE THE AMP THAT YOU RECOMMEND BE MADE A PART**  
2 **OF THE MERGER CONDITIONS.**

3 A. I recommend that the Duke AMP should have the following components:

- 4 1. Customers would be found eligible, including income-eligible, by receiving  
5 weatherization services through the low-income weatherization funded as  
6 recommended above. The AMP is intended to be a supplement to the low-income  
7 weatherization services.  
8
- 9 2. Customers must have a minimum of \$300 in order to participate in the AMP.  
10
- 11 3. For every full and on-time payment, customers would receive a matching credit not to  
12 exceed \$200 per month.  
13
- 14 4. The right to receive AMP credits would be potable should a program participant  
15 change service addresses.  
16
- 17 5. Missed payments are subject to cure to allow a customer to remain in the AMP.  
18 However, AMP credits are provided only for full and timely payments.  
19
- 20 6. Missed payments place an AMP participant into the normal credit and collection  
21 process.  
22
- 23 7. Customers would be allowed to participate in AMP once.  
24

25 **Q. WHAT PAYMENTS WOULD CUSTOMERS MAKE TOWARD THEIR PRE-**  
26 **EXISTING ARREARS IN THE RECOMMENDED AMP?**

27 A. An AMP participant would enter into a payment plan that has an arrearage and a current  
28 bill payment component to it. Arrears would be subject to a deferred payment  
29 arrangement of 12 months. In addition, current bills are made subject to a 12-month  
30 levelized budget billing agreement. If a customer has an arrears of \$600, for example,  
31 the customer would agree to pay \$50 a month toward the arrears plus his/her current bill,  
32 receiving a \$50 matching credit for each full and timely payment made. If a customer  
33 has an arrears of \$1,800, the customer would agree to pay \$150 a month toward the

1 arrears plus his/her current bill, receiving a matching \$150 arrears credit. Any confirmed  
2 energy assistance received by the customer would be subtracted from the levelized  
3 budget billing payment requirements for current bills.

4  
5 **Q. WHAT FUNDING DO YOU RECOMMEND FOR THE PROPOSED AMP?**

6 A. I recommend full funding be provided for the AMP through a deferred cost recovery  
7 mechanism. Program funding, including administrative costs and evaluation costs,  
8 should be accrued in a deferred account subject to recovery (with carrying costs) in  
9 Duke's next base rate case.<sup>17</sup> Set-up costs, which should be minimal, should be provided  
10 as Duke's contribution to the program.

11  
12 **Q. WHY DO YOU PROPOSE THIS DEFERRED COST RECOVERY FROM**  
13 **RATEPAYERS RATHER THAN A SUM CERTAIN CONTRIBUTION FROM**  
14 **DUKE FUNDED THROUGH MERGER SAVINGS?**

15 A. Several reasons support this deferred cost recovery approach:

- 16 1. The total cost depends on the number of customers weatherized using the Duke  
17 contribution toward weatherization. Obviously, if that contribution can weatherize  
18 homes at an average cost of \$4,000 rather than \$5,000, more housing units will be  
19 served and more customers will be able to participate in AMP.  
20  
21 2. The total cost depends on the level of arrears brought into the program. An \$1,800  
22 pre-existing arrears, for example, would impose higher program costs than a \$900  
23 pre-existing arrears. Accounts with pre-existing arrears of greater than \$2,400 would,  
24 nonetheless, still have a maximum monthly arrearage credit possibility of \$200 per  
25 month. No customer, therefore, could receive more than \$2,400 in credits in a single  
26 year.

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<sup>17</sup> Such an approach is similar to the recovery of universal service costs by Pennsylvania utilities. The primary difference is that Pennsylvania utilities establish a base recovery amount to be collected through a Universal Service Charge, with the over- or under-collection to be reconciled on a quarterly (or annual) basis. The list of proceedings in which I have testified, presented in Appendix A, indicates the number of proceedings in which "cost recovery" has been an issue.

1  
2 3. The total cost depends on the extent to which program participants make full and  
3 timely payments. A participant with fewer full and timely payments imposes a lower  
4 program cost than a participant with more full and timely payments.

5 Rather than estimating these costs and reconciling actual costs to estimated costs, I  
6 instead propose simply to provide for a deferred cost recovery for AMP.<sup>18</sup>

7  
8 **Q. PLEASE EXPLAIN WHY YOU RECOMMEND THAT AMP BE FUNDED**  
9 **THROUGH RATEPAYER DOLLARS RATHER THAN THROUGH MERGER**  
10 **SAVINGS PROVIDED BY DUKE.**

11 A. The commitment by Duke should be to operate the AMP as a corollary to the low-  
12 income weatherization funding I recommend above. In order to match program costs to  
13 program benefits, ratepayers should fund the AMP. It makes sense, in other words, for  
14 ratepayers to pay the incremental costs of the AMP for the following reasons:

- 15 1. The cost offsets generated by the AMP in terms of reduced bad debt and reduced  
16 working capital associated with the pre-existing arrears will redound to the benefit of  
17 ratepayers. The “real” cost of AMP is, in other words, not the cost recovered through  
18 the deferred mechanism I recommend above. It is instead those deferred costs minus  
19 cost reductions.  
20  
21 2. The traditional avoided costs generated by the low-income weatherization funded by  
22 Duke will redound to the benefit of ratepayers. The “real” cost of AMP is not the  
23 costs recovered through the deferred mechanism I recommend above. It is instead  
24 those costs minus the resource-related avoided costs.  
25  
26 3. Weatherization directed toward low-income customers in arrears will generate future  
27 avoided non-energy cost reductions associated with the future bills for current  
28 consumption that will be reduced through the weatherization. While the AMP

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<sup>18</sup> This approach is also consistent to the Massachusetts AMP cost recovery. Massachusetts utilities recover their net AMP costs through a reconcilable rate rider called the Residential Assistance Adjustment Factor (RAAF). The RAAF rider is established and reconciled on an annual basis.

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1 generates these non-energy avoided costs for pre-existing arrears, the weatherization  
2 generates those non-energy avoided costs for future bills for current consumption.<sup>19</sup>

3

4 **Q. WHAT DO YOU CONCLUDE?**

5 A. I conclude that the AMP is not only a reasonable, but also a necessary, component of the  
6 merger conditions related to low-income weatherization. Addressing low-income  
7 payment-troubles in a manner so as to mitigate the customer service harms that I have  
8 identified above requires not only a mechanism to address current bills, but a mechanism  
9 to address pre-existing arrears as well. The AMP program has been found to be  
10 successful in doing just that. Under AMP, arrearage credits are only provided when  
11 participating low-income customers make full and timely payments. Generating these  
12 payments occurs for customers significantly in arrears (since the program is limited to  
13 customers with a minimum arrears of \$300 with which to begin). While weatherization  
14 standing alone has been found to *improve* payment patterns and to *reduce* pre-existing  
15 arrearages, it has not been found to eliminate arrearages for customers with substantial  
16 pre-existing arrearages. The combined program delivering weatherization and arrearage  
17 management credits will be an effective, and cost-effective, response to low-income  
18 payment troubles.<sup>20</sup>

19

---

<sup>19</sup> For these purposes, there is no assumption of avoided credit and collection cost reductions. To the extent that resources historically were directed toward low-income customers in arrears, and can now be redeployed toward someone else, the cost reductions generated by that redeployment will flow through to ratepayers in the next base rate case.

<sup>20</sup> While I would expect that a post-hoc evaluation will find this combined effort to be a cost-effective response to low-income payment troubles, thus justifying the continuation of such programs subsequent to the expiration of the merger conditions, the specific merger conditions I recommend do not depend for their legitimacy on this result. In making my recommendations, I make no assumptions as to what the results of a future evaluation might find.

1 **Q. HAVE YOU REVIEWED THE SETTLEMENT PROPOSAL FILED BY THE**  
2 **APPLICANTS AND THE PUBLIC STAFF ON SEPTEMBER 2, 2011?**

3 A. Yes. I have reviewed the Agreement and Stipulation between the Applicants and the  
4 Public Staff, including the Regulatory Conditions and the Code of Conduct. I have  
5 further reviewed the pre-filed testimony filed in support of the Settlement, including in  
6 particular the pre-filed testimony of James Hoard.

7  
8 **Q. DO YOU AGREE WITH ANY ASPECT OF THE SETTLEMENT DOCUMENT?**

9 A. Yes. I agree with Paragraph 15 of the Proposed Agreement and Stipulation to the extent  
10 that it states that for the merger to be approved, the Commission must find that “the  
11 proposed Merger will have no adverse impact on the rates charged and the service  
12 provided by DEC [Duke Energy] and PEC [Progress Energy] to North Carolina retail  
13 ratepayers.” I agree with Paragraph 15 to the extent that it provides that DEC’s and  
14 PEC’s North Carolina retail ratepayers must be “protected and insulated to the maximum  
15 extent possible from all known and potential costs and risks associated with the Merger.”  
16 I agree with Paragraph 15 to the extent that it states that the merger, to be approved, must  
17 provide benefits “to DEC’s and PEC’s North Carolina retail ratepayers [that] are  
18 sufficient to offset those potential costs and risks.” I finally agree with Paragraph 15 that  
19 only when such showings can be made can the proposed merger be found to be justified  
20 by the public convenience and necessity.”

21  
22 In contrast, I *disagree* with Paragraph 15 to the extent that it asserts that these findings  
23 and demonstrations have or can be made based only on the proposed Stipulation and

1 Settlement. The Agreement and Stipulation does not address the harms that I have  
2 identified in my testimony above. The Agreement and Stipulation does not address the  
3 risks posed by the merger to low-income customers involving the increased risk of  
4 reduced customer service, increased costs (through late payment fees, customer service  
5 fees, deposits, and the like), and the increased risks of collection activity being directed  
6 toward low-income customers (including the loss of service due to disconnections for  
7 nonpayment). In this respect, the proposed Agreement and Stipulation fail the tests set  
8 forth in Paragraph 15 and, ultimately, the test that the merger be “justified by the public  
9 convenience and necessity.”  
10

11 **Q. WHAT DO YOU CONCLUDE AS TO THE PROPOSED \$15 MILLION**  
12 **CONTRIBUTION IDENTIFIED IN PARAGRAPH 4 OF THE PROPOSED**  
13 **AGREEMENT AND STIPULATION?**

14 A. The proposed \$15 million contribution (Paragraph 4) is not sufficient to meet the test set  
15 forth later in the settlement document, that the Agreement would “ensure that the Merger  
16 will have no adverse impact on the rates charged and the service provided by DEC and  
17 PEC to North Carolina retail ratepayers, that DEC’s and PEC’s North Carolina retail  
18 ratepayers are protected and insulated to the maximum extent possible from all known  
19 and potential costs and risks associated with the Merger, and that the benefits of the  
20 Merger to DEC’s and PEC’s North Carolina retail ratepayers are sufficient to offset those  
21 potential costs and risks.” (Paragraph 15, emphasis added).  
22

1 It is not accurate to say that the \$15 million is a contribution to low-income assistance, or  
2 even to the combination of low-income assistance and workforce development. The  
3 proposed Agreement and Stipulation only commits to a contribution (to persons unstated)  
4 for “purposes SUCH AS” workforce development and low-income energy assistance.  
5 There is no commitment that any money will go to low-income weatherization, so long as  
6 someone (identity unstated) determines that the purpose funded meets the test that it is a  
7 purpose “such as” workforce development and low-income energy assistance.  
8

9 **Q. DOES THE PROPOSED ALLOCATION OF THE \$15 MILLION**  
10 **CONTRIBUTION DEMONSTRATE THE LEGITIMACY OF THE CONCERNS**  
11 **THAT YOU EXPRESS ABOVE?**

12 A. Yes. Aside from the inadequacy of the funding discussed immediately above, the  
13 proposed allocation between Duke Energy and Progress Energy is unrelated to the needs  
14 of low-income customers in the two service territories. The proposed Settlement and  
15 Agreement is a good example of both “consolidation” and “dilution.” Through  
16 consolidation, the combination of the two service territories results in the service  
17 territories no longer being examined for the characteristics specific to their service  
18 territory. Through dilution, the resources of the two existing companies are combined  
19 without regard to the specific needs of the individual areas, with one area being over-  
20 served and the other under-served relative to what would have occurred had the service  
21 territories been examined separately.  
22

1 The allocation of the \$15 million based on the number of retail customers (using 2009  
2 EIA Form 861 data) would allocated 59% of the funds to the Duke territory and 41% to  
3 the Progress service territory. From a consolidation perspective, an examination of the  
4 specific characteristics of the two service territories, however, reveals that despite its  
5 substantially bigger territory, Duke has only 51% of households with income below  
6 100% of the Federal Poverty Level, and only 52% of households below 150% of Poverty  
7 Level. The combination of the two companies does not consider the specific  
8 characteristics of each of the companies. From a dilution perspective, Progress Energy  
9 will receive 41% of the funding allocation, notwithstanding the fact that it has between  
10 48% (households below 150% of FPL) and 49% (households below 100% of FPL) of the  
11 need. Moreover, not only does Progress have proportionately more low-income  
12 households, but, as I discuss in more detail above, it has higher bills and thus higher  
13 payment-trouble potential as well. The combination of the two utilities unquestionably  
14 results in the dilution of resources.

15  
16 **Q. IS YOUR OBJECTION TO THE SETTLEMENT AN OBJECTION TO THE**  
17 **ALLOCATION OF RESOURCES BETWEEN THE TWO SERVICE**  
18 **TERRITORIES?**

19 A. No. I want to make it unmistakably clear. I cite the allocation formula as examples in  
20 the Settlement Agreement, itself, how the harms that I have identified above –that of  
21 consolidation and dilution—will arise. The issue I identify above with respect to the  
22 settlement agreement is not “the problem,” it is instead merely one illustration of how the  
23 problems that I identify in my testimony can be expected to manifest themselves.

1 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

2 A. Yes, it does.

3

4

5 RDCNC090711

**SCHEDULE RDC-1**

*Basic Family Budget by Household Size and Structure  
(Selected Cities—Duke Energy Service Territory—North Carolina)*

	Family Needs Budget (2011)	150% of FPL (2011)	Deficit	200% of FPL (2011)	Deficit
<b>1-parent/1-child</b>					
Asheville	\$32,687	\$22,065	\$10,622	\$29,420	\$3,267
Hickory-Morganton	\$29,155	\$22,065	\$7,090	\$29,420	(\$265)
Charlotte-Gastonia-Rock Hill	\$35,264	\$22,065	\$13,199	\$29,420	\$5,844
Greensboro/Winston Salem-High Point	\$33,027	\$22,065	\$10,962	\$29,420	\$3,607
Raleigh-Durham-Chapel Hill	\$36,729	\$22,065	\$14,664	\$29,420	\$7,309
<b>1-parent/2-children</b>					
Asheville	\$38,115	\$27,795	\$10,320	\$27,795	\$10,320
Hickory-Morganton	\$34,413	\$27,795	\$6,618	\$27,795	\$6,618
Charlotte-Gastonia-Rock Hill	\$41,743	\$27,795	\$13,948	\$27,795	\$13,948
Greensboro/Winston Salem-High Point	\$38,390	\$27,795	\$10,595	\$27,795	\$10,595
Raleigh-Durham-Chapel Hill	\$42,196	\$27,795	\$14,401	\$27,795	\$14,401

SOURCE: Based on Economic Policy Institute: Basic Family Budget Calculator (May 2008).

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**Tenure by Income (2004 – 2009) (North Carolina)**

	Owner Occupied		Renter Occupied		Total
<b>Owner occupied:</b>	2,435,591	68%	1,162,079	32%	3,597,670
<b>Less than \$5,000</b>	43,863	34%	85,029	66%	128,892
<b>\$5,000 to \$9,999</b>	68,488	38%	112,312	62%	180,800
<b>\$10,000 to \$14,999</b>	109,602	47%	122,314	53%	231,916
<b>\$15,000 to \$19,999</b>	109,835	50%	111,144	50%	220,979
<b>\$20,000 to \$24,999</b>	117,012	53%	102,439	47%	219,451
<b>\$25,000 to \$34,999</b>	248,572	58%	182,876	42%	431,448
<b>\$35,000 to \$49,999</b>	362,735	66%	185,452	34%	548,187
<b>\$50,000 to \$74,999</b>	510,313	76%	159,310	24%	669,623
<b>\$75,000 to \$99,999</b>	343,207	86%	57,952	14%	401,159
<b>\$100,000 to \$149,999</b>	318,855	91%	30,543	9%	349,398
<b>\$150,000 or more</b>	203,109	94%	12,708	6%	215,817

Housing Costs as a Percent of Income by Income Range and Tenure

Owner-occupied housing units:			Renter-occupied housing units:		
	2,435,591			1,162,079	
Less than \$20,000:	314,497		Less than \$20,000:	361,942	
Less than 20 percent	50,805	16%	Less than 20 percent	11,139	3%
20 to 29 percent	56,839	18%	20 to 29 percent	31,376	9%
30 percent or more	206,853	66%	30 percent or more	319,427	88%
\$20,000 to \$34,999:	365,584		\$20,000 to \$34,999:	266,710	
Less than 20 percent	137,626	38%	Less than 20 percent	26,524	10%
20 to 29 percent	65,482	18%	20 to 29 percent	91,989	34%
30 percent or more	162,476	44%	30 percent or more	148,197	56%
\$35,000 to \$49,999:	362,735		\$35,000 to \$49,999:	173,709	
Less than 20 percent	149,165	41%	Less than 20 percent	57,575	33%
20 to 29 percent	92,524	26%	20 to 29 percent	85,869	49%
30 percent or more	121,046	33%	30 percent or more	30,265	17%
\$50,000 to \$74,999:	510,313		\$50,000 to \$74,999:	148,872	
Less than 20 percent	254,290	50%	Less than 20 percent	103,171	69%
20 to 29 percent	166,621	33%	20 to 29 percent	39,474	27%
30 percent or more	89,402	18%	30 percent or more	6,227	4%
\$75,000 or more:	865,171		\$75,000 or more:	94,604	
Less than 20 percent	627,562	73%	Less than 20 percent	84,809	90%
20 to 29 percent	187,268	22%	20 to 29 percent	8,235	9%
30 percent or more	50,341	6%	30 percent or more	1,560	2%

SOURCE: American Community Survey, 3-Year Averages (2007 – 2009).

Number and Percent of Persons Living in Same House One Year Ago by Income (2009) (North Carolina)

Total:	7,355,217	Same house 1 year ago:	6,118,622	17%
\$1 to \$9,999 or loss	1,489,244	\$1 to \$9,999 or loss	1,163,279	22%
\$10,000 to \$14,999	726,570	\$10,000 to \$14,999	601,333	17%
\$15,000 to \$24,999	1,148,495	\$15,000 to \$24,999	934,529	19%
\$25,000 to \$34,999	943,217	\$25,000 to \$34,999	785,805	17%
\$35,000 to \$49,999	925,681	\$35,000 to \$49,999	800,293	14%
\$50,000 to \$64,999	512,799	\$50,000 to \$64,999	453,314	12%
\$65,000 to \$74,999	190,244	\$65,000 to \$74,999	169,491	11%
\$75,000 or more	573,096	\$75,000 or more	518,088	10%

SOURCE: American Community Survey.

# Appendix A

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## COLTON EXPERIENCE AS EXPERT WITNESS

## 1988 - PRESENT

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
Re. Duke Energy/Progress Energy merger	Witness	NC Equal Justice foundation	Low-income merger impacts	North Carolina	11
Re. Atlantic City Electric Company	Witness	Division of Rate Counsel	Customer Service	New Jersey	11
Re. Constellation/Exelon merger	Witness	Office of Peoples Council	Low-income merger impacts	Maryland	11
Re. Camelot Utilities	Witness	Office of Attorney General	Rate shock	Illinois	11
Re. UGI—Central Penn Gas	Witness	Office of Consumer Advocate	Low-income program design/cost recovery	Pennsylvania	11
Re. National Fuel Gas	Witness	Office of Consumer Advocate	Low-income program cost recovery	Pennsylvania	11
Re. Philadelphia Gas Works	Witness	Office of Consumer Advocate	Program design	Pennsylvania	11
Re. PPL	Witness	Office of Consumer Advocate	Low-income program cost recovery	Pennsylvania	11
Re. Columbia Gas Company	Witness	Office of Consumer Advocate	Rate design/Low-income program cost recovery	Pennsylvania	11
Crowder et al. v. Village of Kauffman	Witness	Crowder (plaintiffs)	Section 8 utility allowances	Texas Fed Court	11
I/M/O Peoples Natural Gas Company.	Witness	Office of Consumer Advocate	Low-income program design/cost recovery	Pennsylvania	11
I/M/O Commonwealth Edison	Witness	Office of Attorney General	Rate design/revenue requirement	Illinois	10
I/M/O National Grid d/b/a Energy North	Witness	NH Legal Assistance	Rate design/revenue requirement	New Hampshire	10
I/M/O Duquesne Light Company	Witness	Office of Consumer Advocate	Low-income program cost recovery	Pennsylvania	10
I/M/O Avista Natural Gas Corporation	Witness	The Opportunity Council	Low-income assistance/rate design	Washington	10
I/M/O Manitoba Hydro	Witness	Resource Conservation Manitoba (RCM)	Low-income program design	Manitoba	10
I/M/O TW Phillips	Witness	Office of Consumer Advocate	Low-income program cost recovery	Pennsylvania	10
I/M/O PECO Energy—Gas Division	Witness	Office of Consumer Advocate	Low-income program cost recovery	Pennsylvania	10
I/M/O PECO Energy—Electric Division	Witness	Office of Consumer Advocate	Low-income program cost recovery	Pennsylvania	10
I/M/O PPL Energy	Witness	Office of Consumer Advocate	Low-income program cost recovery	Pennsylvania	10

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
I/M/O Columbia Gas Company	Witness	Office of Consumer Advocate	Low-income program design/cost recovery	Pennsylvania	10
I/M/O Atlantic City Electric Company	Witness	Office of Rate Council	Customer service	New Jersey	10
I/M/O Philadelphia Gas Works	Witness	Office of Consumer Advocate	Low-income program cost recovery	Pennsylvania	10
I/M/O Philadelphia Gas Works	Witness	Office of Consumer Advocates	Low-income program design	Pennsylvania	10
I/M/O Xcel Energy Company	Witness	Xcel Energy Company (PSCo)	Low-income program design	Colorado	09
I/M/O Atmos Energy Company	Witness	Atmos Energy Company	Low-income program funding	Colorado	09
I/M/O New Hampshire CORE Energy Efficiency Programs	Witness	New Hampshire Legal Assistance	Low-income efficiency funding	New Hampshire	09
I/M/O Public Service Company of New Mexico (electric)	Witness	Community Action of New Mexico	Rate Design	New Mexico	09
I/M/O UGI Pennsylvania Natural Gas Company (PNG)	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	09
I/M/O UGI Central Penn Gas Company (CPG)	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	09
I/M/O PECO Electric (provider of last resort)	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	08
I/M/O Equitable Gas Company	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	08
I/M/O Columbia Gas Company	Witness	Office of Ohio Consumers' Counsel	Rate design	Ohio	08
I/M/O Dominion East Ohio Gas Company	Witness	Office of Ohio Consumers' Counsel	Rate design	Ohio	08
I/M/O Vectren Energy Delivery Company	Witness	Office of Ohio Consumers' Counsel	Rate design	Ohio	08
I/M/O Public Service Company of North Carolina	Witness	NC Department of Justice	Rate design	North Carolina	08
I/M/O Piedmont Natural Gas Company	Witness	NC Department of Justice	Rate design	North Carolina	08
I/M/O National Grid	Witness	New Hampshire Legal Assistance	Low-income rate assistance	New Hampshire	08
I/M/O EmPower Maryland	Witness	Office of Peoples Counsel	Low-income energy efficiency	Maryland	08
I/M/O Duke Energy Carolinas Save-a-Watt Program	Witness	NC Equal Justice Foundation	Low-income energy efficiency	North Carolina	08
I/M/O Zia Natural Gas Company	Witness	Community Action New Mexico	Low-income/low-use rate design	New Mexico	08
I/M/O Universal Service Fund Support for the Affordability of Local Rural Telecomm Service	Witness	Office of Consumer Advocate	Telecomm service affordability	Pennsylvania	08

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
I/M/O Philadelphia Water Department	Witness	Public Advocate	Credit and Collections	Philadelphia	08
I/M/O Portland General Electric Company	Witness	Community Action--Oregon	General rate case	Oregon	08
I/M/O Philadelphia Electric Company (electric)	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	08
I/M/O Philadelphia Electric Company (gas)	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	08
I/M/O Columbia Gas Company	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	08
I/M/O Public Service Company of New Mexico	Witness	Community Action New Mexico	Fuel adjustment clause	New Mexico	08
I/M/O Petition of Direct Energy for Low-Income Aggregation	Witness	Office of Peoples Counsel	Low-income electricity aggregation	Maryland	07
I/M/O Office of Consumer Advocate et al. v. Verizon and Verizon North	Witness	Office of Consumer Advocate	Lifeline telecommunications rates	Pennsylvania	07
I/M/O Pennsylvania Power Company	Consultant	Office of Consumer Advocate	Low-income program	Pennsylvania	07
I/M/O National Fuel Gas Distribution Corporation	Consultant	Office of Consumer Advocate	Low-income program	Pennsylvania	07
I/M/O Public Service of New Mexico--Electric	Witness	Community Action New Mexico	Low-income programs	New Mexico	07
I/M/O Citizens Gas/NIPSCO/Vectren for Universal Service Program	Witness	Citizens Gas & Coke Utility/Northern Indiana Public Service/Vectren Energy	Low-income program design	Indiana	07
I/M/O PPL Electric	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	07
I/M/O Section 15 Challenge to NSPI Rates	Witness	Energy Affordability Coalition	Discrimination in utility regulation	Nova Scotia	07
I/M/O Philadelphia Gas Works	Witness	Office of Consumer Advocate	Low-income and residential collections	Pennsylvania	07
I/M/O Equitable Gas Company	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	07
I/M/O Section 11 Proceeding, Energy Restructuring	Witness	Office of Peoples Counsel	Low-income needs and responses	Maryland	06
I/M/O Citizens Gas/NIPSCO/Vectren for Universal Service Program	Witness	Citizens Gas & Coke Utility/Northern Indiana Public Service/Vectren Energy	Low-income program design	Indiana	06
I/M/O Public Service Co. of North Carolina	Witness	North Carolina Attorney General/Dept. of Justice	Low-income energy usage	North Carolina	06
I/M/O Electric Assistance Program	Witness	New Hampshire Legal Assistance	Electric low-income program design	New Hampshire	06
I/M/O Verizon Petition for Alternative Regulation	Witness	New Hampshire Legal Assistance	Basic local telephone service	New Hampshire	06

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
I/M/O Pennsylvania Electric Co/Metropolitan Edison Co.	Witness	Office of Consumer Advocate	Universal service cost recovery	Pennsylvania	06
I/M/O Duquesne Light Company	Witness	Office of Consumer Advocates	Universal service cost recovery	Pennsylvania	06
I/M/O Natural Gas DSM Planning	Witness	Low-Income Energy Network	Low-income DSM program.	Ontario	06
I/M/O Union Gas Co.	Witness	Action Centre for Tenants Ontario (ACTO)	Low-income program design	Ontario	06
I/M/O Public Service of New Mexico merchant plant	Witness	Community Action New Mexico	Low-income energy usage	New Mexico	06
I/M/O Customer Assistance Program design and cost recovery	Witness	Office of Consumer Advocate	Low-income program design	Pennsylvania	06
I/M/O NIPSCO Proposal to Extend Winter Warmth Program	Witness	Northern Indiana Public Service Company	Low-income energy program evaluation	Indiana	05
I/M/O Piedmont Natural Gas	Witness	North Carolina Attorney General/Dept. of Justice	Low-income energy usage	North Carolina	05
I/M/O PSEG merger with Exelon Corp.	Witness	Division of Ratepayer Advocate	Low-income issues	New Jersey	05
Re. Philadelphia Water Department	Witness	Public Advocate	Water collection factors	Philadelphia	05
I/M/O statewide natural gas universal service program	Witness	New Hampshire Legal Assistance	Universal service	New Hampshire	05
I/M/O Sub-metering requirements for residential rental properties	Witness	Tenants Advocacy Centre of Ontario	Sub-metering consumer protections	Ontario	05
I/M/O National Fuel Gas Distribution Corp.	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	05
I/M/O Nova Scotia Power, Inc.	Witness	Dalhousie Legal Aid Service	Universal service	Nova Scotia	04
I/M/O Lifeline Telephone Service	Witness	National Ass'n State Consumer Advocates (NASUCA)	Lifeline rate eligibility	FCC	04
Mackay v. Verizon North	Witness	Office of Consumer Advocate	Lifeline rates—vertical services	Pennsylvania	04
I/M/O PECO Energy	Witness	Office of Consumer Advocate	Low-income rates	Pennsylvania	04
I/M/O Philadelphia Gas Works	Witness	Office of Consumer Advocate	Credit and collections	Pennsylvania	04
I/M/O Citizens Gas & Coke/Vectren	Witness	Citizens Action Coalition of Indiana	Universal service	Indiana	04
I/M/O PPL Electric Corporation	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	04
I/M/O Consumers New Jersey Water Company	Witness	Division of Ratepayer Advocate	Low-income water rate	New Jersey	04

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
I/M/O Washington Gas Light Company	Witness	Office of Peoples Counsel	Low-income gas rate	Maryland	04
I/M/O Washington Gas Light Company	Witness	Office of Peoples Counsel	Low-income gas rate	Maryland	03
Golden v. City of Columbus	Witness	Helen Golden	ECOA disparate impacts	Ohio	02
Huegel v. City of Easton	Witness	Phyllis Huegel	Credit and collection	Pennsylvania	02
I/M/O Universal Service Fund	Witness	Public Utility Commission staff	Universal service funding	New Hampshire	02
I/M/O Philadelphia Gas Works	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	02
I/M/O Washington Gas Light Company	Witness	Office of Peoples Counsel	Rate design	Maryland	02
I/M/O Consumers Illinois Water Company	Witness	Illinois Citizens Utility Board	Credit and collection	Illinois	02
I/M/O Public Service Electric & Gas Rates	Witness	Division of Ratepayer Advocate	Universal service	New Jersey	01
I/M/O Pennsylvania-American Water Company	Witness	Office of Consumer Advocate	Low-income rates and water conservation	Pennsylvania	01
I/M/O Louisville Gas & Electric Prepayment Meters	Witness	Kentucky Community Action Association	Low-income energy	Kentucky	01
I/M/O NICOR Budget Billing Plan Interest Charge	Witness	Cook County State's Attorney	Rate Design	Illinois	01
I/M/O Rules Re. Payment Plans for High Natural Gas Prices	Witness	Cook County State's Attorney	Budget Billing Plans	Illinois	01
I/M/O Philadelphia Water Department	Witness	Office of Public Advocate	Credit and collections	Philadelphia	01
I/M/O Missouri Gas Energy	Witness	Office of Peoples Counsel	Low-income rate relief	Missouri	01
I/M/O Bell Atlantic--New Jersey Alternative Regulation	Witness	Division of Ratepayer Advocate	Telecommunications universal service	New Jersey	01
I/M/O T.W. Phillips Gas and Oil Co.	Witness	Office of Consumer Advocate	Ratemaking of universal service costs.	Pennsylvania	00
I/M/O Peoples Natural Gas Company	Witness	Office of Consumer Advocate	Ratemaking of universal service costs.	Pennsylvania	00
I/M/O UGI Gas Company	Witness	Office of Consumer Advocate	Ratemaking of universal service costs.	Pennsylvania	00
I/M/O PFG Gas Company	Witness	Office of Consumer Advocate	Ratemaking of universal service costs.	Pennsylvania	00
Armstrong v. Gallia Metropolitan Housing Authority	Witness	Equal Justice Foundation	Public housing utility allowances	Ohio	00
I/M/O Bell Atlantic--New Jersey Alternative Regulation	Witness	Division of Ratepayer Advocate	Telecommunications universal service	New Jersey	00

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I/M/O Universal Service Fund for Gas and Electric Utilities	Witness	Division of Ratepayer Advocate	Design and funding of low-income programs	New Jersey	00
I/M/O Consolidated Edison Merger with Northeast Utilities	Witness	Save Our Homes Organization	Merger impacts on low-income	New Hampshire	00
I/M/O UtiliCorp Merger with St. Joseph Light & Power	Witness	Missouri Dept. of Natural Resources	Merger impacts on low-income	Missouri	00
I/M/O UtiliCorp Merger with Empire District Electric	Witness	Missouri Dept. of Natural Resources	Merger impacts on low-income	Missouri	00
I/M/O PacifiCorp	Witness	The Opportunity Council	Low-income energy affordability	Washington	00
I/M/O Public Service Co. of Colorado	Witness	Colorado Energy Assistance Foundation	Natural gas rate design	Colorado	00
I/M/O Avista Energy Corp.	Witness	Spokane Neighborhood Action Program	Low-income energy affordability	Washington	00
I/M/O TW Phillips Energy Co.	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	00
I/M/O PECO Energy Company	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	00
I/M/O National Fuel Gas Distribution Corp.	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	00
I/M/O PFG Gas Company	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	00
I/M/O UGI Energy Company	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	00
Re. PSCO/NSP Merger	Witness	Colorado Energy Assistance Foundation	Merger impacts on low-income	Colorado	99 - 00
I/M/O Peoples Gas Company	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	99
I/M/O Columbia Gas Company	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	99
I/M/O PG Energy Company	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	99
I/M/O Equitable Gas Company	Witness	Office of Consumer Advocate	Universal service	Pennsylvania	99
Allerruzzo v. Klarchek	Witness	Barlow Allerruzzo	Mobile home fees and sales	Illinois	99
I/M/O Restructuring New Jersey's Natural Gas Industry	Witness	Division of Ratepayer Advocate	Universal service	Pennsylvania	99
I/M/O Bell Atlantic Local Competition	Witness	Public Utility Law Project	Lifeline telecommunications rates	New Jersey	99
I/M/O Merger Application for SBC and Ameritech Ohio	Witness	Edgemont Neighborhood Association	Merger impacts on low-income consumers	Ohio	98 - 99
Davis v. American General Finance	Witness	Thomas Davis	Damages in "loan flipping" case	Ohio	98 - 99

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Griffin v. Associates Financial Service Corp.	Witness	Earlie Griffin	Damages in "loan flipping" case	Ohio	98 - 99
I/M/O Baltimore Gas and Electric Restructuring Plan	Witness	Maryland Office of Peoples Counsel	Consumer protection/basic generation service	Maryland	98 - 99
I/M/O Delmarva Power and Light Restructuring Plan	Witness	Maryland Office of Peoples Counsel	Consumer protection/basic generation service	Maryland	98 - 99
I/M/O Potomac Electric Power Co. Restructuring Plan	Witness	Maryland Office of Peoples Counsel	Consumer protection/basic generation service	Maryland	98 - 99
I/M/O Potomac Edison Restructuring Plan	Witness	Maryland Office of Peoples Counsel	Consumer protection/basic generation service	Maryland	98 - 99
VMHOA v. LaPierre	Witness	Vermont Mobile Home Owners Association	Mobile home tying	Vermont	98
Re. Restructuring Plan of Virginia Electric Power	Witness	VMH Energy Services, Inc.	Consumer protection/basic generation service	Virginia	98
Mackey v. Spring Lake Mobile Home Estates	Witness	Timothy Mackey	Mobile home fees	State ct: Illinois	98
Re. Restructuring Plan of Atlantic City Electric	Witness	New Jersey Division of Ratepayer Advocate	Low-income issues	New Jersey	97-98
Re. Restructuring Plan of Jersey Central Power & Light	Witness	New Jersey Division of Ratepayer Advocate	Low-income issues	New Jersey	97-98
Re. Restructuring Plan of Public Service Electric & Gas	Witness	New Jersey Division of Ratepayer Advocate	Low-income issues	New Jersey	97-98
Re. Restructuring Plan of Rockland Electric	Witness	New Jersey Division of Ratepayer Advocate	Low-income issues	New Jersey	97-98
Appleby v. Metropolitan Dade County Housing Agency	Witness	Legal Services of Greater Miami	HUD utility allowances	Fed. court: So. Florida	97 - 98
Re. Restructuring Plan of PECO Energy Company	Witness	Energy Coordinating Agency of Philadelphia	Universal service	Pennsylvania	97
Re. Atlantic City Electric Merger	Witness	New Jersey Division of Ratepayer Advocate	Low-income issues	New Jersey	97
Re. IES Industries Merger	Witness	Iowa Community Action Association	Low-income issues	Iowa	97
Re. New Hampshire Electric Restructuring	Witness	NH Comm. Action Ass'n	Wires charge	New Hampshire	97
Re. Natural Gas Competition in Wisconsin	Witness	Wisconsin Community Action Association	Universal service	Wisconsin	96
Re. Baltimore Gas and Electric Merger	Witness	Maryland Office of Peoples Counsel	Low-income issues	Maryland	96

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
Re. Northern States Power Merger	Witness	Energy Cents Coalition	Low-income issues	Minnesota	96
Re. Public Service Co. of Colorado Merger	Witness	Colorado Energy Assistance Foundation	Low-income issues	Colorado	96
Re. Massachusetts Restructuring Regulations	Witness	Fisher, Sheehan & Colton	Low-income issues/energy efficiency	Massachusetts	96
Re. FERC Merger Guidelines	Witness	National Coalition of Low-Income Groups	Low-income interests in mergers	Washington D.C.	96
Re. Joseph Keliikuli III	Witness	Joseph Keliikuli III	Damages from lack of homestead	Honolulu	96
Re. Theresa Mahaulu	Witness	Theresa Mahaulu	Damages from lack of homestead	Honolulu	95
Re. Joseph Ching, Sr.	Witness	Re. Joseph Ching, Sr.	Damages from lack of homestead	Honolulu	95
Joseph Keaulana, Jr.	Witness	Joseph Keaulana, Jr.	Damages from lack of homestead	Honolulu	95
Re. Utility Allowances for Section 8 Housing	Witness	National Coalition of Low-Income Groups	Fair Market Rent Setting	Washington D.C.	95
Re. PGW Customer Service Tariff Revisions	Witness	Philadelphia Public Advocate	Credit and collection	Philadelphia	95
Re. Customer Responsibility Program	Witness	Philadelphia Public Advocate	Low-income rates	Philadelphia	95
Re. Houston Lighting and Power Co.	Witness	Gulf Coast Legal Services	Low-Income Rates	Texas	95
Re. Request for Modification of Winter Moratorium	Witness	Philadelphia Public Advocate	Credit and collection	Philadelphia	95
Re. Dept of Hawaii Homelands Trust Homestead Production	Witness	Native Hawaiian Legal Corporation	Prudence of trust management	Honolulu	94
Re. SNET Request for Modified Shutoff Procedures	Witness	Office of Consumer Counsel	Credit and collection	Connecticut	94
Re. Central Light and Power Co.	Witness	United Farm Workers	Low-income rates/DSM	Texas	94
Blackwell v. Philadelphia Electric Co.	Witness	Gloria Blackwell	Role of shutoff regulations	Penn. courts	94
U.S. West Request for Waiver of Rules	Witness	Wash. Util. & Transp. Comm'n Staff	Telecommunications regulation	Washington	94
Re. U.S. West Request for Full Toll Denial	Witness	Colorado Office of Consumer Counsel	Telecommunications regulation	Colorado	94
Washington Gas Light Company	Witness	Community Family Life Services	Low-income rates & energy efficiency	Washington D.C.	94
Clark v. Peterborough Electric Utility	Witness	Peterborough Community Legal Centre	Discrimination of tenant deposits	Ontario, Canada	94
Dorsey v. Housing Auth. of Baltimore	Witness	Baltimore Legal Aide	Public housing utility allowances	Federal district court	93

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Penn Bell Telephone Co.	Witness	Penn. Utility Law Project	Low-income phone rates	Pennsylvania	93
Philadelphia Gas Works	Witness	Philadelphia Public Advocate	Low-income rates	Philadelphia	93
Central Maine Power Co.	Witness	Maine Assn Ind. Neighborhoods	Low-income rates	Maine	92
New England Telephone Company	Witness	Mass Attorney General	Low-income phone rates	Massachusetts	92
Philadelphia Gas Co.	Witness	Philadelphia Public Advocate	Low-income DSM	Philadelphia	92
Philadelphia Water Dept.	Witness	Philadelphia Public Advocate	Low-income rates	Philadelphia	92
Public Service Co. of Colorado	Witness	Land and Water Fund	Low-income DSM	Colorado	92
Sierra Pacific Power Co.	Witness	Washoe Legal Services	Low-income DSM	Nevada	92
Consumers Power Co.	Witness	Michigan Legal Services	Low-income rates	Michigan	92
Columbia Gas	Witness	Office of Consumer Advocate (OCA)	Energy Assurance Program	Pennsylvania	91
Mass. Elec. Co.	Witness	Mass Elec Co.	Percentage of Income Plan	Massachusetts	91
AT&T	Witness	TURN	Inter-LATA competition	California	91
Generic Investigation into Uncollectibles	Witness	Office of Consumer Advocate	Controlling uncollectibles	Pennsylvania	91
Union Heat Light & Power	Witness	Kentucky Legal Services (KLS)	Energy Assurance Program	Kentucky	90
Philadelphia Water	Witness	Philadelphia Public Advocate (PPA)	Controlling accounts receivable	Philadelphia	90
Philadelphia Gas Works	Witness	PPA	Controlling accounts receivable	Philadelphia	90
Mississippi Power Co.	Witness	Southeast Mississippi Legal Services Corp.	Formula ratemaking	Mississippi	90
Kentucky Power & Light	Witness	KLS	Energy Assurance Program	Kentucky	90
Philadelphia Electric Co.	Witness	PPA	Low-income rate program	Philadelphia	90
Montana Power Co.	Witness	Montana Ass'n of Human Res. Council Directors	Low-income rate proposals	Montana	90
Columbia Gas Co.	Witness	Office of Consumer Advocate	Energy Assurance Program	Pennsylvania	90
Philadelphia Gas Works	Witness	PPA	Energy Assurance Program	Philadelphia	89

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Southwestern Bell Telephone Co.	Witness	SEMLSC	Formula ratemaking	Mississippi	90
Generic Investigation into Low-income Programs	Witness	Vermont State Department of Public Service	Low-income rate proposals	Vermont	89
Generic Investigation into Dmnd Side Management Measures	Consultant	Vermont DPS	Low-income conservation programs	Vermont	89
National Fuel Gas	Witness	Office of Consumer Advocate	Low-income fuel funds	Pennsylvania	89
Montana Power Co.	Witness	Human Resource Develop. Council District XI	Low-income conservation	Montana	88
Washington Water Power Co.	Witness	Idaho Legal Service Corp.	Rate base, rate design, cost-allocations	Idaho	88