DG-08-009
#31

BEFORE THE

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

Re.	:	
	:	
ENERGY NORTH NATURAL GAS, INC.	:	**Docket No. DG 08-009**
d/b/a National Grid New Hampshire	:	
	:	

DIRECT TESTIMONY AND EXHIBITS OF

ROGER D. COLTON

ON BEHALF OF

Pamela Locke
Concord, NH

October 31, 2008

Q. PLEASE STATE YOUR NAME AND ADDRESS.

A. My name is Roger Colton. My address is Fisher, Sheehan & Colton, Public Finance and General Economics, 34 Warwick Road, Belmont, Massachusetts, 02478.

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

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

Q. FOR WHOM ARE YOU TESTIFYING IN THIS PROCEEDING?

A. I am testifying on behalf of Pamela Locke. Pamela Locke is a low-income residential natural gas customer of National Grid New Hampshire.

Q. PLEASE DESCRIBE YOUR PROFESSIONAL BACKGROUND.

A. I work primarily on low-income utility issues. This involves regulatory work on rate and customer service issues, as well as research into low-income usage, payment patterns, and affordability programs. At present, I am working on various projects in the states of New Hampshire, New Jersey, Maryland, Pennsylvania, North Carolina, Ohio, Indiana, Iowa, Arkansas, Colorado, New Mexico, Oregon and Washington. My clients include state agencies (*e.g.*, Pennsylvania Office of Consumer Advocate, Maryland Office of Peoples Counsel, North Carolina Department of Justice, Iowa Department of Human Rights), federal agencies (*e.g.*, U.S. Department of Health and Human Services), community-based organizations (*e.g.*, Community Action of New Mexico, Coalition to Keep Indiana Warm, Community Action Partnership of Oregon), and private utilities (*e.g.*, Entergy Services, NIPSCO, Citizens Gas and Coke Utility, Vectren Energy, Tacoma Public Utilities). In addition to state- and utility-specific work, I engage in national work in the United States and Canada. For example, I am currently working on a national study of the responses of water utilities to the payment troubles of residential customers for the American Water Works Association Research Foundation. In 2007, I was part of a team that performed a multi-sponsor public/private national study of low-income energy assistance programs.

Q. PLEASE DESCRIBE YOUR EDUCATIONAL BACKGROUND.

A. After receiving my undergraduate degree in 1975, I obtained further training in both law and economics. I received my law degree in 1981; I received my Masters Degree (economics) in 1993.

Q. HAVE YOU EVER PUBLISHED ON PUBLIC UTILITY REGULATORY ISSUES?

A. Yes. I have published more than 80 articles in scholarly and trade journals, primarily on low-income utility and housing issues. I have published an equal number of technical reports for various clients on energy, water, telecommunications and other associated low-income utility issues. A list of my professional publications is appended in Attachment RC-1.

Q. HAVE YOU EVER TESTIFIED BEFORE THIS OR OTHER UTILITY COMMISSIONS?

A. I have previously testified before the New Hampshire Public Utilities Commission ("NHPUC" or "Commission") on low-income energy and telecommunication issues. A complete list of proceedings in which I have previously appeared as an expert witness is presented in Attachment RC-1.

Q. WHAT IS THE GENERAL PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony today is to assess the impact of the natural gas rate increase proposed by National Grid New Hampshire ("Company" or "National Grid") on low-income customers. This review will consider the following issues:

- The Company's proposal to double its fixed monthly customer charge;
- The Company's rate spread between its head block and tail block rates;
- The Company's structure and implementation of its R-4 low-income discount rate; and
- The Company's implementation of additional collection practices in pursuit of a lower rate of uncollectibles.

In general, I conclude that the Company's rate structure involving its customer charge and rate spread should be somewhat modified; that the Company's R-4 rate should be strengthened and deepened; and that the Company's collection plan be disapproved, with the funding proposed for the implementation of that plan removed from revenue requirement.

Part 1. The Company's Fixed Monthly Customer Charge.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I respond to the Company's proposal to double its residential heating customer charge from $9.88 per month to $19.75 per month. The purpose of the proposed increase is to respond to a "dramatic reduction in gas usage per customer in recent years." (NHLA-3-1). The Company placed a 100% cap on the increase it proposes for the fixed monthly customer charge. The 100% cap is based on policy considerations rather than on any empirical basis. It represents the Company's "balancing" of the impact of an increased fixed monthly customer charge, particularly on small users, with the Company's desire to avoid the risk of decreasing revenues associated with decreasing consumption.

Q. WHAT IS THE IMPACT OF THE INCREASED FIXED CUSTOMER CHARGE ON LOW-INCOME CUSTOMERS IN PARTICULAR?

A. The proposed 100% increase in the fixed monthly customer charge will have a particularly adverse impact on low-income customers. Low-income customers disproportionately tend to be low-use customers. The proposed 100% increase in the fixed monthly customer charge has the effect of imposing a much higher rate increase on low-use customers.

Q. HAVE YOU EXAMINED DATA SPECIFIC TO NEW HAMPSHIRE TO ASSESS THE RELATIONSHIP BETWEEN NATURAL GAS USAGE AND INCOME?

A. I have examined data produced by the U.S. Census Bureau setting forth natural gas bills by income level for the State of New Hampshire. While the Census data do not contain usage data, per se, the data on expenditures, nonetheless, provide adequate insights into the relative use of natural gas by income level.

The New Hampshire data is set forth in Schedule RDC-1. In this schedule, I present natural gas monthly expenditures as reported by the 2006 American Community Survey, the most recent Census data available. The American Community Survey collects annual data on selected household and housing characteristics in years between the Decennial Census. As can be seen, natural gas expenditures increase as each income tier increases in New Hampshire. For example, the monthly 2006 expenditures for households with incomes of $150,000 or more are almost three times higher than the monthly expenditures for households with incomes less than $10,000. Indeed, the median income in New Hampshire in 2006 was $59,683. The monthly natural gas expenditure for the income range encompassing that median income is 50% higher than expenditures at the lowest income level, but nearly 50% less than the expenditures at the highest income level. Schedule RDC-2 presents the same data graphically. The graphic presentation of the data reveals in clear terms the continuous increase in natural gas consumption as household income increases.

Q. IS THERE OTHER EMPIRICAL ANALYSIS OF THE RELATIONSHIP BETWEEN INCOME AND NATURAL GAS EXPENDITURES THAT IS CONSISTENT WITH THIS NEW HAMPSHIRE DATA?

A. Yes. The U.S. Department of Energy, Energy Information Administration ("DOE/EIA") has published regular periodic reports entitled the *Residential Energy Consumption*

Survey ("RECS"). In a document released in June 2001, DOE/EIA released its analysis of RECS data titled *Natural Gas Use in American Households*. In the section of its analysis that examines the relationship between income and natural gas usage, DOE/EIA states:

> The use of natural gas for any end use and as the main heating fuel was approximately the same regardless of household income category. In contrast, natural gas consumption and expenditures per household did vary by household income—higher income households consumed more and spent more on average. Higher income households lived in larger housing units, which require more energy for heating.

(EIA/DOE, *Natural Gas Use in American Households*, Household Income, at text accompanying Figures 1 – 3) (June 2001).

Q. DOES THE DEPARTMENT OF ENERGY'S OBSERVATION THAT "HIGHER INCOME HOUSEHOLDS LIVE IN LARGER HOUSING UNITS, WHICH REQUIRE MORE ENERGY FOR HEATING" APPLY TO NEW HAMPSHIRE?

A. Yes. The association between the size of housing units and natural gas consumption can be empirically tested in New Hampshire. Schedule RDC-3 presents New Hampshire data on natural gas expenditures by income and housing unit size. In Schedule RDC-3, the size of the housing unit is measured in terms of the number of bedrooms. Two observations can be drawn from Schedule RDC-3. First, as a general rule, as income increases, holding the housing unit size constant, the natural gas expenditures increase only modestly. Second, and more significantly, however, there is a marked difference in the average expenditures by income for the income groups as a whole. This is because the distribution of households by housing unit size is not similar between income ranges. While there may be little distinction between a higher-income household in a three-bedroom housing unit and a lower-income household in a three-bedroom housing unit, because there are far fewer lower-income households in three-bedroom units, the overall difference in consumption is much greater.

Q. IS YOUR CONCLUSION THAT HIGHER-INCOME HOUSEHOLDS LIVE IN LARGER HOUSING UNITS A DATA-BASED OBSERVATION?

A. Yes. This conclusion is based on two different data-based observations. First, Schedule RDC-4 presents the average income in New Hampshire by the number of bedrooms in a housing structure. Schedule RDC-4 clearly shows that as housing structures get larger in New Hampshire, average income increases. While the average income for a New Hampshire household living in a unit with one bedroom is $32,127, the average income of a household living in a housing unit with five or more bedrooms is $117,196. As can be seen, the average income increases as the size of the housing unit increases.

In addition, Schedule RDC-5 presents a distribution of New Hampshire households by the size of the housing unit in which they live, examining the size of the housing unit measured by the number of bedrooms. The data show that a higher proportion of lower-income households live in smaller housing units. For example, while 74% of households with incomes less than $10,000 live in units with two bedrooms or less, only 8% of households with incomes greater than $250,000 (and only 13% of households with incomes between $150,000 and $250,000) live in units that small. Conversely, while 62% of households with incomes of $250,000 or more live in units with four or more bedrooms (and 45% of households with incomes between $150,000 and $250,000 do), only 9% of households with incomes below $10,000 live in units that large (and only 5% of households with incomes between $10,000 and $20,000 do).

Q. IS THE NEW HAMPSHIRE DATA YOU DISCUSS ABOVE CONSISTENT WITH OTHER GOVERNMENT DATA ON NATURAL GAS EXPENDITURES AND CONSUMPTION?

A. Yes. Schedule RDC-6 presents U.S DOE data on the relationship between income and natural gas consumption. This data, based on the tri-annual Residential Energy Consumption Survey ("RECS"), shows that natural gas consumption increases as income increases. In addition, the U.S. Department of Labor ("DOL") reports natural gas expenditures by region by income. New Hampshire is in the Northeast regional data reported by the Department of Labor's Consumer Expenditures Survey ("CEX"). The CEX data (Schedule RDC-7) corroborates the state-specific and national data on the relationship between natural gas consumption and income. As income increases, natural gas expenditures increase as well.

Q. WHAT IS THE IMPLICATION FOR LOW-USE CUSTOMERS OF PLACING ADDED COSTS ON TO THE CUSTOMER CHARGE?

A. First, by placing added costs on to the fixed customer charge for low-use customers the Company is imposing a higher percentage rate increase low-use customers and a lower percentage rate increase on higher use customers. In addition, the Company is making it more difficult for customers to respond to increases in their natural gas bills by adjusting their usage as a budget-control measure. To the extent that households reduce their natural gas consumption, the result is simply to subject themselves to a proportionately higher rate increase.

The Company acknowledges these impacts. I have appended, as Attachment RC-2, the Company's rate design workpapers GLG-RD-4-5 (pages 1 – 6) (pages 1 – 6 are the workpapers for the R-1, R-3 and R-4 customer classes). Within the R-3 class, for example, while a customer with consumption of 100 therms will experience a 3.39% winter bill increase (taking into account the cost of gas in making this calculation), a customer with consumption of only 25 therms will experience a 19.06% winter bill increase. A customer with consumption of only 10 therms will experience a 38.88% winter bill increase. The summer bill increases are higher. A customer with consumption of 100 therms will experience 5.65% summer bill increase, while customers with consumption at 25 and 10 therms will experience summer bill increases of 21.50% and 41.82% respectively.

Second, the impact of rising costs is more burdensome not only on low income but also on fixed income households. For example, consider the income data presented in Schedule RDC-8. This Schedule examines the income for households with various demographics by income for the years 2004 through 2007, the last year for which data is available. Median income in New Hampshire grew 12.2% during that four year period, with households having wage and earnings income experiencing a roughly equal income growth, if not slightly greater (12.7% for households with income from wages and earnings). In contrast, households on Social Security experienced an income growth of somewhat more (18.2%), while households with retirement income experienced a growth of 13.8%. Fixed income households, however, did not share this income growth, but instead experienced increasing hardship in the years 2004 through 2007. Households receiving Supplemental Security Income (SSI) experienced income growth of only 7.0% and public assistance income actually a *decrease* in income of more than three percent (-3.4%).

In contrast to these changes in income, according to the U.S. Department of Labor's "inflation calculator," items that cost $100 in 2004 would have cost $109.76 in 2007, i.e., the cost of living increased 9.8%.

As can be seen, therefore, while households as a whole gained somewhat in their purchasing ability relative to the increased cost-of-living (income grew 12.2% while the cost of living increased 9.8%), households on public assistance income (SSI, public assistance) lost ground relative to their purchasing power between 2004 and 2007.

Q. HOW, IF AT ALL, HAS NATURAL GAS CONTRIBUTED TO THIS LOSS OF PURCHASING POWER

A. Home energy in general, and natural gas energy in particular, has contributed to the increasing cost-of-living. The U.S. Department of Labor measures the cost-of-living using the three-year period 1982 through 1984 as the base (Base=100). By January 2004, the Consumer Price Index for all urban consumers ("CPI-U") for "all items" had increased to 186.2. In the time between January 2004 and June 2008, the CPI-U increased further to 217.4. The importance of the "all items" lies in the comparisons it allows me to make with specific components of a household's budget. From January 2004 through June 2008:

- Household energy (not including transportation) increased from 140.0 to 207.912 (*plus* 67.912);
- Utility (piped) gas service increased from 169.2 to 273.766 (*plus* 104.566);
- Electricity increased from 140.4 to 184.737 (*plus* 44.337);
- Food (at home) increased from 183.2 to 213.706 (*plus* 30.506);
- Rent (of primary residence) increased from 208.2 to 242.837 (*plus* 34.637);
- Clothing decreased from 120.1 to 118.107 (*minus* 1.993).

My purpose in reviewing these figures is not to make an assessment of the relative importance of expenditures for any given household. Rather, the review clearly reveals the disproportionately high increase in natural gas prices as compared to increases in the price of other basic household necessities such as food, clothing and shelter.

Q. WHAT DO YOU CONCLUDE?

A. Given the burden customers already face from rising costs, now is not the time to allow a shift of risks in utility rates from the utility to its customers by increasing the fixed customer charge. Many households today are struggling to meet basic needs. The households in particular that I have identified above include those on low- and fixed-incomes. These are precisely the customers, however, who will bear a disproportionately increased burden should the Company's proposal to increase its fixed customer charge be approved.

Q. WHAT DO YOU RECOMMEND?

A. I recommend two actions in response to the analysis above. First, I recommend that the Company be allowed to increase its customer charge, if at all, by a maximum of 20%. In so doing, the Company will be allowed to increase its customer charge such that it will continue to collect roughly the same proportion of its total revenue through its fixed customer charge as it has in the past. According to the Company's rate design worksheets, in the test year, it collected $23,600,810 in residential revenue, of which $8,444,782 was generated by the residential customer charge (35.8%). Allowing a 20% increase in the customer charge in this proceeding would allow the Company to set its customer charge at $11.75 for its heating and R-4 customers; it would allow a customer charge of $8.25 for non-heating customers. Such a charge allows the Company to collect $10,045,379 of its total $28,673,937 in residential revenue (35.0%) through its customer charge. Both dollar figures are calculated before taking the R-4 discount into account.

In effect, allowing an increase in the customer charge of 20% allows the Company to increase its customer charge at the same rate at which it is increasing the rest of its distribution rates. If the Commission allows a lower percentage increase in the distribution rates, the percentage increase in the customer charge should also be lowered accordingly.

Second, I recommend that the additional revenue that the Company collects through its increased customer charge be allocated primarily to the head block of consumption. This is a modest change from the Company's proposal. Under the Company's proposal, the additional revenue is effectively allocated across-the-board to all therms of consumption, whether those therms would be in the head block or in the tail block. What the Company's methodology does is to assume that all costs that have been moved to the fixed monthly customer charge had, in fact, been previously collected equally from both the head block and tail block. What my proposed modification does is to acknowledge that one attribute of the head block, as the Company has designed its rate structure, is to help the Company to collect a greater proportion of its fixed charges in the early blocks of consumption. Accordingly, to be consistent with the Company approach, when revenues are moved from the block rates to the customer charge, the impact of that change should be reflected in the head block.

Q. HOW HAVE YOU ACCOMPLISHED THAT RESULT?

A. The customer charge proposed by the Company would generate $16,056,875 in revenue collected through the fixed monthly customer charge. The customer charge which I propose (using a 20% cap on the increase rather than the Company's proposed 100% cap) would generate $9,552,824 in revenue through the fixed monthly customer charge. The difference in customer charge revenue is $6,504,051. I move 25% of the difference explicitly to the tail block of consumption. The calculation of this adjustment is set forth in Schedule RDC-9. I move only a portion of the revenues to the tail block in recognition of the rate principle of gradualism. This action flattens the block rates, but does not make the Company's rate structure an inverted block rate structure in one case.

Q. PLEASE EXPLAIN HOW YOUR PROPOSAL IS FUNDAMENTALLY CONSISTENT WITH BASIC RATEMAKING PRINCIPLES.

A. The purpose of a customer charge is to compensate the Company for the costs the Company incurs in connecting a customer to the system. The customer charge should be designed to include the costs of factors such as the customer's meter, the service, and the basic meter reading and billing activities. The customer charge should *not* be a dumping ground for miscellaneous expenses. No portion of uncollectible expenses should be found in the customer charge. Uncollectibles are associated with usage, not with the mere fact of being connected to the system. No allocated overhead, nor any portion of expenses such as headquarters buildings or executive compensation, should be found in the customer charge.

Moreover, placing excessive costs in the customer charge discourages customers from making investments in usage reduction practices. To the extent that costs are placed into the fixed monthly customer charge, the only way for a customer to avoid paying those costs is to leave the system. While perhaps, at some gross level of abstraction, it is theoretically conceivable for residential customers to leave the natural gas system by moving to an alternative fuel such as fuel oil or electricity for space heating, in reality, the transaction costs (such as refitting the home for a new heating system) involved with this action makes the choice to switch fuels effectively unavailable.

Quite aside from that general observation, for low-income customers in particular, the same market barriers that impede investments in usage reduction would impede such fuel switching as well. Those barriers include high hurdle rates –hurdle rates range from roughly 30% for residential customers as a whole up to 100% for low-income customers, the lack of investment capital, and the lack of dominion over energy-consuming systems in the home.

The fact is that the Company has no evidence that residential customers can economically engage in fuel switching as a mechanism to avoid paying higher natural gas bills due to increases in the customer charge (or in the initial block rate). (NHLA-2-10).

For these reasons, it is reasonable to limit the increase in the fixed monthly customer charge in the way I recommend. To do so not only benefits consumers, but it also promotes efficient consumer decisionmaking as well.

Q. HAVE YOU CONSIDERED THE CONSISTENCY OF YOUR PROPOSED RATE STRUCTURE WITH ECONOMIC THEORY?

A. Yes. In theory, utility rates are designed to serve multiple functions. Those functions include, but are not necessarily limited to:

- Allocating risks between the utility and the utility's customers by allowing the utility to collect sufficient revenue to cover its revenue requirement and provide a reasonable opportunity to earn its allowed rate of return while providing the utility customers with an opportunity to avoid the need to spend money on home energy should they be able to reduce their consumption;

- Providing a price signal so that consumers understand the full economic cost of their consumption decisions; and

- Matching the costs incurred by the Company with the revenues generated by the Company, both by time and by customer.

Q. HOW DOES THE COMPANY'S PROPOSED RATE STRUCTURE ALLOCATE THE RISKS BETWEEN THE UTILITY AND ITS RATEPAYERS?

A. The Company's proposal to place the bulk of its cost recovery in the fixed monthly customer charge is explicitly designed to tilt the allocation of risk away from the utility and toward its customers. According to the Company's response to discovery, one purpose of the Company's proposed rate design (high customer charges coupled with a declining block rate structure) is to protect the Company against a decrease in revenues due to customer decisions to reduce their natural gas consumption. Particularly when the customer decision is to reduce consumption based on a need to control the strain that home heating bills place on the household budget, one primary objective of the Company's rate structure in this proceeding is to modify the existing allocation of risks between the Company's investors and the Company's customers so as to deprive the customer of that choice. As I indicate above, however, now is not the time for such a change in that allocation of risk.

Q. HOW DOES THE COMPANY'S PROPOSED RATE STRUCTURE RELATE TO PROVIDING A PRICE SIGNAL ABOUT THE FULL ECONOMIC COSTS OF CONSUMPTION CHOICES?

A. The Company argues strenuously that its proposed rate structure is necessary to promote economic efficiency. According to Company witness Gary Goble, "in a competitive market, free of imperfections, economic efficiency is maximized in that the proper level of goods and services for society are produced using the minimum level of resources. . .The pricing proposal in this docket encourages economic efficiency by moving prices toward marginal costs. This entails both lowering volumetric charges and raising customer charges." (NHLA-2-9).

The problem with this argument is that utility prices do not, and cannot, capture the full costs of utility consumption. This is the argument of advocates arguing for the "full cost pricing" of water. Let me set aside the environmental and resource depletion costs that utility rates do not capture. Without internalizing such costs, of course, it is impossible for any utility to say that its rate structure is "producing the proper level of good and services for society using the minimum level of resources."

Let me look at the full cost of natural gas consumption for low-income households as one example. With low-income customers, the pricing of natural gas does not capture the full cost of natural gas rates. According to a Congressionally-funded survey of federal fuel assistance recipients by the National Energy Assistance Directors Association (NEADA), for example, 16% of low-income households have experienced illness in their homes because they could not afford to keep their homes sufficiently warm. Indeed, 11% of fuel assistance recipient homes experienced an illness of sufficient severity that the household had to seek medical care. The societal costs of these impacts of high natural gas rates are not reflected in utility rates. Given this lack, it is simply impossible to conclude that a utility's rate structure produces the "proper level of goods and services for society using the minimum level of resources" as is argued by the Company in support of its rate structure. Mr. Goble cannot say that charging higher natural gas prices, and forcing low-income households to accept the resulting higher medical costs involves producing the "proper level of goods and services for society using the minimum level of resources."

Indeed, the utility rate structure proposed by the Company impedes households making proper economic choices because it does not allow the Company's customers to adjust their choices between competing economic needs. As the Company concedes, the rate structure that the Company proposes is specifically designed to allow a customer to avoid paying money to the utility only by choosing not to take natural gas service at all. If a low-income customer needs to spend money on health care rather than natural gas, the Company's rate structure does not allow that choice to be made. If a low-income customer needs to spend money on prescription medicine rather than natural gas, the Company's rate structure does not allow that choice to be made. If a low-income customer needs to spend money on nutrition rather than natural gas, the Company's rate structure does not allow that choice to be made.

In short, the Company's proposed rate structure does not promote economic efficiency in any sense of the phrase. The Company's proposed rate structure prevents customers from making choices rather than enhancing those choices. The Company's rate structure is not designed to promote economic efficiency by incorporating the full economic costs of their consumption decisions. The Company's rate structure is instead designed to reallocate the risks between utility investors and utility ratepayers to protect the financial interests of Company investors. It is not "economic efficiency" that drives the proposed rate structure.

Q. HOW DOES THE COMPANY'S PROPOSED RATE STRUCTURE PROVIDE FOR THE MATCHING OF COSTS AND REVENUES?

A. The Company's proposed rate structure is not designed to provide for a matching of costs and revenues. Rather than matching costs and revenues, the Company seeks to maximize the extent to which revenues are unavoidable. The Company acknowledges that its own marginal cost study "shows that design day demands are the primary driver pf marginal costs." (NHLA-3-6). The Company acknowledges that "marginal delivery system costs (other than customer costs) are a function of customer demands on the design day." (NHLA-3-38). What the Company ***refuses*** to acknowledge is that high consumption is indicative of high design day demands. The Company's reliance on high fixed monthly customer charges requires all customers, high user and lower user, to pay the same, even though the contribution they make to Company costs differs.

Residential energy consumption is measured in two ways. On the one hand, there is the intensity of usage. According to the U.S. Department of Energy's ("DOE") Residential Energy Consumption Survey ("RECS"), natural gas home heating intensity is measured in terms of cubic feet of consumption per thousand square feet of heated space per Heating Degree Days ("HDDs"). One can apply that heating intensity approach to gain insights into the design day demands imposed by customers with varying energy consumption.

I have applied the natural gas space heating intensity data published by DOE based on the weekly HDD's for Concord and Lebanon, New Hampshire. I consistently find that larger consumers will also impose higher heating demands on a natural gas system, assuming that Company costs are, as the Company asserts, driven by design day demands. In Concord, I compared the weekly natural gas heating demands by households having income at or below $10,000 compared to households with income higher than $50,000.

- During the week of January 12, 2008, a low-income household would have required 2,224 cubic feet compared to 2,881 for a household with income over $50,000;
- During the week of February 12, 2008, a low-income household would have required 2,966 cubic feet compared to 3,841 cubic feet for a household with income over $50,000.
- During the week of February 23, 2008, a low-income household would have required 3,194 cubic feet of natural gas, compared to 4,138 cubic feet for a household with income over $50,000.

The same relationship holds true for Lebanon.

- During the week of January 19, 2008, a household with income less than $10,000 would have demanded 3,173 cubic feet of gas, compared to 4,109 for a household with income greater than $50,000.
- During the week of February 9, 2008, a household with income less than $10,000 would have consumed 2,747 cubic feet of gas, while a household with income greater than $50,000 would have consumed 3,559.
- During the week of March 1, 2008, a low-income household (below $10,000) would have consumed 3,467 cubic feet of gas, compared to 4,491 cubic feet by a household with income greater than $50,000.

While the data above presents information on a weekly basis, what the data *shows* is the relationship between high consumption and the increased demands that are placed on a

New Hampshire natural gas system as heating loads increase. The same mathematical relationship would exist on a daily basis as is documented above on a weekly basis (and has been done on a monthly basis).

Despite these widely varying demands placed upon the natural gas system, and despite the Company's acknowledgement that the marginal delivery costs are driven by design day demands, the Company proposes to impose higher fixed customer charges on residential customers to collect what the Company refers to as "fixed" costs. The small users, imposing lower costs on the system, nonetheless will be called upon to pay the same fixed monthly customer charge as larger users. In addition, as I demonstrate above, and as the Company concedes, these small users will be called upon to pay dramatically higher proportionate rate increases. In short, the Company's proposed rate structure fails to fulfill the function of a rate structure to match Company revenues with Company costs.

Q. WHAT DO YOU CONCLUDE?

A. Based on the data and analysis I present above, I conclude that the Company's proposal to substantially increase its fixed monthly customer charge is not merited by any application of economic theory.

Q. HOW HAVE YOU CONSIDERED THE IMPACT OF YOUR REDUCED CUSTOMER CHARGE ON LOW-INCOME, LOW-USE CUSTOMERS?

A. In response to discovery from Pamela Locke, the Company provided average monthly consumption for its R-3 and R-4 rate classes for November 2005 through May 2008. In order to simulate the impacts of the differing rate structures, using the average consumption provided by the Company, I applied the customer charge, the head block charge, and the tail block charge under three different rate structures: (1) the Company's existing customer charge and block rates; (2) the Company's proposed customer charge and block rates; and (3) my proposed customer charge and block rates.

I calculated monthly bills for each rate structure and aggregated those bills into three time periods: (1) twelve months ending October 2006; (2) twelve months ending October 2007; and (3) seven months ending May 2008. Next, I calculated the percentage bill change for this component of a customer's bill under the Company's proposed rate structure and my proposed rate structure relative to what the bill would have been had rates remained unchanged. Finally, I performed this analysis for each of four usage scenarios: (1) usage at 100% of the average; (2) usage at 75% of the average; (3) usage at 50% of the average; and (4) usage at 25% of the average. As can be seen, I ended up with twelve scenarios for R-3 rates and twelve scenarios for R-4 rates (four usage levels for each of three time periods). The results are presented in Schedule RDC-10.

Q. WHAT DID YOU FIND?

A. The Company's proposed rate structure substantially harms the lowest use customers. Consider as follows for R-3 customers as indicated by an application of the rate structures to historic consumption:

- At an average residential consumption, the Company's proposed rate structure will increase rates by roughly 20% for a full year of consumption. For the most recent 12 months ending in October (November 2006 through October 2007), rates at the average consumption would have increased by 21%. For the 12 months ending October 2006, rates would have increased by 20%.

- At a consumption of 25% of average, rates would have increased much more. For the 12 months ending October 2007, rates would have increased by 58%, while rates would have increased by 57% for the 12 months ending October 2006.

- At a consumption of 50% of average, rates would have increased by 38% for the 12 months ending October 2007, while rates would have increased by 37% for the 12 months ending October 2006.

In contrast, while my proposed rate structure would generate modest rate increase for customers at average consumption (18% vs. 21% for the 12 months ending October 2007), my proposed rate structure does not penalize customers with lower natural gas consumption.

- While the Company's proposed rate structure would have yielded a 57% to 58% increase for customers with consumption at 25% of average, my rate structure would have yielded an increase less than one-third that level (14% to 15% increase).

- While the Company's proposed rate structure would have yielded a rate increase of 37% to 38% for customers at 50% of average consumption, my rate structure would have yielded an increase of roughly one-third that level (14%).

- While the Company's proposed rate structure would have yielded a rate increase of 26% to 27% for customers with consumption at 75% of the average, my rate structure would have yielded an increase of roughly have that level (15%).

Results are similar, though not identical, for R-4 customers. The differences result from differences in the average consumption between R-4 customers and R-3 customers, as reported by the Company.

Q. DOES YOUR PROPOSAL AFFECT REVENUES TO BE COLLECTED FROM OTHER CUSTOMER CLASSES?

A. No. The total impact falls within the residential class.

Q. DOES YOUR PROPOSAL AFFECT TOTAL REVENUES TO BE COLLECTED BY THE COMPANY?

A. No. The change results in the Company collecting $592 less in total revenue.

Part 3. The Company's R-4 Rate.

Q. HAVE YOU EXAMINED THE R-4 RATE DISCOUNT?

A Yes. I have assessed the structure and implementation of the R-4 discount. I recommend that the R-4 discount be modified to increase both the depth and breadth of the discount as well as to improve the ability of the discount to deliver the gas affordability benefits it is intended to deliver. In particular, I propose the following modifications to the R-4 discount:

- I recommend that the discount be expanded to 75% of the customer charge and block rates;
- I recommend that the Company be directed to work with the state Food Stamp office to implement an automatic enrollment in the R-4 rate for customers receiving Food Stamps; and
- I finally recommend that the delivery of the discount be modified so that non-fuel assistance customers enrolling (or re-enrolling) in the discount after November 1 of each year receive a credit on their bill retroactive to their first bill received on or after November 1.

I will explain each of my recommendations in more detail below.

A. Expanding the Discount to 75% of the Block Rate and Customer Charge.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I recommend that the R-4 discount be expanded from 60% to 75% of the block rate and customer charge otherwise applicable to an R-3 customer.

Q. WHAT IS THE BASIS FOR YOUR RECOMMENDATION TO INCREASE THE DISCOUNT TO 75%?

A. I base my recommendations in large part upon my experience with the tiered discount program that the New Hampshire Commission adopted for the state's Electric Assistance Program ("EAP"). While I do not propose a tiered discount program for National Grid, I believe some of the foundational policies used in the design of the EAP are useful here as well.

I am familiar with the EAP since the Commission's Staff hired me on two occasions to work with the EAP. On the first occasion, I worked to help design the tiered discount program as a replacement for the proposed fixed credit program. On the second occasion, I worked for Staff in the collaborative review of the initial years of EAP operation and a consideration of what changes, if any, should be made to the program. While I worked for the Staff on both occasions, it is important to note also that, on both occasions, there was a collaborative work group consisting of all stakeholders; that collaborative work group worked hard to reach consensus on program design issues. My role was to advise the work group.

Q. WHAT PRINCIPLES DO YOU BRING FROM THE EAP DESIGN PROCESS TO YOUR CONSIDERATION OF THE R-4 GAS DISCOUNT RATE AT ISSUE IN THIS PROCEEDING?

A. I realize that the gas and electric programs are not identical and I do not seek to make them identical. Having said that, nonetheless, some of the critical principles that were articulated in the EAP design process can and should be applied to the current R-4 discount rate as well. Those critical principles include:

- While the program is a discount program rather than a percentage of income program –the initial EAP design was a percentage of income-based "fixed credit" program—even a discount program can and should base its reasonableness on striving toward an affordable home energy burden. A "home energy burden" is the bill as a percentage of income;
- The affordable burden for electricity and heating bills combined is in the 6% range on average.[1] For heating alone, taking the range as being in the 6% to 7% range, the affordable burden would be half of that (in the 3% to 3.5% range);
- There is a balancing to be made between increased targeting of the rate discounts and an increased spending on administrative costs. It is not always necessary to achieve the "ideal" targeting, so long as the targeting is ***reasonable*** in light of administrative expenses.

[1] The Commission noted in Order 23,980 adopting the Tiered Discount Program: ". . .Staff filed an updated [Tiered Discount Program] model which contained information regarding the discounted bill burdens under the TDP. The tiered discount is designed to reduce the bill to 4% to 6% of income, assuming that the household consumes at the average level of consumption. . .After weighing the range in bill burdens under the TDP and the fixed credit options (or the program efficiency) against the start-up and administrative costs of each program (the cost efficiency), we conclude that on the record before us the TDP strikes the best balance between cost efficiency and program efficiency." (Order 23,980, at 47).

- The burden should be considered based on a band around the average. There will always be some variation around the affordable burden as individual customers diverge from the average. Accordingly, affordability cannot be determined by reference to a point. The appropriate approach is to define a band around the average and to seek an affordable bill within that band. This is what we did for the EAP.
- Having defined affordability within the band around the average, one needs to accept that there will still be some variation outside of that band. For example, while customers with below average gas usage will pay somewhat less, households with above average gas usage will pay somewhat more. While households with lower than average income will pay somewhat higher burdens, households with higher than average income will pay somewhat lower burdens. With greater administrative expenses, it is possible to narrow the bands and to achieve greater targeting. The fundamental touchstone of "reasonableness," however, lies with seeking affordability in a band around the average income and gas usage.

Q. HAS THE COMPANY UNDERTAKEN A NEEDS ANALYSIS TO JUSTIFY ITS EXISTING DISCOUNT?

A. No. (NHLA-2-51).

Q. HAS THE COMPANY ADOPTED CRITERIA BY WHICH IT JUDGES THE REASONABLENESS OF ITS DISCOUNT LEVEL?

A. No. (NHLA-2-52, NHLA-2-53).

Q. **PLEASE EXPLAIN THE EMPIRICAL ANALYSIS YOU HAVE UNDERTAKEN IN YOUR ASSESSMENT OF THE EXISTING DISCOUNT?**

A. I found that the average household size in New Hampshire is 2.54 persons. In 2008, the income at 100% of the Federal Poverty Level ("FPL") for this household size would have been $15,944. The weighted Poverty Level for New Hampshire households living at or below 175% of the FPL is 97.5%. The average income I used in my assessment is reduced to reflect that weighted income.

Using that income, a 3% payment would yield a customer payment of $466, while a 3.5% payment would yield a customer payment of $544. When coupled with the average New Hampshire LIHEAP payment of $663 in 2007/2008, the total affordable payment is between $1,130 (3% + LIHEAP) and $1,207 (3.5% + LIHEAP).

According to the Company's discovery responses, the average usage for R-4 accounts in the twelve months ending November 2006 was 854 therms, while the average usage for the twelve months ending October 2007 was 835 therms. (NHLA-2-58; NHLA-2-59). Placing a 25% band around that usage, I find a consumption band for the 24 month period of from 626 therms to 1,093 therms.

According to discovery responses provided by the Company, using the Company's proposed revenue requirement and rate structure, the annual R-4 bills for these consumption bands would range from something more than $813 (R-4 bill for 598 therms) to something more than $1,288 (R-4 bill at 1,001 therms). (NHLA-1-5).

Based on this data, I find that the existing 60% discount does not achieve an affordable burden at the 125% range. It barely achieves an affordable burden at 100% of the average.

Q. WHY DO YOU RECOMMEND AN INCREASE IN THE DISCOUNT GIVEN THAT YOU FIND THAT THE 60% DISCOUNT ACHIEVES AFFORDABILITY, THOUGH "BARELY," AT 100% OF THE AVERAGE?

A. As I note above, the touchstone of reasonableness lies with assessing affordability within a band. Affordability cannot be determined by reference to a single point. To say that a bill is "barely affordable" "on average" means: (1) average income; (2) average consumption; and (3) average household size. A household with two persons in it rather than 2.54 persons, for example, would have a lower income and, as a result, face an unaffordable bill if bills were "barely affordable. . .on average." Again, I do not recommend that the National Grid rate discount be converted to a tiered discount (like the EAP). I do recommend, however, that the affordability impacts must be considered within a band, not by reference to a single point.

As we collaboratively decided for the EAP, and as the Commission held in adopting the EAP, there is a trade-off between increased targeting and higher administrative expenses. In this gas program, the Company spends roughly $10,000 a year on administrative dollars for a program costing more than $1 million (NHLA-2-18: administrative costs reached $10,077 in 2006; administrative costs reached $8,650 in 2007). Roughly one percent of program expenditures go for administrative costs, an incredibly inexpensive program (from an administrative cost perspective). One reason this can happen is because of the simplicity of the single tier discount.

We must recognize, however, that along with the simplicity of the single tier discount is the broad brush approach of the single tier discount. In this regard, while I recognize in my analysis above that the average income is roughly $16,000 (at roughly 100% of Poverty Level), I note further that 22.3% of income-eligible households live at or below 50% of Federal Poverty Level, with an additional 24.3% of income-eligible households living at between 50% and 99% of Federal Poverty Level. Accordingly, an increase to the R-4 discount to 75% is appropriate.

An increase in the R-4 discount from 60% to 75% would add between $50 and $60 of benefits per participant to the program on an annual basis. For the twelve months ending May 2008, a 75% discount would have generated $302.60 in benefits, compared to the $244.40 at the 60% discount level (an increase of $58). For the twelve months ending October 2007, a 75% discount would have generated $308.76 in benefits, compared to the $262.,73 at the 60% discount level (an increase of $46). This would yield two positive benefits for the program:

- It would ensure that substantially more customers in the band around the average usage would receive or closely approach an affordable bill; and

- It would ensure that substantially more customers with average usage, but with income below 100% of the Federal Poverty Level (representing nearly 50% of the total income-eligible population) would receive or approach an affordable burden.

Q. DOES YOUR CONCLUSION IN THIS REGARD CARRY WITH IT ANY ASSUMPTION ABOUT PROGRAM IMPLEMENTATION?

A. Yes. My analysis above assumes that benefits will be provided on a year-round basis, including the provision of benefits retroactive to the beginning of the heating season when a non-fuel assistance R-4 customer applies in a month after the beginning of the heating season. I discuss this issue in greater detail below.

Q. HAVE YOU DETERMINED THE COST OF INCREASING THE DISCOUNT FROM 60% TO 75%?

A. Yes. The Company provided average consumption for R-4 customers for the months of November 2005 through May 2008. (NHLA-2-59). In addition, I obtained the number of actual participants for the R-4 rate from the quarterly reports that the Company files with the Commission. (NHLA-2-49). (The April 2008 quarterly report, which is the most recent one provided, provides a projected participation number for May 2008). I applied my proposed rate structure to the average consumption for each of these months. I then applied a 60% R-4 discount and a 75% R-4 discount to the rates for each month. I finally summed the total value of the R-4 discount for three time periods: (1) the twelve months ending October 2006; (2) the twelve months ending October 2007; and (3) the twelve months ending May

2008. I compared the value of the discount given a 60% discount to the value of the discount given a 75% discount. I found that increasing the discount from 60% to 75% would have increased the total cost of the discount by:

- $224,112 in the twelve months ending October 2006;
- $225,511 in the twelve months ending October 2007;
- $237,546 in the twelve months ending May 2008.

The results of this analysis are set forth in Schedule RDC-11. Rather than "losing" the months of November 2007 through May 2008 due to the fact that we have not yet completed that final full twelve months, I changed the reporting period to the most recent twelve month period ending in the last month for which I have data.

Q. DOES THIS INCREASE IN COST FALL WITHIN THE BOUNDS OF REASONABLENESS AS PREVIOUSLY DETERMINED BY THE COMMISSION?

A. Yes. The Commission previously determined that the R-4 discount is reasonable so long as it does not result in a billing impact of greater than 1.0%. According to the Company, a 1% billing impact would result in a discount value of $1,728,211. (NHLA-2-46). An R-4 discount with a billing impact of 0.75% would result in a discount value of $1,293,996. As can be seen, the 75% discount would have been well within the range of reasonableness previously determined by the Commission. According to the Company's September 30, 2007 quarterly R-4 report, the gross monthly revenues for the 12 months ending October 2007 would have been $174,055,866. With an R-4 cost of $1,158,444 for the same twelve months given a 75% rate discount (Schedule RDC-11, page 2 of 3), the 75% discount would have yielded a percentage bill impact of 0.67% ($1,158,444 / $174,055,866 = 0.00666).

B. Automatic Enrollment for Food Stamp Households.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I recommend that the Company be directed to work with the state Food Stamp office to adopt an automatic enrollment mechanism through which Food Stamp recipients will be automatically enrolled in the R-4 rate. I further recommend that the Company be required to engage in targeted outreach to non-fuel assistance households.

Q. PLEASE EXPLAIN THE BASIS FOR YOUR CONCERN WIH RESPECT TO THE R-4 ENROLLMENT PROCESS.

A. The Company appears to substantially under-enroll the R-4 rate. As of May 2008, the Company had 5,142 customers enrolled on its R-4 rate. (NHLA-2-19). The Company, however, does not know how many more customers may qualify for the rate but have not yet applied. (NHLA-2-19). The R-4 rate is available to heating customers enrolled in at least one of the following programs: (1) fuel assistance, (2) electric assistance, (3) Supplemental Security Income, (4) Women, Infants and Children (WIC), (4) commodity surplus foods (for women, infants and children), (5) Temporary Assistance to Needy Families (TANF), (6) Housing Choice vouchers (section 8); (7) Head Start, (8) Aid to Permanently and Totally Disabled, (9) Aid to the Needy Blind, (10) Old Age Assistance, and (11) Food Stamps. (NHLA-2-19).

Q. GIVEN THIS WIDE RANGE OF PROGRAM ELIGIBILITY, WHAT IS YOUR CONCERN?

A. The Company automatically enrolls customers who receive federal fuel assistance (LIHEAP) in its R-4 rate. (NHLA-2-17; NHLA-2-19). Other than fuel assistance recipients, however, the Company depends upon the Community Action Agencies ("CAAs") in its service territory to enroll customers in the R-4 rate. When asked to explain the "processes in place to help identify R-3 rate customers who are potentially eligible for the R-4 rate," the Company responded "for those customers not receiving fuel assistance, the Community Assistance Program agencies determine eligibility-based on a customer's qualifications for benefits under various state assistance programs." (NHLA-2-17). The Company's administrative budget does not provide for any compensation to the CAAs to perform this eligibility-determination. (NHLA-2-49; NHLA-2-50: administrative budget by line item).

The Company makes no particular effort to direct outreach to income-eligible customers that do not receive fuel assistance. When asked what outreach and/or marketing has been done "to notify low-income, non-fuel assistance customers on the R-3 rate of the existence of the R-4 rate," the Company responded that it: (1) sends out bill inserts three times a year to the general customer population; (2) it provides copies of the bill inserts and posters to Community Action Agencies; (3) it places information on the Company's web site; and (4) its customer service representatives inform customers of the low-income discount rate program when speaking to customers on the phone. (NHLA-2-15). As can be seen, none of these outreach mechanisms are targeted specifically to non-fuel assistance customers. When asked for its outreach and/or marketing efforts to "encourage low-income, non-fuel assistance customers" to enroll in the R-4 rates, the Company could identify no additional effort. (NHLA-2-16).

The impact of this lack of attention to non-fuel assistance customers is evident from the data presented in Schedule RDC-12. When the program was first designed, the Company projected that roughly one-third of its participants would involve non-fuel assistance customers. The Company's initial quarterly reports indicated that the Company projected a participation of 1,681 non-fuel participants each month. In reality, however, as Schedule RDC-12 shows, fewer than 100 non-fuel assistance customers are enrolled in the R-4 rate in any given month in each year. Schedule RDC-12 shows that non-fuel assistance participants comprise fewer than 2% of the total R-4 participants.

Q. IS THIS RESULT WHAT YOU WOULD EXPECT?

A. I have two responses to that question. On the one hand, this result is what I would expect given the lack of targeted outreach by the Company. The fact is that the Community Action Agencies are not the agencies that serve as intake agencies for the programs establishing eligibility for programs such as Food Stamps, SSI, Head Start, TANF, WIC and others. There is no reason to expect the Community Action Agency network to be in contact with non-fuel assistance recipients that participate only in those programs. And given federal restrictions on funding, which prohibit agencies such as CAAs from using federal dollars for programs outside the purview of the funding source –a CAA, for example, could not use LIHEAP administrative dollars to enroll a non-LIHEAP recipient into the R-4 program—the lack of administrative dollars to support non-fuel assistance recipient enrollment into R-4 leads to the lack of enrollment that is experienced.

On the other hand, the result is not what I would expect given the relative enrollment of customers in the various public assistance programs. According to the U.S. Department of Agriculture's most recent "Food Stamp Participation Rate" publication (October 2007), New Hampshire has a penetration rate of between 50% and 60% of eligible households in its Food Stamp program. According to the U.S. Department of Agriculture's "Characteristics of Food Stamp Households" (September 2008), New Hampshire, as a whole, has 28,000 households that receive Food Stamps (Table B-2), of which 23,000 (82.6%) receive the Food Stamp "excess shelter deduction" (Table B-4), meaning that the recipient household spends more than 50% of its income for total shelter costs (shelter costs include all utilities). Indeed, 8,000 New Hampshire households spend so much more than 50% of their income on shelter costs that they have reached the cap on the total excess shelter deduction to which they are entitled under federal law (Table B-4).

Q. DO YOU KNOW THAT THERE IS A SUBSTANTIAL POPULATION OF LOW-INCOME HOUSEHOLDS THAT WOULD RECEIVE PUBLIC ASSISTANCE BUT NOT LIHEAP?

A. Yes. State LIHEAP programs do not routinely report data on duplicated and unduplicated program participation. Nonetheless, on a national level, there is substantial concern regarding the issue of what the duplicated participation rates are for various programs. The issue presents itself because of the desire to implement "adjunctive eligibility." Adjunctive eligibility refers to the process of using a determination of eligibility for one program to establish eligibility for another program. In the public assistance arena, adjunctive eligibility has been pursued for the State Children's Health Insurance Program ("SCHIP") in particular. In the utility arena, adjunctive eligibility has been pursued for the Federal Communications Commission ("FCC") telephone Lifeline program. There is interest, also, in pursuing adjunctive eligibility for LIHEAP, particularly between LIHEAP and Food Stamps.

In part because of this interest, while data specific to the State of New Hampshire does not exist, national data does exist about the overlap of program participants. According to the Congressionally-funded 2005 national study of fuel assistance recipients, 52% of fuel assistance recipients did not also receive non-cash benefits. The term "non-cash benefits" includes, but is not limited, to Food Stamps. The term also includes living in public and subsidized housing. Conversely, according to the 2005 study, 36% of households receiving non-cash benefits (housing/food stamps) did not also receive LIHEAP.[2] For my purposes here, the *exact* figure is not as important as recognizing that it would be wrong to assume that there is a virtual overlap between the LIHEAP and Food Stamp programs in New Hampshire. Just as a substantial number of LIHEAP recipients do not receive Food Stamps, a substantial number of Food Stamp recipients do not receive LIHEAP.

Q. IS THE COMPANY'S OUTREACH EFFORT TO DATE CONSISTENT WITH THE OUTREACH PROGRAM THE COMPANY PREVIOUSLY SUBMITTED?

A. No. I have reviewed the prefiled testimony of Amy Smith and Virginia Anthony submitted on behalf of Northern Utilities in Docket DG-05-076. Appendix A to that testimony included an "outreach plan." Attached to that outreach plan were a variety of lists of outreach contacts that the Company committed to using in promoting the R-4 rate. In a July 20, 2005 memo from Joanne Petito to Alan Linder, for example, attached to the Outreach Plan, the Company identified the New Hampshire Housing Finance Authority, the state social security offices, housing authorities statewide, WIC locations statewide, the state Department of Health and Human Services offices statewide, area aging agencies through ServiceLink, the District Offices of the Division of Family Assistance, and the district offices of the New Hampshire Employment Security office as important "contacts" in its outreach efforts. This aggressive, broad-based outreach plan contained in the filing with the Commission in 2005 is a far cry from the passive acceptance of fuel assistance recipients that marks the actual implementation of the R-4 rate.

In this proceeding, I recommend the special, targeted outreach for all of the reasons I describe above. In addition, however, I recommend further that the Commission direct the Company to comply with the outreach commitments made in the outreach plan appended to the Smith/Anthony testimony in Docket DG-05-076.

Q. WHAT DO YOU CONCLUDE?

A. Based on the above data and analysis, I conclude that the Company is making inadequate efforts to enroll income-eligible non-fuel assistance customers in the R-4 rate. In many

[2] It is possible that someone receiving Food Stamps did not qualify for LIHEAP. If a Food Stamp household did not directly pay their home energy bill, but instead lived where energy was included in their rent, they may not be

ways, the numbers speak for themselves. Despite the fact that it is reasonable to expect a substantial lack of overlap between the Food Stamp and LIHEAP programs, fewer than 2% of R-4 participants enter the discount rate through other than LIHEAP. Despite the fact that the Commission approved a rate discount the eligibility for which is based on participation in any one of eleven different programs, the Company's implementation of its outreach and intake has resulted in more than 98% of its participants coming only from the fuel assistance program. Despite the fact that the Commission approved a rate discount the eligibility for which is based on participation in any one of eleven different programs, the Company's implementation of its outreach and intake has resulted in a situation that when intake for *one* of those programs ends, intake for the entire rate discount ends as well.

Q. WHAT DO YOU RECOMMEND?

A. I recommend two remedies for the enrollment failures I identify above. First, I recommend that the Company earmark $50,000 a year over a two year period to devote to outreach targeted to specific non-fuel assistance benefit recipients. In particular, I recommend a targeted outreach to three separate groups of potential recipients:

- to participants in TANF and Head Start. Households participating in these programs would, by the nature of the program, have young children. Households with young children are considered to be a "vulnerable" population for purposes of unaffordable energy.
- To participants in the WIC supplemental nutrition program. WIC participants, too, would have young children, a particularly vulnerable population.

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eligible for LIHEAP.

- To participants in Food Stamps. The federal Food Stamp program is the most ubiquitously enrolled public assistance program in the nation. Targeting outreach tailored to Food Stamp households in particular is most likely to reach the largest possible eligible population.

Second, I recommend that over the next twelve months, National Grid be directed to work with the New Hampshire Food Stamp state office to implement an automatic enrollment mechanism for Food Stamp recipients. Such an automatic enrollment mechanism would work the same way that the automatic enrollment mechanism works for fuel assistance. Households receiving Food Stamp assistance and using natural gas as their primary heating fuel would be automatically enrolled in the R-4 rate. The Company would accept a certification of participation in Food Stamps as a determination of R-4 eligibility. In New Hampshire, the Food Stamp program is administered through the Division of Family Assistance of the Department of Health and Human Services ("DHHS").

Q. ARE THERE PRIVACY CONCERNS THAT ARISE IN YOUR RECOMMENDATION FOR AN AUTOMATIC ENROLLMENT PROGRAM?

A. No. Since there would need to be no disclosure of utility data to the state government, there is no privacy concern from the perspective of the utility. Conversely, from the client's perspective, under federal privacy laws, state agencies may lawfully release client information when such release is a "routine use" of that information. When such information is used to qualify households for additional public assistance, it falls within this "routine use" construct. There are reasonable restrictions placed upon this release of information: (1) the data exchanged through this process may not be *__redisclosed__* to other parties; (2) the data exchanged through this process is for the *__exclusive__* purpose of "verifying and recertifying" the eligibility of public assistance recipients for the utility program; and (3) the data exchanged through this process will convey only the fact of eligibility. If, however, privacy is a policy concern rather than a legal concern, the Food Stamp program could include a client consent procedure in the Food Stamp application process.

C. Delivering the Discount for the Full Heating Season.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I recommend a slight modification to the R-4 discount, such that non-fuel assistance R-4 customers enrolling (or re-enrolling) in the R-4 program after November 1 will receive the R-4 discount retroactive to the first bill that the customer received subsequent to November 1 of the current heating season.

Q. CAN YOU EXPLAIN THE CONCERN THAT THIS RECOMMENDATION ADDRESSES?

A. Yes. Schedule RDC-13 presents the enrollment in National Grid's R-4 discount rate by month for each month since the program began. Note that for each year, the Company "dis-enrolls" customers at the end of the LIHEAP program year, and re-enrolls customers as they re-enroll in the LIHEAP program for the year. As a result, the Company experiences a sharp decrease in the R-4 enrollment in October, with a gradual build-up of the participation through March of each year. As the original design of the Company's

R-4 rate makes clear, however, a customer taking service under the R-4 rates only receives the discount prospectively if they enroll in the R-4 rate as a non-fuel assistance customer. For those customers enrolling later in the program, the customer does not receive the discount for the entire heating season. This prospective application of the R-4 discount to non-fuel assistance participants denies those participants the ability to access the R-4 discount for the entire heating season.

Schedule RDC-14 shows the impact of this policy. Using the average monthly consumption for each month November 2005 through May 2008, Schedule RDC-14 provides the bill that a customer would have received under the R-4 discount (75%) and the bill the customer would have received with no discount (defining the "bill" as only that bill resulting from the customer charge and block rates). In Column 3, Schedule RDC-14 presents the annual bill given a prospective-only application of the R-4 discount. A customer enrolling in the R-4 rate in January, for example, would receive the R-4 discount for January through October, but would have received a non-discounted bill for the months of November through December. A customer enrolling in the R-4 rate in May, would receive the R-4 discount for May through October, but would have received a non-discounted bill for the Months of November through April.

The final column of Schedule 14 shows the percentage increase in the annual bill if the R-4 discount is applied on a prospective-only basis. A customer entering the R-4 rate in May 2006, for example, would have paid an annual bill of $325.51 if the R-4 discount had been applied only on a prospective basis (as is done for non-fuel assistance customers). That same customer would have paid a bill of $101.31 had the R-4 rate been applied retroactive to the start of the heating season. A customer entering the R-4 rate program in Marcy of 2007 would have paid $247.66 had the discount been applied only prospectively (as is done for non-fuel assistance customers), but would have paid only $98.50 had the R-4 discount been applied retroactively to the start of the heating season. As is shown in Schedule RDC-14, customers with a prospective-only application of the R-4 discount would pay up to nearly 300% more than they would have paid had the R-4 discount been applied retroactively. (Please note, however, that the data for the 2007/2008 year is available only through May 2008).

Q. WHAT DO YOU RECOMMEND?

A. I recommend that when a non-fuel assistance customer enrolls in the R-4 discount, that customer be provided the discount for the full value of his or her bill retroactive to the first bill the customer received subsequent to November 1 of each heating season. If a non-fuel assistance customer enrolls in February, that customer will receive a bill credit equal to the value of the R-4 discount for each bill rendered on or after November 1 of that heating season. If a customer enrolls in June, that customer will receive a bill credit equal to the value of the R-4 discount for each bill rendered on or after November 1 of that heating season. The impact of my recommendation is to apply the same discount to non-fuel assistance customers as is current provided for fuel assistance customers.

Q. WHAT IS THE FINANCIAL IMPACT OF PROVIDING DISCOUNTS RETROACTIVE TO THE BEGINNING OF THE HEATING SEASON FOR R-4 CUSTOMERS?

A. Under the existing enrollment processes, while the impact on individual customers is substantial, as is documented in Schedule RDC-14, the aggregate impact of this change from the perspective of the utility will be minimal. As described above, the Company currently enrolls fewer than 2% of its total R-4 participant population through other than the fuel assistance program. The impact will grow as the number of non-fuel assistance R-4 participants grows as a result of the non-fuel assistance outreach, and the automatic Food Stamp enrollment process that I recommend. Even then, the cumulative impact on the Company will keep the total R-4 financial impact well within the bounds of reasonableness as previously defined by the Commission.

Part 4. The Company's Increased Collections and the Control of Uncollectibles.

Q. PLEASE EXPLAIN THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY.

A. In this section of my testimony, I consider the reasonableness of the "plan" that sets forth a collections process prepared pursuant to a partial settlement which the Company entered with Staff and the Office of Consumer Advocate ("OCA") in November 2007. That settlement provided that the prudently incurred costs of the collections process described in the plan be recovered through the rates set in this case. The essence of the Company's collections plan is "to substantially increase the number of field visits to customers." (Direct Testimony of Gary Bennett, at 5). The Company proposes to double the number of field visits with the intent to perform a field visit for every account that is 60-days in arrears, plus one additional visit where the initial visit is not effective. (Bennett Direct, at 5). The Company proposes to include an additional $566,141 in revenue requirement to pay for the implementation of this plan. (Staff-1-64, Staff-1-66, Tech-2-1).

Q. WHAT DO YOU RECOMMEND?

A. I recommend that the Company's collections "plan" be disapproved. I further recommend that the costs proposed by the Company's plan be removed from the Company's revenue requirement in this proceeding. To the extent that the Commission decides that the Company's uncollectibles situation merits further attention –this issue is one on which I will reserve judgment pending completion of the Staff report and my review of that Staff report as provided for in the procedural schedule for this docket-- the Company should be directed to file a revised plan. In brief, however, I conclude that the Company need not necessarily engage in *more* collection activity. Instead, the Company needs to engage in smarter collection activity as I describe below.

Q. WHAT IS THE LOW-INCOME INTEREST IN THE COMPANY'S COLLECTION PROCESS?

A. Low-income customers are disproportionately payment troubled. This is not to say that all low-income customers are payment troubled, nor that all payment-troubled customers are low-income. There can be no serious contention any more, however, but that low-income customers are disproportionately payment-troubled (and that payment-troubled customers are, accordingly, disproportionately low-income). While I am not aware of any New Hampshire-specific study, this conclusion is supported not only by national data generated by the U.S. Census Bureau, but also by every state-specific study that has considered the question. In particular, studies that I personally have performed in Iowa, Indiana, Pennsylvania, and Missouri in recent years have documented that low-income customers are disproportionately payment-troubled.

These studies confirm what the Census Bureau has found. National data reported by the U.S. Census Bureau indicates that the proportion of households in arrears at any given point in time is substantially higher for the low-income population than for the population as a whole. One 1995 census study, for example, reported that while 9.8% of non-poor families could not pay their utility bills in full, 32.4% of poor families could not do so. According to the Census Bureau, while 1.8% of non-poor families had their electric and/or natural gas service disconnected for nonpayment, 8.5% of poor families suffered this same deprivation.

This Census data is supported by more recent data on a national level, documenting how low-income home energy assistance recipients frequently face the loss of utility service due to their inability to pay. According to a Congressionally-funded survey by the National Energy Assistance Directors Association (NEADA), between 8% and 11% of households with children age 18 or younger faced the loss of electric service in both 2003 and 2005. Roughly 1-of-6 low-income households with children under age 18 (16%) had *either* natural gas *or* electricity (or both) disconnected due to nonpayment in 2005. This loss of service was most heavily concentrated in the lowest income bucket.

Q. HAVE YOUR REVIEWED ANY INFORMATION SPECIFIC TO NEW HAMPSHIRE THAT TENDS TO CONFIRM THE APPLICABILITY OF THESE STUDIES TO NEW HAMPSHIRE?

A. Yes. As part of the Electric Assistance Program ("EAP"), the participating electric utilities submit periodic reports regarding prescribed residential statistics. One of the reports that is filed contains an aging report. Across-the-board, these New Hampshire reports support the conclusion that low-income customers have greater payment troubles than do non-low-income customers.

- The September 2008 report by Unitil Energy Systems, for example, reports that while 37.37% of all EAP accounts were 90 or more days in arrears, only 13.55% of non-EAP accounts were. Coming out of the heating season, the Unitil reports indicate that 44.52% of EAP accounts were 90 or more days in arrears, while only 22.89% of non-EAP accounts were.

- The September 2008 National Grid EAP report indicates that while 1.6% of non-EAP customers were 120 or more days in arrears, 10.0% of EAP customers fell into that aging bucket.

- The September 2008 Public Service Company of New Hampshire EAP report indicates that while 36.54% of EAP customers are 90 or more days in arrears, only 19.65% of non-EAP customers are. The June 2008 PSNH report indicates that while 25.93% of EAP customers were 90 or more days in arrears, only 9.57% of non-EAP customers were.

While I do not offer this data to document what specific percentage of National Grid's natural gas customers (either low-income or non-low-income) will be in arrears, or substantially in arrears, at any given point in time, I _do_ offer this data to confirm that the national experience leading to the conclusion that low-income customers are disproportionately in arrears is applicable to New Hampshire as well.

Q. WHAT DO YOU CONCLUDE?

A. When National Grid states that it is going to pursue more intense collections efforts directed toward payment-troubled customers, those more intense collections efforts will be disproportionately directed toward low-income customers. When the Company reports that it expects to disconnect an additional 2,845 R-3 customers per year for each of the next three years (NHLA-3-34), it is reasonable to expect that a substantial proportion of those customers will be low-income customers who are disconnected because they cannot afford to pay their bills.

Q. DOESN'T THE OFFER OF THE R-4 RATE ADDRESS THESE LOW-INCOME CONCERNS?

A. Not entirely. While the R-4 rate discount addresses the concerns for participating customers, the R-4 discount reaches a fraction of the income eligible customers. In the twelve months ending May 2008, the highest R-4 participation rate experienced by the Company was 4,925 customers. (NHLA-2-49). In contrast, based on the number of customers identified by the Company for each community it serves, and the penetration of low-income persons (below 175% of Federal Poverty Level) in each community, the Company has at least 13,812 customers with income at or below 175% of the Federal Poverty Level. As can be seen, the Company's R-4 rate reaches only 35% of the Company's income-eligible customer base.

Q. DOES 175% OF THE FEDERAL POVERTY LEVEL ADEQUATELY DELINEATE THE POPULATION THAT CANNOT AFFORD THEIR NATURAL GAS BILLS?

A. No. It is possible to define inability to pay by reference to a "basic family needs budget" for New Hampshire households. Through the Economic Policy Institute ("EPI"), I have derived a basic family needs budget for three household types in two communities (as well as for "rural" New Hampshire). I looked at a

- 2-person household consisting of one parent and one child;
- 3-person household consisting of one parent and two children; and
- 4-person household consisting of two parents and two children.

These basic family needs budgets are set forth in Schedule RDC-15. I compare these basic family needs budgets to the Federal Poverty Level for 2008. As is evident, the basic family needs budgets in New Hampshire do not simply exceed 175% of the Federal Poverty Level, they fall into a range around 250% of the Federal Poverty Level.

Q. DOES THE COMPANY MAINTAIN ADEQUATE INFORMATION UPON WHICH TO BUILD AN EFFECTIVE COLLECTIONS PLAN?

A. No. The Company does not maintain adequate information upon which to build a collections plan. The Company does not maintain any evaluation or analysis that considers when it is ***cost-effective*** to disconnect service for nonpayment. (NHLA-3-14). The Company has not developed specific criteria by which to measure either the effectiveness of its collection activities (NHLA-3-23) or the cost-effectiveness of its collection activities (NHLA-3-25).

Nor does the Company have any information that supports when, or how, or whether, or to what extent to use any particular collection activity. The Company was asked to provide any written study it had within its custody or control, whether or not prepared for it or using information specific to the Company, that assesses the extent to which the following activities *reduce residential bad debt*: (1) cash security deposits; (2) deferred payment agreements; (3) disconnections for nonpayment; (4) field collection; (5) call center collection calls; or (6) late payment charges. The Company could provide no such information. (NHLA-3-30).

Moreover, the Company was asked to provide any written study it had within its custody or control, whether or not prepared for it or using information specific to the Company, that assesses the extent to which the following activities *reduce residential arrears*: (1) cash security deposits; (2) deferred payment agreements; (3) disconnections for nonpayment; (4) field collection; (5) call center collection calls; or (6) late payment charges. The Company could provide no such information. (NHLA-3-31).

Q. CAN YOU ILLUSTRATE THIS LACK OF AN EMPIRICAL BASIS FOR THE COMPANY'S DECISION TO ENGAGE IN CERTAIN COLLECTION ACTIVITY?

A. Yes. When asked to provide any study within its custody or control, whether or not prepared for the Company or using information specific to the Company, regarding the relationship between the rate at which a utility issues disconnect notices and the reduction in bad debt, the Company could not provide any such analysis. (NHLA-3-27). Nor could the company provide information that assesses the relationship between the rate at which a utility issues disconnect notices and the control of arrears. (NHLA-3-28). Nor could the Company provide information that assesses the relationship between the rate at which a utility issues disconnect notices and any increase in residential payments. (NHLA-3-29). Without such information, the Company could easily decide that its response to high uncollectibles –as I state above I do not conclude, in the absence of the Staff report, that the Company's uncollectibles merit any further collection activity—will be to increase its issuance of shutoff notices. It would engage in such activity without any basis upon which to conclude that issuing such notices are an effective, let alone the most effective, let alone the most *cost*-effective, response to reducing arrears, increasing customer payments, or reducing uncollectibles.

Q. HAVE YOU EXAMINED ANY COMPANY COLLECTIONS DATA TO ASSESS WHETHER ITS PROPOSED COLLECTION "PLAN" IS A REASONABLE EFFORT TO CONTROL UNCOLLECTIBLE ACCOUNTS?

A. Yes. Schedule RDC-16 presents two levels of arrears data for the Company by month for January 2007 through May 2008. On the one hand, Schedule RDC-16 presents the arrears facing Company customers at the time of a disconnection for nonpayment. During the time period January 2006 through May 2008, the average arrears at the time of disconnection was $1,268. Setting aside the atypical winter months, the arrears at the time of disconnection ranged from roughly $1,200 to more than $1,700. The reason this is of concern is because of the small percentage of *reconnections*. Over the 30 month period, only 30% of all disconnected customers were reconnected. Given this small percentage of reconnections, dollars of arrears at the time of a disconnection for nonpayment are at a substantial risk of becoming uncollectible. Rather than treating all accounts with 60-day arrears by scheduling field visits, National Grid would be far better served by addressing the high arrears associated with disconnections. Lower arrears before the act of disconnection for nonpayment, as well as improving the rate of reconnections, would generate far greater benefit from the perspective of bad debt avoidance.

Q. WHAT DO YOU KNOW ABOUT THE COMPANY'S 60-DAY ARREARS?

A. Schedule RDC-17 presents information on the Company's 30-day, 60-day and 90-day arrears. Schedule RDC-17 (page 1 of 2) presents data on dollars in arrears. Schedule RDC-17 (page 2 of 2) presents data on the number of accounts in arrears. Several observations are evident from this review of data on arrears.

First, the Company does not effectively target its collections to the accounts with the highest arrears. I reach this conclusion by comparing the percentage of accounts that age with the percentage of dollars that age. If the arrears that age are equal to the average arrears, the percentage of accounts that move to the 90-day arrears bucket would be exactly the same as the percentage of dollars that do. The aging accounts, however, are accounts with higher than average arrears. While 40% of the accounts that were 30 days in arrears in April 2006 were still in arrears in June, 52% of the dollars were. While 32% of the accounts that were in arrears in August 2007 were still in arrears in October 2007, 50% of the dollars were. Across-the-board, the Company was collecting its smaller arrears rather than its larger arrears.

Second, it is not at all clear that an across-the-board field treatment of all 60-day arrears is needed to improve collections. Exiting collection processes unquestionably prompt payment in a substantial number of cases. Consider, for example, that of the 5,831 accounts that were in the 31 – 60 day aging bucket in April 2006, only 2,337 (40%) of those were still in arrears 60 days later (91 – 120 age bucket). Of the 4,997 accounts that were in 30-day arrears in December 2007, only 1,207 (24%) were still in arrears 60 days later (91 – 120 aging bucket). Schedule RDC-17 shows that the collection resolution between 60-day arrears and 90-day arrears ranged from 13% to 24% for the number of accounts. The collection resolution ranged from 12% to 20% for the number of dollars between 60 and 90 day arrears. Collection resolution means that an account that fell into a prior aging bucket (e.g., 60-day arrears) had been paid (i.e., "resolved") before falling into an older bucket. A resolution of 60-day arrears relative to 90-day arrears means that an account fell into the 60-day bucket, but had been paid prior to the 90-day bucket the next month. The resolution of a 30-day arrears relative to 90-day arrears means that an account fell into the 30-day bucket, but had been paid prior to the 90-day bucket two months hence.

Finally, the seasonal fluctuation in 60-day arrears should be noted. Note that both the number of accounts in 60-day arrears and the number of dollars in 60-day arrears seem to annually peak in April and May of each year. In April/May of 2006, the 60-day arrears ranged between $1.6 and $1.9 million. In April/May 2007, the 60-day arrears ranged from $1.9 to $2.1 million, while in April/May 2008, the 60-day arrears ranged around $1.9 million.

In relatively short order, however, those arrears began to resolve themselves. By November 2006, the 60-day arrears were down to $363,684. By November 2007, the 60-day arrears were down to $391,190. An across-the-board field treatment of such arrears simply does not seem to be necessary or appropriate.

Q. DOES THIS SEASONALITY OF ARREARS SHOW THAT THE COMPANY'S DE FACTO WINTER SHUTOFF MORATORIUM RESULTS IN WIDESPREAD NONPAYMENT?

A. No. Schedule RDC-18 shows the average arrears by month along with the average monthly bill. In addition, Schedule RDC-18 shows the monthly 'bills behind." The bills behind statistic was created by the Pennsylvania Bureau of Consumer Services ("BCS"), a bureau of the Pennsylvania Public Utilities Commission. BCS created the bills behind statistic to allow a comparison in arrears between time periods and between companies, taking the relative size of bills into account. A customer who is $200 in arrears with an average monthly bill of $50 (4.0 bills behind) is in much deeper trouble than a customer is $200 in arrears with an average monthly bill of $150 (1.3 bills behind). The bills behind statistic is calculated on a rolling basis by dividing each month's arrears by a rolling three-month average bill. The April bills behind, in other words, is calculated by dividing the April arrears by the average three-month bill for February/March/April.

Note that the bills behind statistic stays relatively constant during the winter months, showing that there is not a widespread practice of customers simply stopping payment on their bills during the winter months. Moreover, the percentage of arrears resolved between 60- and 90-days remains relatively constant, even during the winter months, as shown in Schedule RDC-17.

Q. WHAT DO YOU CONCLUDE?

A. I conclude that the Company's collection "plan" and the expenses associated with it should be disapproved. The Company does not need to simply do *more* collections as proposed in its "plan." The Company instead needs to do *smarter* collections. The "plan" presented by Company witness Bennett, along with the accompanying level of expenses, does not represent a well thought out, targeted, effective or cost-effective collections initiative.

Q. IN REACHING THIS CONCLUSION, DID YOU REVIEW ANY INTERNAL COMPANY DOCUMENTS ON HOW A REASONABLE COLLECTIONS EFFORT MIGHT BE DEVELOPED?

A. Yes. The Company was asked to provide a copy of all written documents that explain, assess or otherwise discuss the criteria by which the Company uses to assess the effectiveness of its current credit and collection efforts. The Company provided an excerpt of testimony provided by Kimberley Ahern in Docket DG-07-50. (NHLA-2-31). That testimony indicated that the Company would base its collection effort on:

- A review of "certain key collection performance indicators";
- Detailed action plans designed to "address negative trends"; and
- A policy to address "critical accounts" based on high dollar and aged receivables.

Clearly, the Company's proposal in this proceeding does not comport with any of those three criteria.

- The proposed field treatment of all 60-day arrears is not based on any review of "key collection performance indicators" associated with 60-day arrears; it is a proposal to treat *all* 60-day arrears;
- The proposed treatment of all 60-day arrears does not base its treatment action on "negative trends"; it instead proposes across-the-board treatment of 60-day arrears.
- The proposed treatment of all 60-day arrears does not select "critical accounts"; it instead proposes to treat all 60-day arrears.

The Company's proposed collection "plan" does not align with its own articulation of criteria by which to judge the effectiveness of collection efforts.

Q. WILL YOU PLEASE SUMMARIZE THE RECOMMENDATIONS YOU ADVANCE IN THIS PROCEEDING?

A. Yes. Based on the data and analysis I present above, I make the following recommendations for this proceeding:

- I recommend allowing the Company to increase its customer charge at a rate that will allow it to collect the same percentage of its total revenue through its fixed customer charge as it has in the past. Given that I have not taken positions on revenue requirement issues (with the exception of the collections expenses), I recommend a 20% increase in the customer charge.

- I recommend that the additional revenue that the Company collects through its increased customer charge be allocated primarily to the head block of consumption. In particular, I recommend moving 25% of the difference in customer charge revenue explicitly to the tail block of consumption.

- I recommend that the Company expand its R-4 discount to 75% from 60%.

- I recommend that the Company be directed to work with the state Food Stamp office to develop an automatic enrollment mechanism through which customers that are Food Stamp recipients will be enrolled in the R-4 rate.

- I recommend that the Commission direct the Company to provide a detailed plan specifying: (1) how it intends to comply with the outreach plan presented in the Smith/Anthony testimony in Docket DG-05-076, and (2) how it intends to use the "contacts" provided in the Attachment to that outreach plan.

- I recommend that the Commission direct the Company to earmark $50,000 a year for two years to engage in specific outreach targeted to particularly vulnerable customers, including young children, the disabled, and the aging.

- I recommend that the requirement that the R-4 discount be applied retroactively to the beginning of each heating season be extended to non-fuel assistance recipients as well as to fuel assistance recipients.

- I recommend that the Company's proposed expenditure of $566,141 for its collections plan be disapproved and removed from revenue requirement.

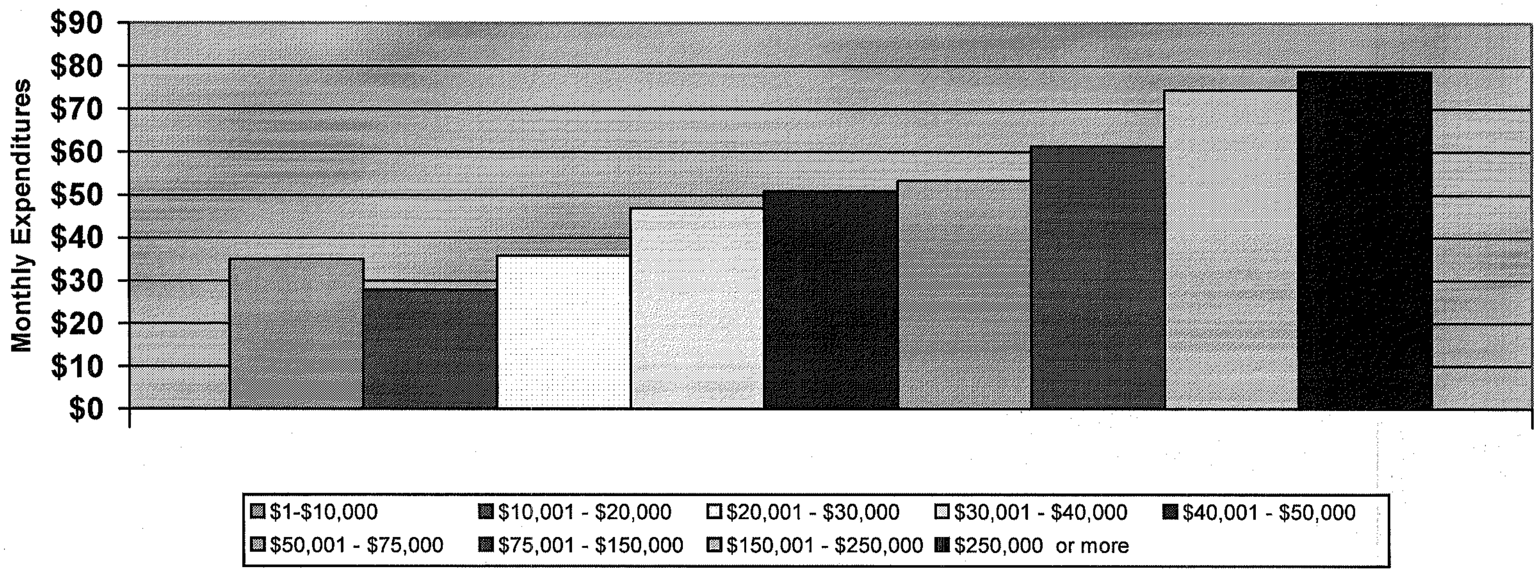
- I recommend that the Company's proposed collection plan be disapproved.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes, it does. I do, however, reserve the right to file supplemental testimony in response to the Staff report on uncollectible accounts. I have been informed by counsel that the existing procedural schedule provides the opportunity for such supplemental testimony.

Monthly Natural Gas Expenditures by Annual Income (New Hampshire) 2006 American Community Survey	
Annual Income	Natural Gas Expenditures (monthly)
$1-$10,000	$35.10
$10,001 - $20,000	$27.80
$20,001 - $30,000	$35.90
$30,001 - $40,000	$46.90
$40,001 - $50,000	$50.90
$50,001 - $75,000	$53.30
$75,001 - $150,000	$61.30
$150,001 - $250,000	$74.40
$250,000 or more	$78.80

Monthly Natural Gas Expenditures by Annual Income (New Hampshire 2006)



Monthly Natural Gas Expenditures by Number of Bedrooms in Home and Income (New Hampshire)
(American Community Survey: 2006)

No. of BRms	$1 - $10,000	$10 - $20,000	$20 - $30,000	$30 - $40,000	$40 - $50,000	$50 - $75,000	$75 - $150,000	$150- $250,000	$250,000+
0 bedrooms	xxx	$8.80	xxx	xxx	xxx	xxx	xxx	xxx	Xxx
1 bedroom	$22.90	$16.00	$22.70	$25.70	$23.80	$33.10	$23.10	$13.10	Xxx
2 bedrooms	$43.90	$28.90	$34.70	$55.90	$55.90	$51.60	$53.60	$78.80	$54.90
3 bedrooms	$41.00	$43.60	$45.60	$44.80	$53.50	$54.30	$54.10	$81.30	$44.20
4 bedrooms	$72.00	$23.70	$35.50	$33.40	$55.30	$65.00	$83.50	$62.50	$91.50
5+ bedrooms	xxx	$40.10	$71.90	$131.00	$59.80	$53.00	$77.80	$90.90	$118.00
Total	$37.20	$27.80	$35.90	$46.90	$50.90	$53.30	$61.30	$74.40	$78.80

Average Income by Number of Bedrooms in Housing Unit (New Hampshire)
(American Community Survey: 2006)

Number of Bedrooms	Average Income
0	$16,093
1	$32,127
2	$54,576
3	$77,912
4	$110,729
5	$117,196
Total	$72,114

Schedule RDC-5

Distribution of Housing Units by Income and Housing Unit Size (Bedrooms)
(American Community Survey: 2006)

Bedrooms	$1 - $10,000	$10 - $20,000	$20 - $30,000	$30 - $40,000	$40 - $50,000	$50 - $75,000	$75 - $150,000	$150- $250,000	$250,000 or more
No bedroom	2.7%	1.6%	1.0%	0.5%	0.0%	0.0%	0.0%	0.0%	0.0%
1 Bedroom	32.6%	35.9%	19.8%	15.6%	12.2%	6.4%	2.4%	1.7%	0.0%
2 Bedrooms	38.4%	31.1%	42.2%	38.8%	30.9%	34.8%	19.1%	11.8%	8.1%
3 Bedrooms	16.9%	26.3%	30.1%	35.7%	43.6%	42.9%	50.4%	41.6%	29.8%
4 Bedrooms	7.3%	3.4%	5.3%	7.3%	11.6%	12.3%	23.5%	34.4%	45.4%
5 or more bedrooms	2.0%	1.7%	1.6%	2.1%	1.7%	3.6%	4.7%	10.5%	16.7%
Total BDS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Natural Gas Consumption (thousand cf) by Income (2001)

	Total	Less than $10,000	$10,000 - $29,999	$30,000 - $49,999	$50,000 or more	Below Poverty Level	Eligible for Federal Assistance
Total energy (gas)	70	54	63	68	81	56	64
Space heating (gas)	54	45	50	52	59	45	50
Water heating (gas)	19	15	17	19	22	16	17

SOURCE: Residential Energy Consumption Survey, Tables CE1-3c, CE2-3c, CE4-3c.

Natural Gas Expenditures by Household Income Before Taxes (Northeast region)

	Total Northeast	Less than $5,000	$5,000 - $9,999	$10,000 - $14,999	$15,000 - $19,999	$20,000 - $29,999	$30,000 - $39,999	$40,000 - $49,999	$50,000 - $69,999	$70,000 or more
2005 - 2006	$640	$278	$319	$370	$576	$533	$596	$645	$723	$823
2004 - 2005	$596	$242	$304	$347	$522	$533	$568	$602	$620	$783
2003 - 2004	$540	$167	$290	$344	$478	$508	$522	$549	$536	$726

SOURCE: Table 33, U.S. Department of Labor, Consumer Expenditures Survey (annual)

Schedule RDC-8

Income by Year (inflation adjusted) by Demographic Factor (New Hampshire)

	2004	2005	2006	2007	Percent change (04 – 07)
Median income	$55,580	$56,768	$59,683	$62,369	12.2%
Wage and earnings	$65,624	$66,251	$69,477	$73,963	12.7%
Social Security	$13,088	$13,714	$13,974	$15,473	18.2%
SSI	$7,871	$7,554	$8,374	$8,420	7.0%
Public Assistance	$3,146	$3,003	$3,459	$3,038	-3.4%
Retirement	$16,962	$18,048	$18,267	$19,305	13.8%

Customer Charge Revenue at 100% cap	$16,056,875	Pct Moved to Tail Block	Dollars Moved to Tail Block
Customer Charge Revenue at 20% cap	$9,552,824		
Difference	$6,504,051	25%	$1,626,013

	Usage			Move 25% to Tail Block	Per Therm Change	Rates at Current Block Allocation	Rates at Adjusted Block Allocation
	Winter	Summer	Total				
Head block	33,258,023	6,653,804	39,911,827	$1,626,013	$0.0407	$0.3556	$0.3149
Tail block	14,997,398	4,765,276	19,762,674	$1,626,013	$0.0823	$0.2066	$0.2889
Total	48,255,421	11,419,080	59,674,501				

Percentage Bill Increase at Company's Proposed Rate Structure and Colton's Proposed Rate Structure Compared to Existing Rate Structure by Percent of Average Consumption (R-3 Rate)												
	Percent of Average Consumption											
	25%			50%			75%			100%		
R-3 (Company proposal)	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase
November 2005 – October 2006	$182.78	$287.86	57%	$246.46	$338.25	37%	$304.72	$384.37	26%	$349.76	$420.06	20%
November 2006 – October 2007	$180.81	$286.30	58%	$242.44	$335.07	38%	$299.52	$380.28	27%	$345.46	$416.64	21%
November 2007 - May 2008	$121.69	$179.85	48%	$173.66	$221.00	27%	$223.57	$260.49	17%	$261.08	$290.19	11%
	Percent of Average Consumption											
	25%			50%			75%			100%		
R-3 (Colton proposal)	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase
November 2005 – October 2006	$182.78	$210.90	15%	$246.46	$280.68	14%	$304.72	$349.30	15%	$349.76	$415.09	19%
November 2006 - October 2007	$180.81	$206.75	14%	$242.44	$276.36	14%	$299.52	$343.00	15%	$345.46	$407.26	18%
November 2007 - May 2008	$121.69	$139.43	15%	$173.66	$196.48	13%	$223.57	$253.09	13%	$261.08	$307.05	18%

Percentage Bill Increase at Company's Proposed Rate Structure and Colton's Proposed Rate Structure Compared to Existing Rate Structure by Percent of Average Consumption (R-4 Rate)

	Percent of Average Consumption											
	25%			50%			75%			100%		
R-4 (Company proposal)	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase
November 2005 – October 2006	$72.13	$114.36	59%	$96.02	$133.25	39%	$119.39	$151.76	27%	$137.58	$166.15	21%
November 2006 – October 2007	$71.02	$113.46	60%	$93.30	$131.57	41%	$116.34	$149.35	28%	$135.00	$164.10	22%
November 2007 - May 2008	$47.51	$71.00	49%	$66.80	$86.28	29%	$85.89	$101.37	18%	$101.38	$113.64	12%

	Percent of Average Consumption											
	25%			50%			75%			100%		
R-4 (Colton proposal)	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase	Current Structure	Proposed Structure	Pct Increase
November 2005 – October 2006	$72.13	$83.29	15%	$96.02	$110.01	15%	$119.39	$136.62	14%	$137.58	$162.12	18%
November 2006 - October 2007	$71.02	$82.07	16%	$93.30	$107.59	15%	$116.34	$133.01	14%	$135.00	$157.62	17%
November 2007 - May 2008	$47.51	54.5	15%	$66.80	$75.99	14%	$85.89	$97.43	13%	$101.38	$118.10	16%

Cost of Increasing R-4 Discount from 60% to 75% of Block Rates and Customer Charge							
	Number of R-4 Participants	Total 75% Discount	Total 60% Discount	Increase in Discount	75% Discount 12-month total	60% Discount 12-month total	Increase
Nov-05	1,555	$39,826	$32,249	$7,576			
Dec-05	2,101	$81,526	$68,606	$12,920			
Jan-06	2,813	$127,574	$106,058	$21,516			
Feb-06	3,166	$134,483	$110,184	$24,298			
Mar-06	3,885	$169,345	$138,955	$30,390			
Apr-06	4,493	$127,460	$95,922	$31,539			
May-06	4,848	$88,169	$63,688	$24,480			
Jun-06	4,875	$76,508	$60,248	$16,260			
Jul-06	4,912	$64,522	$50,612	$13,910			
Aug-06	4,914	$63,333	$50,734	$12,600			
Sep-06	4,917	$65,966	$52,777	$13,189			
Oct-06	4,888	$79,430	$63,996	$15,433	$1,118,143	$894,031	$224,112

Cost of Increasing R-4 Discount from 60% to 75% of Block Rates and Customer Charge							
	Number of R-4 Participants	Total 75% Discount	Total 60% Discount	Increase in Discount	75% Discount 12-month total	60% Discount 12-month total	Increase
Nov-06	1,790	$46,563	$37,698	$8,865			
Dec-06	2,418	$82,841	$67,834	$15,007			
Jan-07	3,005	$118,940	$97,638	$21,302			
Feb-07	3,476	$171,376	$142,843	$28,533			
Mar-07	4,098	$170,164	$139,566	$30,598			
Apr-07	4,629	$137,998	$107,856	$30,143			
May-07	4,808	$90,948	$67,942	$23,006			
Jun-07	4,820	$73,242	$58,316	$14,926			
Jul-07	4,921	$65,787	$52,541	$13,246			
Aug-07	4,920	$63,372	$50,733	$12,639			
Sep-07	4,922	$64,793	$52,056	$12,737			
Oct-07	4,913	$72,419	$57,909	$14,510	$1,158,444	$932,933	$225,511

Cost of Increasing R-4 Discount from 60% to 75% of Block Rates and Customer Charge							
	Number of R-4 Participants	Total 75% Discount	Total 60% Discount	Increase in Discount	75% Discount 12-month total	60% Discount 12-month total	12-month Increase
Jun-07	4,820	$73,242	$58,316	$14,926			
Jul-07	4,921	$65,787	$52,541	$13,246			
Aug-07	4,920	$63,372	$50,733	$12,639			
Sep-07	4,922	$64,793	$52,056	$12,737			
Oct-07	4,913	$72,419	$57,909	$14,510			
Nov-07	2,166	$49,813	$40,489	$9,324			
Dec-07	2,652	$96,834	$80,237	$16,597			
Jan-08	3,189	$131,267	$107,816	$23,451			
Feb-08	4,003	$173,823	$143,570	$30,253			
Mar-08	4,543	$177,749	$143,671	$34,078			
Apr-08	4,925	$153,135	$119,825	$33,310			
May-08	4,925	$93,267	$70,792	$22,475	$1,215,501	$977,956	$237,546

R-4 Enrollment by Source of Enrollment				
	Actual		Pct Non-LHIEAP	Original Projection
	LIHEAP	Non-LIHEAP		
Nov-05	1,555	1	0.06%	
Dec-05	2,101	2	0.10%	
Jan-06	2,813	2	0.07%	1,681
Feb-06	3,186	10	0.31%	1,681
Mar-06	3,885	12	0.31%	1,681
Apr-06	4,493	16	0.36%	1,681
May-06	4,846	14	0.29%	1,681
Jun-06	4,875	19	0.39%	1,681
Jul-06	4,912	22	0.45%	1,681
Aug-06	4,914	24	0.49%	1,681
Sep-06	4,917	31	0.63%	1,681
Oct-06	4,866	70	1.44%	1,681
Nov-06	1,790	74	4.13%	
Dec-06	2,418	75	3.10%	
Jan-07	3,005	62	2.06%	
Feb-07	3,476	86	2.47%	
Mar-07	4,098	83	2.03%	
Apr-07	4,029	79	1.96%	
May-07	4,908	78	1.59%	
Jun-07	4,920	78	1.59%	
Jul-07	4,921	78	1.59%	
Aug-07	4,920	77	1.57%	
Sep-07	4,922	72	1.46%	
Oct-07	4,913	75	1.53%	
Nov-07	2,166	85	3.92%	
Dec-07	2,652	84	3.17%	
Jan-08	3,189	87	2.73%	
Feb-08	4,003	85	2.12%	
Mar-08	4,543	79	1.74%	
SOURCE: NHLA-2-49.				

R-4 Enrollment by Month	
Nov-05	1,555
Dec-05	2,101
Jan-06	2,813
Feb-06	3,166
Mar-06	3,885
Apr-06	4,493
May-06	4,848
Jun-06	4,875
Jul-06	4,912
Aug-06	4,914
Sep-06	4,917
Oct-06	4,888
Nov-06	1,790
Dec-06	2,418
Jan-07	3,005
Feb-07	3,476
Mar-07	4,098
Apr-07	4,629
May-07	4,808
Jun-07	4,820
Jul-07	4,921
Aug-07	4,920
Sep-07	4,922
Oct-07	4,913
Nov-07	2,166
Dec-07	2,652
Jan-08	3,189
Feb-08	4,003
Mar-08	4,543
Apr-08	4,925
May-08	4,925

Impact of Prospective-only Application of R-4 Discount					
Month	Non-discounted Bill	Discounted Bill	Annual Bill Given Prospective-Only Discount	Annual Bill Given Total Discount Retroactive to Year Beginning	Pct: Increase of Actual Discounted Bill vs. Total Annual Discounted Bill
Nov-05	$33.73	$8.12	$101.31	$101.31	0%
Dec-05	$49.05	$10.24	$126.92	$101.31	25%
Jan-06	$58.09	$12.74	$165.73	$101.31	64%
Feb-06	$55.26	$12.78	$211.08	$101.31	108%
Mar-06	$56.62	$13.03	$253.56	$101.31	150%
Apr-06	$40.06	$11.69	$297.15	$101.31	193%
May-06	$26.60	$8.41	$325.51	$101.31	221%
June-06	$21.25	$5.56	$343.70	$101.31	239%
July-06	$17.86	$4.72	$359.40	$101.31	255%
Aug-06	$17.17	$4.28	$372.53	$101.31	268%
Sept-06	$17.89	$4.47	$385.42	$101.31	280%
Oct-06	$21.51	$5.26	$398.84	$101.31	294%

Impact of Prospective-only Application of R-4 Discount

Month	Non-discounted Bill	Discounted Bill	Annual Bill Given Prospective-Only Discount	Annual Bill Given Total Discount Retroactive to Year Beginning	Pct: Increase of Actual Discounted Bill vs. Total Annual Discounted Bill
Nov-06	$34.27	$8.25	$98.50	$98.50	0%
Dec-06	$44.60	$10.34	$124.51	$98.50	26%
Jan-07	$51.39	$11.81	$158.77	$98.50	61%
Feb-07	$62.97	$13.67	$198.36	$98.50	101%
Mar-07	$53.96	$12.43	$247.66	$98.50	151%
Apr-07	$40.66	$10.85	$289.18	$98.50	194%
May-07	$26.89	$7.97	$318.99	$98.50	224%
June-07	$20.36	$5.16	$337.91	$98.50	243%
July-07	$17.86	$4.49	$353.10	$98.50	258%
Aug-07	$17.17	$4.29	$366.47	$98.50	272%
Sept-07	$17.48	$4.32	$379.35	$98.50	285%
Oct-07	$19.67	$4.93	$392.52	$98.50	298%

Impact of Prospective-only Application of R-4 Discount					
Month	Non-discounted Bill	Discounted Bill	Annual Bill Given Prospective-Only Discount	Annual Bill Given Total Discount Retroactive to Year Beginning	Pct: Increase of Actual Discounted Bill vs. Total Annual Discounted Bill
Nov-07	$30.17	$7.17	$73.79	$73.79	0%
Dec-07	$46.94	$10.42	$73.79	$96.79	31%
Jan-08	$53.41	$12.25	$73.79	$133.30	81%
Feb-08	$56.01	$12.59	$73.79	$174.47	136%
Mar-08	$51.62	$12.49	$73.79	$217.89	195%
Apr-08	$42.36	$11.26	$73.79	$257.02	248%
May-08	$26.54	$7.60	$73.79	$288.11	290%

Schedule RDC-15

Basic Family Budget by Household Size and Structure
(Selected Cities—New Hampshire)

	1-parent/1-child	1-parent/2-children	2-parent/2-children
Manchester	$41,231	$50,239	$55,609
Nashua	$43,407	$52,503	$57,784
Rural	$37,866	$46,128	$51,698
100% of Federal Poverty Level	$14,000	$17,600	$21,200
200% of Federal Poverty Level	$28,000	$35,200	$42,400

SOURCE: Economic Policy Institute: Basic Family Budget Calculator (October 2008).

Collection Data: National Grid NH: January 2006 through May 2008

	Disconnect Nonpayment	Arrears at time of Disconnect	Arrears per Disconnect	Reconnections	Percent Reconnected
Jan-06	14	$4,827	$344.79	9	64.3%
Feb-06	15	$6,342	$422.80	6	40.0%
Mar-06	9	$3,810	$423.33	4	44.4%
Apr-06	246	$338,450	$1,375.81	81	32.9%
May-06	291	$380,089	$1,306.15	78	26.8%
Jun-06	220	$319,846	$1,453.85	32	14.5%
Jul-06	186	$218,126	$1,172.72	31	16.7%
Aug-06	239	$279,663	$1,170.14	50	20.9%
Sep-06	243	$260,270	$1,071.07	79	32.5%
Oct-06	168	$165,025	$982.29	88	52.4%
Nov-06	12	$5,207	$433.92	3	25.0%
Dec-06	26	$5,233	$201.27	15	57.7%
Jan-07	16	$5,652	$353.25	6	37.5%
Feb-07	16	$3,024	$189.00	9	56.3%
Mar-07	24	$6,252	$260.50	12	50.0%
Apr-07	232	$402,340	$1,734.22	81	34.9%
May-07	290	$452,659	$1,560.89	93	32.1%
Jun-07	224	$299,939	$1,339.01	58	25.9%
Jul-07	202	$264,023	$1,307.04	36	17.8%
Aug-07	200	$258,188	$1,290.94	52	26.0%
Sep-07	231	$282,177	$1,221.55	58	25.1%
Oct-07	237	$222,369	$938.27	87	36.7%
Nov-07	80	$45,671	$570.89	41	51.3%
Dec-07	0	$0	---	0	---
Jan-08	12	$4,996	$416.33	5	41.7%
Feb-08	14	$3,435	$245.36	5	35.7%
Mar-08	16	$5,634	$352.13	8	50.0%
Apr-08	265	$382,577	$1,443.69	87	32.8%
May-08	285	$463,957	$1,627.92	95	33.3%
Totals	4,013	$5,089,781	$1,268.32	1,209	30.1%

Dollars of Arrears: National Grid NH						
	Aging of Arrears			Percent Older Arrears of Initial Arrears		
	31-60 Days Old	61-90 Days Old	91-120 Days Old	Percent 60-day Arrears is of 30-Day Arrears	Percent 90-day Arrears of 30-Day Arrears	Resolution of 60-Day Arrears Relative to 90-Days
Apr-06	$2,719,454	$1,551,950	$1,215,490	---	---	---
May-06	$2,064,796	$1,904,785	$1,138,181	70%	---	---
Jun-06	$1,193,724	$1,361,741	$1,407,051	66%	52%	18%
Jul-06	$899,839	$840,696	$1,121,246	70%	54%	12%
Aug-06	$672,623	$570,583	$652,276	63%	55%	15%
Sep-06	$568,640	$437,295	$455,132	65%	51%	12%
Oct-06	$576,016	$368,068	$330,591	65%	49%	16%
Nov-06	$706,176	$363,684	$276,567	63%	49%	16%
Dec-06	$1,086,873	$463,670	$287,384	66%	50%	13%
Jan-07	$1,590,067	$655,515	$364,076	60%	52%	14%
Feb-07	$2,108,276	$1,041,362	$449,213	65%	41%	19%
Mar-07	$2,983,740	$1,316,067	$737,296	62%	46%	19%
Apr-07	$3,044,738	$1,882,859	$902,903	63%	43%	19%
May-07	$2,285,049	$2,129,783	$1,365,197	70%	46%	17%
Jun-07	$1,403,454	$1,666,241	$1,709,680	73%	56%	14%
Jul-07	$936,842	$1,070,349	$1,371,974	76%	60%	13%
Aug-07	$744,880	$640,435	$823,024	68%	59%	17%
Sep-07	$670,502	$507,664	$523,047	68%	56%	12%
Oct-07	$595,847	$448,532	$371,515	67%	50%	18%
Nov-07	$661,074	$391,190	$334,523	66%	50%	17%
Dec-07	$1,123,636	$452,625	$302,518	68%	51%	15%
Jan-08	$2,342,777	$614,902	$336,811	55%	51%	17%
Feb-08	$2,606,191	$1,434,173	$459,672	61%	41%	14%
Mar-08	$2,787,802	$1,715,582	$1,072,845	66%	46%	15%
Apr-08	$2,633,528	$1,875,780	$1,211,474	67%	46%	20%
May-08	$2,299,226	$1,895,683	$1,426,836	72%	51%	16%

Accounts in Arrears: National Grid NH						
	Aging of Arrears			Percent Older Arrears of Initial Arrears		
	31-60 Days Old	61-90 Days Old	91-120 Days Old	Percent 60-day Arrears is of 30-Day Arrears	Percent 90-day Arrears of 30-Day Arrears	Resolution of 60-Day Arrears Relative to 90-Days
Apr-06	5,831	2,998	2,249	---	---	
May-06	4,508	3,467	2,094	59%	---	
Jun-06	4,236	2,408	2,337	53%	40%	19%
Jul-06	3,931	2,067	1,786	49%	40%	13%
Aug-06	3,757	1,738	1,304	44%	31%	18%
Sep-06	3,910	1,711	1,097	46%	28%	16%
Oct-06	4,031	1,760	1,015	45%	27%	19%
Nov-06	4,282	1,834	1,046	45%	27%	18%
Dec-06	5,071	2,179	1,150	51%	29%	16%
Jan-07	5,070	2,169	1,267	43%	30%	21%
Feb-07	5,421	2,511	1,219	50%	24%	19%
Mar-07	6,453	2,528	1,550	47%	31%	19%
Apr-07	5,959	3,561	1,775	55%	33%	14%
May-07	4,831	3,656	2,567	61%	40%	15%
Jun-07	3,991	2,780	2,834	58%	48%	13%
Jul-07	4,036	2,260	2,186	57%	45%	13%
Aug-07	3,687	1,916	1,586	47%	40%	17%
Sep-07	3,772	1,896	1,373	51%	34%	13%
Oct-07	3,754	1,767	1,177	47%	32%	19%
Nov-07	4,263	1,790	1,132	48%	30%	17%
Dec-07	4,997	2,209	1,172	52%	31%	17%
Jan-08	5,869	1,943	1,200	39%	28%	24%
Feb-08	5,710	2,896	1,207	49%	24%	15%
Mar-08	5,785	3,082	1,832	54%	31%	18%
Apr-08	5,407	3,357	2,083	58%	36%	18%
May-08	4,807	3,258	2,404	60%	42%	16%

Average Bills, Arrears and "Bills Behind"
National Grid NH

	Average Bill	Average Arrears	Bills Behind
Apr-06	$132.73	$475.55	---
May-06	$74.04	$481.44	---
Jun-06	$51.83	$441.18	5.1
Jul-06	$36.74	$416.86	7.7
Aug-06	$31.72	$385.92	9.6
Sep-06	$35.36	$341.47	9.9
Oct-06	$47.59	$312.84	8.2
Nov-06	$86.64	$305.53	5.4
Dec-06	$144.20	$311.30	3.4
Jan-07	$186.80	$360.19	2.6
Feb-07	$239.82	$412.30	2.2
Mar-07	$227.66	$473.60	2.2
Apr-07	$155.18	$498.29	2.4
May-07	$85.14	$496.52	3.2
Jun-07	$46.81	$479.34	5.0
Jul-07	$36.20	$433.43	7.7
Aug-07	$31.80	$401.21	10.5
Sep-07	$32.16	$357.81	10.7
Oct-07	$36.61	$326.90	9.8
Nov-07	$86.89	$309.04	6.0
Dec-07	$196.69	$318.03	3.0
Jan-08	$208.35	$393.84	2.4
Feb-08	$207.33	$453.49	2.2
Mar-08	$187.81	$502.85	2.5
Apr-08	$150.50	$512.21	2.8
May-08	$83.19	$521.02	3.7

Attachment RC-1

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EDUCATION:

J.D. (Order of the Coif), University of Florida (1981)

M.A. (Economics), McGregor School, Antioch University (1993)

B.A. Iowa State University (1975)

PROFESSIONAL EXPERIENCE:

Fisher, Sheehan and Colton, Public Finance and General Economics: 1985 - present.

As a co-founder of this economics consulting partnership, Colton provides services in a variety of areas, including: regulatory economics, poverty law and economics, public benefits, fair housing, community development, energy efficiency, utility law and economics (energy, telecommunications, water/sewer), government budgeting, and planning and zoning.

Colton has testified in state and federal courts in the United States and Canada, as well as before regulatory and legislative bodies in more than three dozen states. He is particularly noted for creative program design and implementation within tight budget constraints.

National Consumer Law Center (NCLC): 1986 - 1994

As a staff attorney with NCLC, Colton worked on low-income energy and utility issues. He pioneered cost-justifications for low-income affordable energy rates, as well as developing models to quantify the non-energy benefits (*e.g.*, reduced credit and collection costs, reduced working capital) of low-income energy efficiency. He designed and implemented low-income affordable rate and fuel assistance programs across the country. Colton was charged with developing new practical and theoretical underpinnings for solutions to low-income energy problems.

Community Action Research Group (CARG): 1981 - 1985

As staff attorney for this non-profit research and consulting organization, Colton worked primarily on energy and utility issues. He provided legal representation to low-income persons on public utility issues; provided legal and technical assistance to consumer and labor organizations; and provided legal and technical assistance to a variety of state and local governments nationwide on natural gas, electric, and telecommunications issues. He routinely appeared as an expert witness before regulatory agencies and legislative committees regarding energy and telecommunications issues.

PROFESSIONAL AFFILIATIONS:

Member:	Board of Directors, Belmont Housing Trust, Inc.
Member:	Advisory Board: Fair Housing Center of Greater Boston.
Past Member:	Fair Housing Committee, Town of Belmont (MA)
Past Member:	Aggregation Advisory Committee, New York State Energy Research and Development Authority.
Past Member:	Board of Directors, Vermont Energy Investment Corporation.
Past Member:	Board of Directors, National Fuel Funds Network
Past Member:	National Advisory Committee, U.S. Department of Health and Human Services, Administration for Children and Families, Performance Goals for Low-Income Home Energy Assistance.
Past Member:	Editorial Advisory Board, International Library, *Public Utility Law Anthology*.
Past Member:	ASHRAE Guidelines Committee, GPC-8, *Energy Cost Allocation of Comfort HVAC Systems for Multiple Occupancy Buildings*
Past Member:	National Advisory Committee, U.S. Department of Housing and Urban Development, Calculation of Utility Allowances for Public Housing.
Past Member:	National Advisory Board: Energy Financing Alternatives for Subsidized Housing, New York State Energy Research and Development Authority.

PROFESSIONAL ASSOCIATIONS:

National Association of Housing and Redevelopment Officials (NAHRO)
Association for Enterprise Opportunity (AEO)
Iowa State Bar Association
Energy Bar Association
Association for Institutional Thought (AFIT)
Association for Evolutionary Economics (AEE)
Society for the Study of Social Problems (SSSO)
International Society for Policy Studies
Association for Social Economics

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COLTON EXPERIENCE AS EXPERT WITNESS

1988 - PRESENT

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
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 - 09
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	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	07
I/M/O National Fuel Gas Distribution Corporation	Witness	Office of Consumer Advocate	Low-income program	Pennsylvania	07

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
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
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

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
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 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
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

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
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
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

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
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 Finnce	Witness	Thomas Davis	Damages in "loan flipping" case	Ohio	98 - 99
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

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
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
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
Penn Bell Telephone Co.	Witness	Penn. Utility Law Project	Low-income phone rates	Pennsylvania	93

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
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	Penn. State 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	Penn OCA	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	Penn. OCA	Energy Assurance Program	Pennsylvania	90
Philadelphia Gas Works	Witness	PPA	Energy Assurance Program	Philadelphia	89
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

CASE NAME	ROLE	CLIENT NAME	TOPIC	JURIS.	DATE
National Fuel Gas	Witness	Penn OCA	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

Attachment RC-2

NATIONAL GRID - NH
Comparison of Present and Proposed Rates
Winter Season
Residential Non-Heating
Rate R-1

Sales	Present Rate		Proposed Rate		Difference		Present Rate With CGC Revenues		Proposed Rate With CGC Revenues		Difference With CGC Revenues	
therm	Base Rate	Revenues Per therm	Base Rate	Revenues Per therm	Revenues Base Rate	Percent Base Rate	Rate	Revenues Per therm	Rate	Revenues Per therm	Revenues Rate	Percent Rate
0	$6.91	NA	$13.75	NA	$6.84	98.99%	$6.91	NA	$13.75	NA	$6.84	98.99%
2	7.44	3.718	13.80	6.898	6.36	85.52%	9.71	4.857	16.10	8.050	6.39	65.73%
4	7.96	1.991	13.84	3.460	5.88	73.83%	12.52	3.130	18.45	4.612	5.93	47.38%
6	8.49	1.415	13.89	2.314	5.40	63.59%	15.32	2.554	20.80	3.467	5.48	35.74%
8	9.01	1.127	13.93	1.742	4.92	54.55%	18.13	2.266	23.15	2.894	5.02	27.71%
10	9.54	0.954	13.98	1.398	4.44	46.50%	20.93	2.093	25.50	2.550	4.57	21.82%
15	10.70	0.714	14.08	0.939	3.38	31.54%	27.79	1.853	31.36	2.091	3.57	12.86%
20	11.86	0.593	14.18	0.709	2.32	19.51%	34.64	1.732	37.22	1.861	2.58	7.44%
25	13.03	0.521	14.28	0.571	1.25	9.63%	41.50	1.660	43.08	1.723	1.58	3.81%
30	14.19	0.473	14.38	0.479	0.19	1.35%	48.36	1.612	46.94	1.631	0.59	1.21%
35	15.35	0.439	14.48	0.414	(0.87)	-5.66%	55.21	1.578	54.80	1.566	(0.41)	-0.74%
40	16.51	0.413	14.58	0.365	(1.93)	-11.68%	62.07	1.552	60.67	1.517	(1.41)	-2.26%
45	17.67	0.393	14.68	0.326	(2.99)	-16.92%	68.93	1.532	66.53	1.478	(2.40)	-3.48%
50	18.83	0.377	14.78	0.296	(4.05)	-21.51%	75.78	1.516	72.39	1.448	(3.40)	-4.48%
60	21.16	0.353	14.98	0.250	(6.17)	-29.16%	89.50	1.492	84.11	1.402	(5.39)	-6.02%
70	23.48	0.335	15.18	0.217	(8.30)	-35.33%	103.21	1.474	95.83	1.369	(7.38)	-7.10%
80	25.80	0.323	15.38	0.192	(10.42)	-40.37%	116.92	1.462	107.55	1.344	(9.37)	-8.01%
90	28.13	0.313	15.58	0.173	(12.54)	-44.58%	130.64	1.452	119.28	1.325	(11.36)	-8.70%
100	30.45	0.304	15.79	0.158	(14.66)	-48.15%	144.35	1.443	131.00	1.310	(13.35)	-9.25%
200	53.66	0.268	17.80	0.089	(35.86)	-66.84%	281.49	1.407	248.22	1.241	(33.26)	-11.82%
Estimated Bill Percentile - 25%												
8	9.01	1.127	13.93	1.742	4.92	54.55%	18.13	2.266	23.15	2.894	5.02	27.71%
Bill Percentile - 50%												
15	10.70	0.714	14.08	0.939	3.38	31.54%	27.79	1.853	31.36	2.091	3.57	12.86%
Estimated Bill Percentile - 75%												
25	13.03	0.521	14.28	0.571	1.25	9.63%	41.50	1.660	43.08	1.723	1.58	3.81%

Equivalent DRY Therm Present Rate R-1

	Block therm	Rate
Customer Charge	-	$6.91 /Customer
First	10	$0.2631 /therm
Over	10	$0.2373 /therm
TOTAL CGC & LDAC		$1.1390 /therm
CGC		$1.1206
LDAC		$0.0184

Proposed Rate R-1

	Block therm	Rate
Customer Charge	-	$13.75 /Customer
First	10	$0.0228 /therm
Over	10	$0.0201 /therm
TOTAL CGC & LDAC		$1.1521 /therm
CGC		$1.1337 /therm
LDAC		$0.0184 /therm

NOTE: The present CGC rate reflects approved rates. All present rates are restated to Dry therms to allow comparison with proposed rates (also in dry therms).

NATIONAL GRID - NH
Comparison of Present and Proposed Rates
Summer Season
Residential Non-Heating
Rate R-1

Sales	Present Rate		Proposed Rate		Difference		Present Rate With CGC Revenues		Proposed Rate With CGC Revenues		Difference With CGC Revenues	
	Base	Revenues	Base	Revenues	Revenues Base	Percent Base		Revenues		Revenues	Revenues	Percent
therm	Rate	Per therm	Rate	Per therm	Rate	Rate	Rate	Per therm	Rate	Per therm	Rate	Rate
0	$6.91	NA	$13.75	NA	$6.84	98.99%	$6.91	NA	$13.75	NA	$6.84	98.99%
2	7.44	3.718	13.80	6.900	6.36	85.52%	9.40	4.699	15.78	7.892	6.39	67.96%
4	7.96	1.991	13.84	3.460	5.88	73.83%	11.88	2.971	17.82	4.454	5.93	49.92%
6	8.49	1.415	13.89	2.314	5.40	63.60%	14.37	2.395	19.85	3.308	5.48	38.12%
8	9.01	1.127	13.93	1.742	4.92	54.55%	16.86	2.107	21.88	2.735	5.02	29.80%
10	9.54	0.954	13.98	1.398	4.44	46.50%	19.35	1.935	23.92	2.392	4.57	23.62%
15	10.70	0.714	14.08	0.939	3.38	31.54%	25.41	1.694	28.98	1.932	3.58	14.07%
20	11.86	0.593	14.18	0.709	2.32	19.51%	31.47	1.574	34.05	1.703	2.58	8.20%
25	13.03	0.521	14.28	0.571	1.25	9.63%	37.54	1.501	39.12	1.565	1.58	4.23%
30	14.19	0.473	14.38	0.479	0.19	1.36%	43.60	1.453	44.19	1.473	0.59	1.36%
35	15.35	0.439	14.48	0.414	(0.87)	-5.66%	49.66	1.419	49.26	1.407	(0.40)	-0.81%
40	16.51	0.413	14.58	0.365	(1.93)	-11.69%	55.73	1.393	54.33	1.358	(1.40)	-2.51%
45	17.67	0.393	14.68	0.326	(2.99)	-16.92%	61.79	1.373	59.40	1.320	(2.39)	-3.87%
50	18.83	0.377	14.78	0.296	(4.05)	-21.51%	67.85	1.357	64.47	1.289	(3.39)	-4.99%
60	21.16	0.353	14.98	0.250	(6.17)	-29.16%	79.98	1.333	74.61	1.243	(5.38)	-6.72%
70	23.48	0.335	15.18	0.217	(8.30)	-35.35%	92.11	1.316	84.74	1.211	(7.38)	-8.00%
80	25.80	0.323	15.38	0.192	(10.42)	-40.37%	104.23	1.303	94.88	1.186	(9.35)	-8.97%
90	28.13	0.313	15.59	0.173	(12.54)	-44.58%	116.36	1.293	105.02	1.167	(11.34)	-9.75%
100	30.45	0.304	15.79	0.158	(14.66)	-48.15%	128.49	1.285	115.16	1.152	(13.33)	-10.38%
200	53.68	0.268	17.80	0.089	(35.88)	-66.84%	249.76	1.249	216.54	1.083	(33.22)	-13.30%
Estimated Bill Percentile - 25%												
5	8.23	1.645	13.86	2.773	5.64	68.55%	13.13	2.626	18.83	3.767	5.71	43.48%
Bill Percentile - 50%												
11	9.77	0.888	14.00	1.273	4.22	43.23%	20.56	1.869	24.93	2.266	4.37	21.26%
Estimated Bill Percentile - 75%												
20	11.86	0.593	14.18	0.709	2.32	19.51%	31.47	1.574	34.05	1.703	2.58	8.20%

Equivalent DRY Therm Present Rate R-1

	Block therm	Rate	
Customer Charge	-	$6.91	/Customer
First	10	$0.2631	/therm
Over	10	$0.2323	/therm
TOTAL CGC & LDAC		$0.9804	/therm
CGC		$0.9423	
LDAC		$0.0381	

Proposed Rate R-1

	Block therm	Rate	
Customer Charge	-	$13.75	/Customer
First	10	$0.0228	/therm
Over	10	$0.0201	/therm
TOTAL CGC & LDAC		$0.9037	/therm
CGC		$0.8656	/therm
LDAC		$0.0381	/therm

NOTE: The present CGC rate reflects approved rates. All present rates are restated to Dry therms to allow comparison with proposed rates (also in dry therms).

NATIONAL GRID - NH
Comparison of Present and Proposed Rates
Winter Season
Residential Heating
Rate R-3

	Present Rate		Proposed Rate		Difference		Present Rate With CGC Revenues		Proposed Rate With CGC Revenues		Difference With CGC Revenues	
Sales therm	Base Rate	Revenues Per therm	Base Rate	Revenues Per therm	Revenues Base Rate	Percent Base Rate	Rate	Revenues Per therm	Rate	Revenues Per therm	Revenues Rate	Percent Rate
0	$9.88	NA	$19.75	NA	$9.87	99.90%	$9.88	NA	$19.75	NA	$9.87	99.90%
10	12.77	1.277	22.04	2.204	9.27	72.56%	24.17	2.417	33.57	3.357	9.40	38.88%
25	17.12	0.685	25.48	1.019	8.36	48.86%	45.60	1.824	54.29	2.172	8.69	19.06%
50	24.35	0.487	31.21	0.624	6.86	28.15%	81.33	1.627	88.84	1.777	7.51	9.23%
75	31.58	0.421	36.93	0.492	5.35	16.93%	117.05	1.561	123.38	1.645	6.33	5.41%
100	38.82	0.388	42.66	0.427	3.84	9.89%	152.77	1.528	157.92	1.579	5.15	3.37%
125	43.02	0.344	45.99	0.368	2.97	6.89%	185.46	1.484	190.06	1.521	4.60	2.48%
150	47.23	0.315	49.32	0.329	2.09	4.43%	218.15	1.454	222.21	1.481	4.06	1.86%
175	51.43	0.294	52.64	0.301	1.22	2.36%	250.84	1.433	254.35	1.453	3.51	1.40%
200	55.63	0.278	55.97	0.280	0.34	0.61%	283.63	1.418	286.49	1.432	2.96	1.04%
225	59.83	0.266	59.30	0.264	(0.54)	-0.89%	316.22	1.405	318.63	1.416	2.41	0.76%
250	64.04	0.256	62.63	0.251	(1.41)	-2.20%	348.91	1.396	350.78	1.403	1.87	0.53%
275	68.24	0.248	65.95	0.240	(2.29)	-3.35%	381.60	1.388	382.92	1.392	1.32	0.35%
300	72.44	0.241	69.28	0.231	(3.16)	-4.36%	414.29	1.381	415.06	1.384	0.77	0.19%
350	80.85	0.231	75.94	0.217	(4.91)	-6.07%	479.67	1.370	479.35	1.370	(0.32)	-0.07%
400	89.25	0.223	82.59	0.206	(6.66)	-7.46%	545.05	1.363	543.63	1.359	(1.42)	-0.26%
450	97.66	0.217	89.25	0.198	(8.41)	-8.61%	610.43	1.357	607.92	1.351	(2.51)	-0.41%
500	106.06	0.212	95.90	0.192	(10.16)	-9.58%	675.81	1.352	672.20	1.344	(3.61)	-0.53%
750	148.09	0.197	129.18	0.172	(18.91)	-12.77%	1,002.71	1.337	993.63	1.325	(9.09)	-0.91%
1,000	190.11	0.190	162.45	0.162	(27.66)	-14.55%	1,329.61	1.330	1,315.05	1.315	(14.56)	-1.10%
Estimated Bill Percentile - 25%												
55	25.80	0.469	32.35	0.588	6.55	25.40%	88.47	1.609	95.74	1.741	7.27	8.22%
Bill Percentile - 50%												
100	38.82	0.388	42.66	0.427	3.84	9.89%	152.77	1.528	157.92	1.579	5.15	3.37%
Estimated Bill Percentile - 75%												
150	47.23	0.315	49.32	0.329	2.09	4.43%	218.15	1.454	222.21	1.481	4.06	1.86%

Equivalent DRY Therm Present Rate R-3

	Block therm	Rate	
Customer Charge	-	$9.88	/Customer
First	100	$0.2694	/therm
Over	100	$0.1601	/therm
TOTAL CGC & LDAC		$1.1395	/therm
CGC		$1.1206	
LDAC		$0.0189	

Proposed Rate R-3

	Block therm	Rate	
Customer Charge	-	$19.75	/Customer
First	100	$0.2291	/therm
Over	100	$0.1331	/therm
TOTAL CGC & LDAC		$1.1526	/therm
CGC		$1.1337	/therm
LDAC		$0.0189	/therm

NOTE: The present CGC rate reflects approved rates. All present rates are restated to Dry therms to allow comparison with proposed rates (also in dry therms).

NATIONAL GRID - NH
Comparison of Present and Proposed Rates
Summer Season
Residential Heating
Rate R-3

	Present Rate		Proposed Rate		Difference		Present Rate		Proposed Rate		Difference	
					Revenues	Percent	With CGC Revenues		With CGC Revenues		With CGC Revenues	
Sales	Base	Revenues	Base	Revenues	Base	Base		Revenues		Revenues	Revenues	Percent
therm	Rate	Per therm	Rate	Per therm	Rate	Rate	Rate	Per therm	Rate	Per therm	Rate	Rate
0	$9.88	NA	$19.75	NA	$9.87	99.90%	$9.88	NA	$19.75	NA	$9.87	99.90%
10	12.77	1.277	22.04	2.204	9.27	72.59%	22.58	2.258	31.98	3.198	9.40	41.62%
25	16.51	0.660	25.00	1.000	8.49	51.42%	41.03	1.641	49.86	1.994	8.82	21.50%
50	20.71	0.414	28.33	0.567	7.61	36.76%	69.76	1.395	78.04	1.561	8.28	11.87%
75	24.91	0.332	31.65	0.422	6.74	27.05%	98.49	1.313	106.23	1.416	7.74	7.86%
100	29.12	0.291	34.98	0.350	5.86	20.14%	127.22	1.272	134.41	1.344	7.19	5.65%
125	33.32	0.267	38.31	0.306	4.99	14.97%	155.94	1.248	162.60	1.301	6.65	4.27%
150	37.53	0.250	41.64	0.278	4.11	10.96%	184.67	1.231	190.78	1.272	6.11	3.31%
175	41.72	0.238	44.96	0.257	3.24	7.76%	213.40	1.219	218.97	1.251	5.57	2.61%
200	45.93	0.230	48.29	0.241	2.36	5.15%	242.13	1.211	247.15	1.236	5.02	2.07%
225	50.13	0.223	51.62	0.229	1.49	2.97%	270.86	1.204	275.34	1.224	4.48	1.65%
250	54.33	0.217	54.95	0.220	0.61	1.13%	299.58	1.198	303.52	1.214	3.94	1.31%
275	58.53	0.213	58.27	0.212	(0.26)	-0.45%	328.31	1.194	331.71	1.206	3.40	1.03%
300	62.74	0.209	61.60	0.205	(1.14)	-1.81%	357.04	1.190	359.89	1.200	2.85	0.80%
350	71.14	0.203	68.26	0.195	(2.89)	-4.05%	414.49	1.184	416.26	1.189	1.77	0.43%
400	79.56	0.199	74.91	0.187	(4.64)	-5.83%	471.95	1.180	472.63	1.182	0.68	0.14%
450	87.96	0.196	81.57	0.181	(6.39)	-7.26%	529.40	1.176	529.00	1.176	(0.40)	-0.08%
500	96.36	0.193	88.22	0.176	(8.14)	-8.44%	586.86	1.174	585.37	1.171	(1.49)	-0.25%
750	138.38	0.185	121.50	0.162	(16.89)	-12.20%	874.13	1.166	867.22	1.156	(6.91)	-0.79%
1,000	180.41	0.180	154.77	0.155	(25.64)	-14.21%	1,161.41	1.161	1,149.07	1.149	(12.34)	-1.06%
Estimated Bill Percentile - 25%												
13	13.64	1.049	22.73	1.748	9.09	66.60%	26.40	2.030	35.65	2.743	9.26	35.08%
Bill Percentile - 50%												
20	15.67	0.783	24.33	1.217	8.66	55.30%	35.29	1.764	44.22	2.211	8.93	25.31%
Estimated Bill Percentile - 75%												
35	18.19	0.520	26.33	0.752	8.14	44.75%	52.52	1.501	61.13	1.747	8.60	16.38%

Equivalent DRY Therm Present Rate R-3

	Block therm	Rate	
Customer Charge	-	$9.88	/Customer
First	20	$0.2094	/therm
Over	20	$0.1681	/therm
TOTAL CGC & LDAC		$0.9810	/therm
CGC		$0.9423	
LDAC		$0.0387	

Proposed Rate R-3

	Block therm	Rate	
Customer Charge	-	$19.75	/Customer
First	20	$0.2201	/therm
Over	20	$0.1331	/therm
TOTAL CGC & LDAC		$0.9943	/therm
CGC		$0.9556	/therm
LDAC		$0.0387	/therm

NOTE: The present CGC rate reflects approved rates. All present rates are restated to Dry therms to allow comparison with proposed rates (also in dry therms).

NATIONAL GRID - NH
Comparison of Present and Proposed Rates
Winter Season
Low Income Residential Heating
Rate R-4

Sales	Present Rate		Proposed Rate		Difference		Present Rate		Proposed Rate		Difference	
					Revenues	Percent	With CGC Revenues		With CGC Revenues		With CGC Revenues	
	Base	Revenues	Base	Revenues	Base	Base		Revenues		Revenues	Revenues	Percent
therm	Rate	Per therm	Rate	Per therm	Rate	Rate	Rate	Per therm	Rate	Per therm	Rate	Rate
0	$3.95	NA	$7.90	NA	$3.95	100.00%	$3.95	NA	$7.90	NA	$3.95	100.00%
10	5.11	0.511	8.82	0.882	3.71	72.59%	16.50	1.650	20.34	2.034	3.84	23.20%
25	6.85	0.274	10.19	0.408	3.35	48.87%	35.33	1.413	39.01	1.560	3.67	10.39%
50	8.74	0.195	12.48	0.250	2.74	28.13%	68.72	1.334	70.11	1.402	3.40	5.09%
75	12.64	0.168	14.77	0.197	2.14	16.90%	98.10	1.308	101.22	1.350	3.12	3.18%
100	15.53	0.155	17.06	0.171	1.53	9.85%	129.48	1.295	132.32	1.323	2.84	2.19%
125	17.21	0.138	18.39	0.147	1.18	6.86%	159.65	1.277	162.47	1.300	2.82	1.76%
150	18.89	0.126	19.72	0.131	0.83	4.39%	189.82	1.265	192.61	1.284	2.79	1.47%
175	20.57	0.118	21.05	0.120	0.48	2.33%	219.98	1.257	222.76	1.273	2.77	1.26%
200	22.25	0.111	22.38	0.112	0.13	0.58%	250.15	1.251	252.90	1.265	2.75	1.10%
225	23.93	0.106	23.71	0.105	(0.22)	-0.92%	280.32	1.246	283.05	1.258	2.73	0.97%
250	25.61	0.102	25.04	0.100	(0.57)	-2.23%	310.49	1.242	313.19	1.253	2.70	0.87%
275	27.29	0.099	26.37	0.096	(0.92)	-3.37%	340.65	1.239	343.34	1.248	2.68	0.79%
300	28.97	0.097	27.70	0.092	(1.27)	-4.38%	370.82	1.236	373.48	1.245	2.66	0.72%
350	32.33	0.092	30.36	0.087	(1.97)	-6.09%	431.16	1.232	433.77	1.239	2.62	0.61%
400	35.69	0.089	33.02	0.083	(2.67)	-7.48%	491.49	1.229	494.06	1.235	2.57	0.52%
450	39.05	0.087	35.68	0.079	(3.37)	-8.63%	551.83	1.226	554.35	1.232	2.52	0.46%
500	42.41	0.085	38.34	0.077	(4.07)	-9.60%	612.16	1.224	614.64	1.229	2.48	0.41%
750	59.21	0.079	51.64	0.069	(7.57)	-12.79%	913.84	1.218	916.09	1.221	2.25	0.25%
1,000	76.01	0.076	64.94	0.065	(11.07)	-14.56%	1,215.51	1.216	1,217.54	1.218	2.03	0.17%
Estimated Bill Percentile - 25%												
60	10.90	0.182	13.40	0.223	2.50	22.92%	79.27	1.321	82.55	1.376	3.28	4.14%
Bill Percentile - 50%												
100	15.53	0.155	17.06	0.171	1.53	9.85%	129.48	1.295	132.32	1.323	2.84	2.19%
Estimated Bill Percentile - 75%												
150	18.89	0.126	19.72	0.131	0.83	4.39%	189.82	1.265	192.61	1.284	2.79	1.47%

Equivalent DRY Therm Present Rate R-4

	Block therm	Rate	
Customer Charge	-	$3.95	/Customer
First	100	$0.1150	/therm
Over	100	$0.0672	/therm
TOTAL CGC & LDAC		$1.1395	/therm
CGC		$1.1206	
LDAC		$0.0189	

Proposed Rate R-4

	Block therm	Rate	
Customer Charge	-	$7.90	/Customer
First	100	$0.0916	/therm
Over	100	$0.0532	/therm
TOTAL CGC & LDAC		$1.1526	/therm
CGC		$1.1337	/therm
LDAC		$0.0189	/therm

NOTE: The present CGC rate reflects approved rates. All present rates are restated to Dry therms to allow comparison with proposed rates (also in dry therms).

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NATIONAL GRID - NH
Comparison of Present and Proposed Rates
Summer Season
Low Income Residential Heating
Rate R-4

Sales	Present Rate		Proposed Rate		Difference		Present Rate With CGC Revenues		Proposed Rate With CGC Revenues		Difference With CGC Revenues	
Therm	Base Rate	Revenues Per therm	Base Rate	Revenues Per therm	Revenues Base Rate	Percent Base Rate	Rate	Revenues Per therm	Rate	Revenues Per therm	Revenues Rate	Percent Rate
0	$3.95	NA	$7.90	NA	$3.95	100.00%	$3.95	NA	$7.90	NA	$3.95	100.00%
10	5.11	0.511	8.82	0.882	3.71	72.59%	14.92	1.492	18.76	1.876	3.84	25.75%
25	6.60	0.264	10.00	0.400	3.40	51.44%	31.13	1.245	34.86	1.394	3.73	11.98%
50	8.28	0.166	11.33	0.227	3.05	36.78%	57.33	1.147	61.04	1.221	3.71	6.47%
75	9.96	0.133	12.66	0.169	2.70	27.06%	83.54	1.114	87.23	1.163	3.69	4.42%
100	11.64	0.116	13.99	0.140	2.35	20.15%	109.74	1.097	113.42	1.134	3.68	3.35%
125	13.32	0.107	15.32	0.123	2.00	14.98%	135.95	1.088	139.61	1.117	3.66	2.69%
150	15.00	0.100	16.65	0.111	1.65	10.97%	162.15	1.081	165.79	1.105	3.64	2.25%
175	16.68	0.095	17.98	0.103	1.30	7.77%	188.36	1.076	191.98	1.097	3.62	1.92%
200	18.36	0.092	19.31	0.097	0.95	5.15%	214.56	1.073	218.17	1.091	3.61	1.68%
225	20.04	0.089	20.64	0.092	0.60	2.97%	240.77	1.070	244.36	1.086	3.59	1.49%
250	21.72	0.087	21.97	0.088	0.25	1.13%	266.97	1.068	270.54	1.082	3.57	1.34%
275	23.40	0.085	23.30	0.085	(0.10)	-0.44%	293.18	1.066	296.73	1.079	3.55	1.21%
300	25.08	0.084	24.63	0.082	(0.45)	-1.81%	319.38	1.065	322.92	1.076	3.54	1.11%
350	28.44	0.081	27.29	0.078	(1.15)	-4.06%	371.79	1.062	375.29	1.072	3.50	0.94%
400	31.80	0.080	29.95	0.075	(1.85)	-5.83%	424.20	1.061	427.67	1.069	3.47	0.82%
450	35.16	0.078	32.61	0.072	(2.55)	-7.26%	476.61	1.059	480.04	1.067	3.43	0.72%
500	38.52	0.077	35.27	0.071	(3.25)	-8.45%	529.02	1.058	532.42	1.065	3.40	0.64%
750	55.32	0.074	48.57	0.065	(6.75)	-12.21%	791.07	1.055	794.29	1.059	3.22	0.41%
1,000	72.12	0.072	61.87	0.062	(10.25)	-14.22%	1,053.12	1.053	1,056.17	1.056	3.05	0.29%
Estimated Bill Percentile - 25%												
15	5.69	0.379	9.27	0.618	3.59	63.07%	20.40	1.360	24.19	1.613	3.79	18.56%
Bill Percentile - 50%												
25	6.60	0.264	10.00	0.400	3.40	51.44%	31.13	1.245	34.86	1.394	3.73	11.98%
Estimated Bill Percentile - 75%												
40	7.61	0.190	10.80	0.270	3.19	41.87%	48.85	1.171	50.57	1.264	3.72	7.94%

Equivalent DRY Therm Present Rate R-4

	Block therm	Rate	
Customer Charge	-	$3.95	/Customer
First	20	$0.1158	/therm
Over	20	$0.0672	/therm
TOTAL CGC & LDAC		$0.9810	/therm
CGC		$0.9423	
LDAC		$0.0387	

Proposed Rate R-4

	Block therm	Rate	
Customer Charge	-	$7.90	/Customer
First	20	$0.0916	/therm
Over	20	$0.0532	/therm
TOTAL CGC & LDAC		$0.9943	/therm
CGC		$0.9556	/therm
LDAC		$0.0387	/therm

NOTE: The present CGC rate reflects approved rates. All present rates are restated to Dry therms to allow comparison with proposed rates (also in dry therms).

Typical Bill Impact Analysis 2008.xls