BEFORE THE

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION

Re.	:	
	:	
PETITION FOR APPROVAL OF 2010 "CORE" ENERGY EFFICIENCY PROGRAMS	:	**Docket No. DG 09-170**
	:	
	:	
	:	

DIRECT TESTIMONY OF

ROGER D. COLTON

ON BEHALF OF

THE WAY HOME

November 6, 2009

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 The Way Home, a non-profit housing service provider.

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, Pennsylvania, North Carolina, Colorado, New Mexico and Toronto. My clients include state agencies (*e.g.*, Pennsylvania Office of Consumer Advocate, Maryland Office of Peoples Counsel, Iowa Department of Human Rights), federal agencies (*e.g.*, the U.S. Department of

Health and Human Services), community-based organizations (*e.g.*, Community Action of New Mexico, Community Action Partnership of Oregon), and private utilities (*e.g.*, Citizens Gas and Coke Utility, Xcel 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 worked on a team that recently completed 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 from Iowa State University (1975), I obtained further training in both law and economics. I received my law degree from the University of Florida in 1981. I received my Masters Degree (economics) from the McGregor School (Antioch University) 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.

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

A. Yes. I have previously testified before the New Hampshire Public Utilities Commission (NH PUC) on several occasions regarding energy issues affecting low-income and low-use customers. I have previously testified on behalf of the Staff, as well as on behalf of The Way Home. I have also testified in regulatory proceedings in more than 30 states and various Canadian provinces on a wide range of low-income utility issues.

Q. PLEASE EXPLAIN THE PURPOSE OF YOUR TESTIMONY.

A. My testimony has the following objectives:

- To review the CORE funding provided for low-income energy efficiency to determine whether that funding is reasonable for the 2010 budget year; and
- To determine whether it is possible to develop a rational formula-based approach to setting the CORE low-income budget each year.

Q. WHAT DO YOU CONCLUDE

A. I reach the following conclusions in my testimony below:

- The 14% budget allocation to low-income programs is a reasonable allocation for the coming 2010 budget year and should be approved.
- It is possible to develop a formula-based approach to setting the low-income CORE budget;

- The formula-based approach that I recommend is based on long-established public policy in New Hampshire, on sound economics, and on sound regulatory principles; and
- It would be reasonable to ramp-up the low-income budget to the level that I recommend over five years and to use the formula-based adjustment thereafter to set the annual low-income budget.

Q. PLEASE EXPLAIN YOUR FINDING THAT DEVOTING 14% OF THE TOTAL CORE BUDGET TO LOW-INCOME EFFICIENCY IS A REASONABLE LOW-INCOME BUDGET FOR 2010.

A. As I explain in more detail below, I do not believe that the fact that the low-income budget is 14% of the overall CORE budget is the important factor to consider. The reasonableness of the low-income budget is to be judged by the extent to which that budget will help New Hampshire achieve an objective of serving 50% of the low-income customer base within a 10 year time period. The proposed $2.8 million for 2010 reasonably advances that objective within the current year. Over time, however, as I describe below, the low-income budget should be increased in the manner and to the extent I discuss.

PART 1. THE FOUNDATION OF LOW-INCOME EFFICIENCY POLICY.

Q. HAVE YOU REVIEWED THE FOUNDATIONAL DOCUMENTS OF LOW-INCOME ENERGY EFFICIENCY IN NEW HAMPSHIRE?

A. Yes. I first reviewed the *Report to the New Hampshire Public Utilities Commission on Ratepayer-Funded Energy Efficiency Issues in New Hampshire*, Docket No. DR-96-150 (July 6, 1999) (hereafter "Working Group Report"). In addition, I reviewed the *Order Establishing Guidelines for Post-Competition Energy Efficiency Programs*, Order 23,574 (November 1, 2000). I further reviewed the Commission's *Order Approving Settlement Agreement and Joint Request for Modification of Previous Commission Determination* in Docket No. DR-01-057. Order 23,850 (November 29, 2001). I finally reviewed various statutory sections (RSA 374-F:3,V; 3,VI; 3,X; RSA 374-F:4,VIII). These appear to be the foundational documents for the low-income efficiency program. I have reviewed each of the annual and quarterly filings on the CORE programs; the 2009 GDS "Additional Opportunities" Report; and the June 2008 Low-Income Needs Assessment.

Q. WHAT DO YOU DRAW FROM THESE FOUNDATIONAL DOCUMENTS FOR YOUR PURPOSES HERE?

A. The Working Group Report recommendations were based on substantial documentation provided in Appendices attached to that Report. My purpose here is not to re-state the documentation and analysis contained in that report. Based on those Appendices,[1] the Low-Income Subcommittee of the Working Group recommended that New Hampshire's low-income efficiency program should support the "funding and infrastructure to ultimately serve 2,500 low-income

[1] Appendices 5, 5A, 5B and 5C were referenced as the documentation for the conclusions of the Working Group regarding low-income efficiency.

customers per year." (Working Group Report, 10). The Working Group decided that an appropriate budget for low-income efficiency would be $2.5 million per year. (Working Group Report, A35). This $2.5 million number was determined based on the 2,500 customers to be served. Moreover, "per household expenditure is expected to be in the range of $900 per baseload customer and $1,500 per electric space heat customer." (Working Group Report, A35). Under the proposed program design, the Working Group found, "it would take 10 years to serve one-half of the low-income subsector." (Working Group Report, A40).[2]

While the Commission did not adopt the entire Working Group report in its Order on energy efficiency (Order 23,574, November 1, 2000) (hereafter "Order"), the Commission did provide significant guidance on how to approach low-income efficiency investments. The Commission cited the statutory language, for example, providing that "utility sponsored energy efficiency programs should target cost-effective opportunities that may otherwise be lost due to market barriers." (Order, 10). In addition, the Commission noted that low-income efficiency programs represent "an area where we believe well-designed, statewide programs could help to alleviate the apparent persistence of 'undesirable market conditions,' to use the language of the (Working) Group, characteristic of this group of customers." (Order, 17).

The "undesirable market conditions" cited by the Commission include:

[2] By extension, the Working Group report would find that the low-income efficiency program could, absent duplication in the provision of services, treat all low-income households within a 20 year period.

- High initial capital costs;
- Lack of access to capital;
- High implicit discount rates/payback periods;
- High proportion of low-income renters;
- Split incentives between landlord and tenants;
- High mobility rate of low-income renters;
- Low education levels;
- Language barriers.

(Working Group Report, A39). In addition, the low-income market barriers to the installation of energy efficiency without public assistance include the high penetration of households at or below 150% of Federal Poverty Level; the small number of low-income units weatherized each year relative to the number of applicants (4,800 applicants; 660 units weatherized); and the high proportion of older housing units amongst low-income households (40% of low-income homes built before 1960). (Working Group Report, A40).

Finally, I consider the Commission decision in the 2002 proceeding regarding energy efficiency programs for *natural gas* utilities to set forth foundational principles even for the electric programs. According to the Commission's December 31, 2002 order in Docket DG-02-106 (Order No. 24,109), the low-income program budgets are dedicated and "those budgets *cannot be siphoned away to other programs*." (87 NHPUC 892, 899) (emphasis added). This principle has been adopted for the electric programs as well. Funds may not be

transferred from the low-income efficiency programs to other sectors without the prior approval of the Commission.

Q. HAVE YOU FORMED AN OPINION ABOUT THE CONTINUING RELEVANCE OF THESE COMMISSION DECISIONS AND OBSERVATIONS IN TODAY'S ENVIRONMENT?

A. Yes. The "undesirable market conditions" cited by the Commission in its Order 23,574 continue today. In many instances, the undesirable conditions cited by the Commission are even worse today than they were at the time the Commission first cited them in support of the need for the low-income efficiency program approved at that time. Accordingly, I recommend that the Commission adopt a funding principle that the CORE low-income efficiency program should be funded sufficient to reach 50% of all remaining low-income customers within a 10-year period.

Q. WHAT UNDESIRABLE MARKET CONDITIONS HAVE YOU SPECIFICALLY CONSIDERED?

A. I know from a review of empirical data relating to low-income households in New Hampshire:

- Just as was true in 1999, low-income households today continue to remain shut out of the energy efficiency market by high capital costs. This includes not only the high capital costs associated with building shell improvements, but the high capital costs associated with appliance replacement as well.

- Just as was true in 1999, low-income New Hampshire households today continue to lack access to capital for efficiency improvements.
- While I have not performed a recent study, my experience leads me to conclude that low-income households today demand high implicit discount rates. When funds are limited, households tend to commit those funds only to investments with quick payback periods. Low-income discount rates in the range of 100% would not be unreasonable to find.
- Just as was true in 1999, New Hampshire continues to have a high proportion of low-income renters. Renters not only lack the authority to make decisions regarding major energy consuming systems in their homes, but energy efficiency investments are impeded in low-income renter households by the split incentives between landlord and tenants that continue in New Hampshire today. Split incentives arise when the authority and ability to implement efficiency measures lies with the property owner, but the home energy bill is paid by the tenant.
- Just as was true in 1999, low-income New Hampshire households, particularly low-income renters, continue to have a disproportionately high mobility rate.[3] This mobility rate can both be measured directly through an examination of the date in which New Hampshire households moved into their homes (reported in the U.S. Census Bureau's *American Community Survey*), and can

[3] Empirical work I have previously undertaken concludes that housing units occupied by low-income households tend to remain occupied by low-income households even when they turn-over. See generally, Colton (1997). "Fair Housing and Affordable Housing: Availability, Distribution and Quality." 1997 ***Colloqui: Cornell Journal of Planning and Urban Issues*** 9.

be measured indirectly through an examination of the median date in which a household moved into its home.

The empirical data available for New Hampshire today supports the conclusion that the same "undesirable market conditions" that the Commission previously cited in support of adopting a low-income efficiency program continue at the same or increased levels today. No reason exists for the Commission to retreat from the finding that an appropriate level of funding would be that level sufficient to respond to those undesirable market conditions.

Q. DO YOU MAKE YOUR LOW-INCOME EFFICIENCY FUNDING RECOMMENDATIONS BASED EXCLUSIVELY ON SOCIAL CONSIDERATIONS?

A. No. Clearly there is an element of social consideration in my recommendations. One objective of seeking to ensure that low-income households are treated with energy efficiency measures is to improve the affordability of service to these households. The New Hampshire Commission has previously recognized this social element of the electric efficiency program. In addition to this element of social policy to my recommendation, however, there are very strong regulatory policies that underlie my recommendations. The first regulatory policy is to implement all cost-effective energy efficiency potential within the state. Since I conclude, and the Commission has previously recognized, that the objective of implementing all cost-effective low-income energy efficiency cannot be met

through a market-based approach, the funding principle I recommend below will help meet this regulatory objective.

The second regulatory objective is to deliver least-cost service to customers. The role of low-income energy efficiency investments in controlling arrears (and thus reducing working capital), in reducing uncollectible accounts, and in reducing the need for credit and collection activities directed toward low-income customers has been well-documented. The New Hampshire Commission, too, has recognized this regulatory objective.

A third regulatory objective in New Hampshire for low-income energy efficiency is to help maximize the effectiveness and efficiency of the State's Electric Assistance Program (EAP). To the extent that low-income consumption (and thus low-income bills) can be reduced through the implementation of energy efficiency measures, particularly for high use EAP customers, the dollars devoted to the EAP discount for any given individual customer will be reduced. As a result, additional low-income customers can be served through the EAP, thus extending the accompanying beneficial impacts of the EAP.

In short, adopting the principle that 50% of remaining low-income customers should be treated with energy efficiency within a 10-year time period is not merely good social policy. The principle advances sound regulatory policies as well.

Q. IN ADDITION TO THE CONSISTENCY WITH SOUND REGULATORY PRINCIPLES, WILL OTHER BENEFITS FLOW TO NEW HAMPSHIRE FROM THE FUNDING OF LOW-INCOME EFFICIENCY THAT YOU RECOMMEND?

A. Yes. Low-income energy efficiency investments generate particular benefits to New Hampshire. Significant work has gone into quantifying the particular benefits that are generated by low-income energy efficiency investments. One review of the "adders" that regulatory agencies and analysts have associated with low-income efficiency found that the mid-point of the range of low-income cost-effectiveness adders (from high to low) would result in an adder of 172%. Setting an adder at one-third of the distance from high to low would result in an adder of 103% for low-income programs. An absolute minimum would result in an adder of 50%.[4]

Q. HAS ANYONE RECENTLY SPECIFICALLY CONSIDERED THE ADDITIONAL BENEFICIAL IMPACTS OF LOW-INCOME EFFICIENCY INVESTMENTS?

A. Yes. Pennsylvania's natural gas and electric utilities have operated what that state's Public Utility Commission (PUC) calls the Low-Income Usage Reduction Program (LIURP). LIURP involves the offer of the following types of usage reduction packages to low-income households: (1) an electric space heating

[4] John Howat, et al. (1999). Analysis of Low-Income Benefits in Determining Cost-Effectiveness of Energy Efficiency Programs, National Consumer Law Center: Boston (MA).

package; (2) an electric water heating package; (3) a baseload electric package; and (4) a natural gas heating package.

Pennsylvania's electric utilities deliver "baseload" electric LIURP services to homes that do not heat with electricity. Since LIURP first began in 1989, baseload electric jobs have represented roughly two-in-five (115,098 of 292,071 total jobs: 39.4%) of all LIURP homes.[5] Over a 20-year period, baseload electric usage reduction jobs have outnumbered every other type of usage reduction treatment, including the treatment of electric space heating homes (n=85,999 jobs).

The objectives established for the Pennsylvania LIURP initiative are very similar to the objectives established for the New Hampshire CORE low-income program, including:

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

According to the January 2009 evaluation of the LIURP initiative:

[5] Customer Services Information System Project, Pennsylvania State University (January 2009). *Long-Term Study of Pennsylvania's Low-Income Usage Reduction Program: Results of Analyses and Discussion*, prepared for Pennsylvania Public Utility Commission, Penn State University: State College (PA).

> To meet these goals, LIURP is targeted toward low-income households with the highest energy consumption. Of these households, those with payment problems and high arrearages are targeted. Since the program's inception in 1988 through 2006, the major electric and gas companies required to participate in LIURP have spent over $330 million to provide weatherization treatments to more than 292,071 low-income households in Pennsylvania.

In January 2009, Penn State University released a comprehensive long-term evaluation of the LIURP program. Prepared for the Pennsylvania PUC, the evaluation examined data over the first 18 years of program operation. The evaluation provides important lessons for the offer of electric usage reduction services. The LIURP evaluation reported:

- "LIURP is a cost-effective method of reducing both energy consumption and energy bill arrearages. . .Sixty nine percent of LIURP households reduce their energy consumption following weatherization treatments, with an average reduction of 16.5 percent." Electric baseload jobs generated a usage reduction of 698.2 kWh, or 19.1%.

- "Of those households with energy bill arrearages, 40 percent reduce their arrearage following weatherization services. Thirty-seven percent of electric industry households reduce their arrearages. . ."[6] LIURP was targeted to households with arrears (within the population of large consumers). The LIURP evaluation found that "by the end of the year following weatherization, 68 percent of the households have an energy bill arrearage, a decrease of 29 percent. . .Although the average number of full payments made does not vary from the pre- to post-period, the percent of households with missed payments decreased and the average number of partial payments increased."[7]

- "The [third] most significant, and most common, variable that is positively related to reductions in energy consumption is the amount of arrearage owed in the pre-period [before usage-reduction treatments are installed], suggesting that households with large arrearages are motivated to make the necessary behavioral changes to contribute toward additional reductions in energy

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

[7] The evaluation noted that participation in LIURP was associated with increased participation in energy assistance programs. It was difficult to distinguish the impact of the two.

consumption. It therefore makes sense to target households with higher arrearages when prioritizing LIURP jobs."

While low-income energy efficiency investments generate the traditional benefits (i.e., avoided energy and capacity costs) associated with usage-reduction programs, as is evident, the benefits flowing from low-income efficiency extend far beyond those traditional benefits.

Q. HAS NEW HAMPSHIRE'S LOW-INCOME ENERGY EFFICIENCY BUDGET MAINTAINED A CONSISTENCY WITH THE PRINCIPLE THAT 50% OF ALL REMAINING LOW-INCOME HOUSEHOLDS SHOULD BE TREATED WITH EFFICIENCY IMPROVEMENTS WITHIN A 10-YEAR PERIOD?

A. No. New Hampshire's low-income efficiency budget has not kept pace with the cost per low-income unit served through the CORE program. The cost per treated unit has increased significantly in recent years. While no single factor can be cited as "the" cause of this increase in costs –for example, according to the Community Action Agencies (CAAs), "2006 had a lower average (cost per unit) due to a large number of multi-family units which have a lower average cost per unit versus a single family unit" (CAA-NHLA-01(c))—the CAAs, which administer the low-income CORE program, report that:

- "Blended WAP and CORE funded units have resulted in a high unit average mainly due to the addressing of electric (baseload) measures and weatherization measures by the CORE funding and the addressing of

weatherization measures and health and safety measures by the WAP funding."

- An increase in allowed expenditures per unit resulted in an increase in per-unit investment. According to the CAAs, "in 2009, the WAP limit was raised to an annual average of $6,500 and the CORE maximum unit funding was raised from $4,000 to $5,000. This has resulted in the spike in the average cost per unit." (CAA-NHLA-01(c)).
- The cost of production has significantly increased. According to the CAAs, "pricing had remained basically flat to a 3% increase from 2004 until 2007, at which time insulation had taken a 26% increase and other weatherization products had increased 10+%. This resulted in an accumulated increase of approximately 15% in the last 2 years. . .The cost per unit is mainly driven by the cost of living." (CAA-NHLA-02).

The average CORE rebate for low-income efficiency supports what the CAAs have reported in their narrative description of the low-income program costs. Setting aside the WAP part of blended WAP/CORE funding for low-income units, the average CORE low-income rebate has increased from $1,779.33 in 2004 to $2,863.93 in 2009. Indeed, the average CORE low-income rebate has increased from $2,038.14 in 2007 to $2,863.93 in 2009. The cost per unit for each year 2004 to 2009 is set forth in Schedule RDC-1.

Q. WHAT IS YOUR CONCLUSION?

A. The principle underlying low-income funding recommendations going back to the original Energy Efficiency Working Group Report, that low-income program funding should be sufficient to allow 50% of all remaining low-income households to be weatherized within a 10-year period, cannot be met under the current funding structure. The average CORE rebate has nearly doubled since 2004. The average CORE rebate has increased more than 40% simply since the 2007 program year. With the price of insulation increasing 26% since 2007, and the price of other weatherization products increasing 10% or more in that time period, to maintain a relatively steady low-income budget results in a degradation of the ability of New Hampshire to reach the 10-year objective.

Q. IS THERE ANY OTHER WAY IN WHICH THE LOW-INCOME BUDGET HAS BEEN DILUTED IN RECENT YEARS?

A. Yes. In designing low-income programs, people tend to talk about "the low-income population" as though it is a single monolithic group. There is, however, no single group of "low-income" households. New Hampshire presents an excellent example of where treating "low-income" status as though it is a constant concept goes awry.

The Community Action Agencies (CAAs), when asked to "provide the definition of 'low-income' used for purposes of qualifying customers for the Home Energy Assistance Program in the CORE energy efficiency programs" for 2004 to the present inclusive, replied that program eligibility was set at:

- Less than or equal to 150% of Federal Poverty Level for 2004/2005;
- Less than or equal to 185% of Federal Poverty Level for 2005/2006 going forward.

(CAA-NHLA-07).[8] Eligibility increased further, to 200% of the Federal Poverty Level, in 2010. As the utilities noted in their response to discovery, "for all years, the HEA program has defined a customer as 'low-income' qualified as being qualified for the Electric Assistance Program (EAP) or the Fuel Assistance Program (FAP) or living in federally subsidized housing." (Util-NHLA-006).

The change in the definition of eligibility results in a substantial number of additional households being defined as "low-income" for purposes of the CORE program who in prior years would have been eligible to be served through the non-low-income residential weatherization program. Based on the "Low-Income Needs Assessment" done for the New Hampshire PUC in June 2008, the population of households eligible for the low-income CORE efficiency program would have been:

- 69,646 households at 150% of Federal Poverty Level;
- 95,542 households at 185% of Federal Poverty Level;
- 111,173 households at 200% of Federal Poverty Level.

(CAA-NHLA-10). When asked for their own estimates of the number of "low-income" customers, the utilities responded in relevant part that "this is a question

[8] In contrast, the DOE/WAP eligibility was based on less than or equal to 185% of the Federal Poverty Level for 2004 – 2008. DOE/WAP eligibility was changed to less than or equal to 200% of the Federal Poverty Level on a going forward basis beginning in 2009. (CAA-NHLA-09).

better answered by the CAA's who do all the income qualifications of customers." (Util-TWH-007).

Q. HOW HAS THE BUDGET FOR LOW-INCOME CORE PROGAMS VARIED DURING THAT SAME TIME PERIOD?

A. In looking at the budget for low-income CORE programs, I examined each quarterly report filed with the Commission regarding the Home Energy Assistance Program since 2005. One of the metrics included in each quarterly report is the "goal" for expenditures on low-income efficiency for the year (and, by comparison, the actual expenditures). By summing the expenditure "goal" for each of the four utilities (GSECO, NHEC, PSNH, Unitil), I derived the total expected low-income expenditures for each year. The low-income CORE budget was $2,222,887 in 2005, before declining to $2,202,250 in 2006 and then to $2,079,287 in 2007. The low-income budget then climbed to $2,441,012 in 2008 and $2,641,292 in 2009.

Q. HAS THE NUMBER OF LOW-INCOME UNITS SERVED BY THE CORE EFFICIENCY PROGRAM CHANGED DURING THAT SAME TIME PERIOD?

A. Yes. I used the same method for assessing the number of units that the low-income CORE budget was designed to reach. By summing the "goal" for each of the utilities for each year, I derived the total number of units that the low-income budget was expected to serve each year. In 2005, the combined goal was to serve

984 low-income units. The low-income goal increased in 2006 to 994 units, before decreasing in 2007 and 2008 to 968 and 958 units respectively. In 2009, the goal sharply dropped, to only 691 units to be served through the CORE low-income efficiency program.[9]

Q. IS THERE OTHER INFORMATION THAT YOU HAVE REVIEWED TO CONFIRM YOUR CALCULATIONS?

A. Yes. I reviewed each CORE energy efficiency filing for 2005 through 2009. These annual filings confirmed my calculations based on the quarterly reports. The annual budgets, number of units to be served, and projected life-time electric savings from those annual filings are set forth in Schedule RDC-2.

Q. WHAT CONCLUSIONS CAN YOU DRAW FROM THIS DATA?

A. The data I just discussed supports the following observations:

- From 2005 to 2009, the low-income CORE budget increased by 20% (from $2,222,887 to $2,641,292), while, during that same time period, the low-income per unit cost of delivering efficiency services increased 61% ($1,779.33 to $2,863.93).
- From 2005 to 2009, the number of low-income households that the CORE efficiency program was designed to serve decreased by 30% (from 984 units to 691 units), while, during the same time period, the number of households

[9] In each year, the "actual" number of units served has exceeded the "goal" for the year. More than 1,200 units were served through HEA in each year since 2005 according to the quarterly reports. In 2009, while the annual goal was to serve 691 units, the utilities had served 366 through the first two quarters, with 181 more "in process."

qualifying for low-income efficiency services increased by 37% (69,646 at 150% of Federal Poverty Level to 95,542 at 185% of Federal Poverty Level).

Q. WHAT OVERALL CONCLUSIONS DO YOU DRAW FROM THE ABOVE DISCUSSION?

A. Two impacts are evident from the discussion above.

- First, the efficacy of the low-income program has been diluted in the past five years. The Commission expressly cited the Energy Efficiency Working Group's discussion of the market barriers that impede low-income households from investing in energy efficiency. (Order No. 23,574, 17). Notwithstanding the fact that those market barriers have become more pronounced, not less, in the years since New Hampshire began its efficiency program, the CORE energy efficiency program has lost ground relative to delivering low-income energy efficiency.
- Second, contrary to principles established early in the design of the low-income electric energy efficiency program, starting in 2006, dollars have been diverted from households with income at or below 150% of the Federal Poverty Level to households with income between 150% and 185% of Federal Poverty Level. Even though the diversion has not been direct, it has occurred nonetheless. This siphoning of low-income dollars has occurred by re-defining what households fall into the "low-income" sector. Year-by-year, New Hampshire has expanded its definition of what represents the "low-income" customer class without expanding the low-income budget to serve

those customers. As a result, households that five years ago would have been served through the budget for the non-low-income residential weatherization program are today expected to be served through the low-income budget, even though budget authority was not transferred to the low-income program to accompany the transfer of budget responsibility. While the modification of the definition of "low-income" has expanded the "low-income" population by nearly 40%, the low-income budget has not been correspondingly increased.

PART 2. A FORMULA APPROACH TO LOW-INCOME ELECTRIC EFFICIENCY INVESTMENTS.

Q. DO YOU RECOMMEND THAT NEW HAMPSHIRE ADOPT A FORMULA APPROACH TO SETTING A LOW-INCOME ENERGY EFFICIENCY BUDGET?

A. Yes. While I conclude that the proposed 2010 budget of 14% is reasonable and recommend its approval, I recommend that future budget-setting for the low-income program be based on a formula approach.

In making this recommendation, I begin with the proposition that it is not possible to determine what you want to *do* before you determine what you want to *accomplish*. Setting the low-income budget is not an end unto itself. Rather, setting the low-income budget is a means to an end, a mechanism to be used in accomplishing some pre-established objective. My recommendation below is explicitly tied to the accomplishment of just such a pre-established objective.

Q. WHAT OBJECTIVE SHOULD THE NEW HAMPSHIRE PUC ESTABLISH FOR LOW-INCOME ENERGY EFFICIENCY?

A. I recommend that the New Hampshire PUC establish the principle that the CORE low-income energy efficiency program should be sufficient to serve 50% of remaining low-income households over no more than a 10-year period.[10]

Q. WHAT FORMULA DO YOU RECOMMEND BE USED FOR SETTING THE LOW-INCOME BUDGET?

A. I recommend the following:

$$HEABUDG_{Current} = HEABUDG_{Base} * (HEAELIG_{YearN} / HEAELIG_{Base}) * (HEAPERUNIT_{3YrAvg} / HEAPERUNIT_{Base})$$

WHERE

$HEABUDG_{Current}$ = The HEA CORE budget to be set for the upcoming current fiscal year

$HEABUDG_{Base}$ = The HEA CORE budget established for the "base" year.

$HEAELIG_{YearN}$ = The number of eligible low-income households in the year for which the budget is being determined..

$HEAELIG_{Base}$ = The number of low-income households in the "base" year.

$HEAPERUNIT_{3YrAvg}$ = The average per unit CORE program production cost for the three years immediately preceding the year for which the budget is being established.

$HEAPERUNIT_{Base}$ = The per unit CORE production cost for the "base" year.

Q. PLEASE DESCRIBE THE OBJECTIVE OF USING THIS FORMULA.

A. Using this formula allows the New Hampshire Commission to establish an objective low-income efficiency goal and to measure its progress toward

[10] Extending the principle that the program objective should be to serve 50% of the remaining low-income population within 10 years would result in a principle that 100% of the population would be served within 20 years. Twenty years is a reasonable estimate of the useful life of many energy efficiency measures. To use the 20-year time period thus avoids the need to re-treat some low-income households before all households have been served with which to begin.

accomplishing that goal on a year-by-year basis. As I described above, I recommend that the Commission adopt a goal of serving 50% of all remaining low-income households over no more than a 10-year period. In short, the formula is based on the following three-steps:

- It sets a budget that, if maintained for 10 years, all other things equal, will serve 50% of all remaining low-income households over no more than a 10-year period.
- It adjusts that budget for known and measurable changes in the number of low-income customers year-by-year.
- It further adjusts the budget for known and measurable changes in the per-unit cost of serving each low-income housing unit.

Q. PLEASE EXPLAIN THE ADJUSTMENT YOU ARE MAKING TO ACCOUNT FOR THE NUMBER OF LOW-INCOME CUSTOMERS.

A. If the number of low-income customers in New Hampshire changes, it clearly will require either a smaller or larger budget to serve those customers over a period of no more than 10 years. If the number of low-income customers increases, it will require a greater budget to serve them. If the number of low-income customers decreases, it would require a smaller budget. As can be seen, this adjustment factor can either increase or decrease. The number of low-income customers can change due to any number of reasons. As has already occurred, the definition of what constitutes a "low-income" customer might change. Moreover, the economy

might change, thus pushing either more or fewer customers into low-income status.

Q. PLEASE EXPLAIN THE ADJUSTMENT YOU ARE MAKING TO ACCOUNT FOR CHANGES IN THE CORE PER-UNIT PRODUCTION COST FOR LOW-INCOME MEASURES.

A. As I described above, the per unit production cost of the low-income program has substantially changed over the last few years. Schedule RDC-01 documents that the per unit production cost for the CORE share of electric efficiency investments is now nearly $2,900, an increase from roughly $1,600 in 2006. Despite this increase in per-unit production costs, I seek to smooth these changes in per-unit production costs. To do so, rather than using the per-unit production cost of any specific individual year, I recommend that the changes in the per-unit production cost be based on a three-year average.

Q. WHY DO YOU BASE YOUR BUDGET ON ONLY THE CORE EFFICIENCY EXPENDITURES PER UNIT RATHER THAN ON THE TOTAL EFFICIENCY EXPENDITURES PER UNIT?

A. I recognize that the *total* production cost per unit is greater than the per-unit production cost paid by the CORE program. In this proceeding, however, we are setting only the CORE budget. Since this proceeding is designed to look at CORE revenues, it quite reasonably should thus also consider only the CORE expenditures.

Q. CAN YOU ILLUSTRATE HOW YOUR PROPOSED FORMULA WOULD OPERATE?

A. Yes. I provide this example exclusively for the purpose of illustrating how my recommended formula would operate. Let me assume for purposes of illustration that the "base year" is 2010.[11] Accordingly, the number of HEA-eligible households at 200% of Federal Poverty Level in the base year is 111,173. The three-year average per-unit CORE production cost[12] is $2,407.[13] The base year budget is $2,870,141 as filed by the utilities in this proceeding.

Let me assume, hypothetically, that in the year for which we are making the formula adjustment, the number of HEA-eligible households becomes 115,000. Let me assume, hypothetically, that in the year for which we are making the formula adjustment, the three-year average per-unit production cost is $2,500. The formula adjustment is thus as follows:

$$\$2,870,141 * (115,000 / 111,173) * (\$2,500 / \$2,407) =$$

$$\$2,870,141 * 1.0344 * 1.0386 = \$3,083,472$$

Q. UNDER THIS RECOMMENDED FORMULA, CAN THE LOW-INCOME CORE EFFICIENCY BUDGET ONLY INCREASE?

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[11] As I describe below, in fact, the "base year" will be the year 2015.

[12] As explained above, the CORE production cost is used rather than the total production cost. Since the formula is used only to establish the CORE budget, it is necessary to limit the production costs exclusively to CORE production costs.

[13] My recommended formula uses a three-year average per-unit production cost. Accordingly, for purposes of this illustration, the base per-unit production cost involves the three year average of 2007, 2008 and 2009 ([$2,038.14 + $2,319.18 + $2,863.93] / 3 = $2,407.08).

A. No. As I describe above, the adjustments under this formula can go either "up" or "down." If either the number of low-income households or the per-unit production cost decreases, the low-income CORE budget (as adjusted by the formula) would correspondingly decrease as well.

To illustrate, let me assume, hypothetically, that the number of low-income households decreased to 105,000. Let me further assume, hypothetically, that the per-unit CORE production cost fell to $2,300. The formula adjustment in this scenario would be as follows:

$$\$2,870,141 * (105,000 / 111,173) * (\$2,300 / \$2,407) =$$

$$\$2,870,141 * 0.9455 * 0.9555 = \$2,590,215$$

In this instance, while the overall low-income CORE budget may have decreased, the budget would nonetheless still remain on track to meet the 10-year objective. The budget decline simply reflects a decrease in the number of customers to be served as well as a decrease in the per-unit cost to serve each customer. While the budget might decline, in other words, progress toward the 10-year objective remains constant.

Q. WHY DO YOU RECOMMEND USING A THREE-YEAR AVERAGE FOR THE PER-UNIT PRODUCTION COST.

A. In response to discovery, both the Community Action Agencies (CAAs) and the utilities offered legitimate concerns about how to interpret changes in per-unit production costs. The per-unit cost can reflect the cost-of-living; the mix of unit

sizes; the mix of measures; or the mix of incomes as a percentage of Federal Poverty Level. (See, Responses of CAAs to NHLA-1(c), NHLA-2, NHLA-6; Responses of Utilities to TWH-1(c), TWH-2). Rather than introducing significant volatility into the potential per-unit production cost, the budget is smoothed by using a three-year average.

Q. PLEASE EXPLAIN THE CONCEPT OF A "BASE YEAR" AS YOU RECOMMEND IN YOUR FORMULA.

A. The low-income budget proposed for 2010 in this proceeding is $2,870,141. While I endorse this budget as reasonable for 2010, this budget is insufficient to achieve the long-term objective of reaching 50% of all remaining low-income households over no more than a 10-year period of time. Given the average per-unit production cost over the past three years ($2,407), maintaining this budget could be expected to produce 1,192 units of low-income housing each year treated with electric efficiency measures ($2,870,141 / $2,407 = 1,192). Given this rate of treatment, and assuming no-one needs to be re-weatherized, New Hampshire will serve:

- all remaining of the 111,173 low-income households (below 200% of Federal Poverty Level) in the State over a 65-year period ([111,173 * .697] / 1,192 = 65).[14]

[14] An adjustment factor of 0.697 is incorporated into this calculation. According to the January 2009 GDS Associates "Additional Opportunities" report, the "fraction of the end use energy that is already energy efficient" is 30.3%. GDS appears to translate that into number of housing units. It reports what it refers to as a "remaining factor (in how many homes can this be installed." The "remaining factor" for low-income households is set at 1 – 0.303 = 0.697. GDS Associates (January 2009). "Additional Opportunities for Energy Efficiency in New Hampshire: Final Report," at E-28, E-35, E-56, E-59. It is generally believed that GDS *under-counted* the number of low-income households (and thus the number of low-income housing units). See, CAA Response, NHLA-10; Utility Response, TWH-009; "Additional

- all remaining of the 95,542 low-income households (below 185% of Federal Poverty Level) over a 56-year period ([95,542 * .697] / 1,192 customers per year = 56 years).
- all remaining of the 69,646 low-income households (below 150% of Federal Poverty Level) in the State over a 41-year period ([69,646 * .697] / 1,192 customers per year = 41 years).

Clearly, New Hampshire is falling behind in achieving the objective of reaching 50% of the remaining low-income households within a ten-year time period.

Q. WHAT DO YOU PROPOSE?

A. Given how New Hampshire has fallen behind in meeting the 10-year objective, I propose that the Commission re-zero its beginning point and newly begin the process of setting a measurable objective for serving low-income households and measuring the progress toward achieving that objective. To meet the 10-year objective would require utilities to invest sufficient funds to reach the number of low-income households, times 0.50 (50%), divided by 10 years, times the average per-unit production cost per household. The CORE program investment would be:

- $9.3 million per year through CORE if the definition of "low-income" is set at 200% of Federal Poverty Level ([111,173 * 0.697 * 0.50] / 10 years * $2,407/unit = $9,324,718 total low-income budget);

Opportunities," note 24; Comments of New Hampshire Legal Assistance on Draft Additional Opportunities Report (December 15, 2008). Accordingly, the penetration of efficiency would be over-stated. The GDS figure of 0.303 is substantially higher than the number of units previously served that the June 2008 Low-Income Needs Assessment, prepared for the Commission, identified. The Commission could, and should, establish the appropriate adjustment factor to use in setting the low-income budget in the base year.

- $8.0 million per year through CORE if the definition of "low-income" is set at 185% of Federal Poverty Level ([95,542 * 0.697 * 0.50] / 10 years * $2,407/unit - $8,015,310 total low-income budget);
- $5.8 million per year through CORE if the definition of "low-income" is set at 150% of Federal Poverty Level ([69,646 * 0.697 * 0.50] / 10 years * $2,407/unit = $5,841,890).

Q. IN BEGINNING THIS GOAL-SETTING PROCESS ANEW, DO YOU PROPOSE TO START WITH FULL FUNDING IN YEAR 1?

A. No. I do not propose that New Hampshire immediately move to full funding of the low-income efficiency program. Instead, I propose that New Hampshire ramp-up the low-income efficiency investments over a five-year period. The "base-year" would then be the first year of full funding for the low-income program (2015). The formula adjustments to the low-income efficiency would begin the first year after the base year (2016).

Q. CAN YOU ILLUSTRATE THE RAMP-UP THAT YOU PROPOSE?

A. Yes. I propose a ramp-up over a five year time period. Using the budget for a low-income population defined to be households at or below 200% of Federal Poverty Level, for example, the ramp-up would begin with the 2010 CORE

budget of $2,870,141 as proposed by the utilities in this proceeding, and ramp-up to $9,324,718 in equal increments over a five-year period as follows:[15]

- 2010 CORE budget: $2,870,141
- 2011 CORE budget: $4,161,056
- 2012 CORE budget: $5,451,972
- 2013 CORE budget: $6,742,887
- 2014 CORE budget: $8,033,803
- 2015 CORE budget: $9,324,718

Q. DO THESE BUDGETS IMPLY A CERTAIN NUMBER OF LOW-INCOME UNITS TO BE SERVED EACH YEAR?

A. Yes. Since these budgets are designed to reach 50% of all remaining low-income customers within a 10-year period, there is inherent within them a prescribed number of low-income units per year. The budgets assume:

- 3,874 units per year given a definition of "low-income" at 200% of the Federal Poverty Level;
- 3,330 units per year given a definition of "low-income" at 185% of the Federal Poverty Level;
- 2,427 units per year given a definition of "low-income" at 150% of the Federal Poverty Level.

As is evident, given that the CORE budget is serving only 1,200 low-income households each year (and has, as its goal, substantially fewer than this per year),

[15] Each additional year of increment would be one-fifth of the difference between full funding at the 2010 budget. Given full funding of $9,324,718 and a 2010 CORE HEA budget of $2,870,141, each additional annual HEA CORE

it is evident that to serve sufficient low-income households to reach 50% of the remaining low-income population within ten years will require a significant increase in the number of households served each year.

Q. IS THERE A REGULATORY PRINCIPLE THAT YOU ARE SEEKING TO IMPLEMENT THROUGH YOUR PROPOSED FIVE-YEAR RAMP-UP PERIOD?

A. Yes. Regulatory policy has a principle often referred to as "gradualism" or "incrementalism." The principle counsels that the public interest is well-served when substantial changes are not implemented all at once. The principle of "gradualism" is often applied in making rate design changes. This same principle of "gradualism" would counsel that the move to full-funding of a low-income CORE low-income budget sufficient to serve 50% of all remaining low-income households within a ten-year period occur over a multi-year ramp-up period. I endorse the application of that principle to my recommended formula approach to setting the low-income CORE budget.

Q. HOW DO YOU PROPOSE TO ALLOCATE THE LOW-INCOME EFFICIENCY BUDGET BETWEEN THE RESIDENTIAL AND THE COMMERCIAL AND INDUSTRIAL CUSTOMER CLASSES?

A. The low-income budget should be allocated evenly (50%/50%) between residential customers on the one hand, and the commercial/industrial customers on the other hand. The Commission has previously held that the costs of low-

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funding increment would thus be $1,290,915 ([$9,324,718 - $2,870,141] / 5).

income energy efficiency should be spread amongst all customer classes. That principle is a reasonable principle. The need for low-income energy efficiency investments is not associated with any particular class. Non-low-income residential customers no more "cause" the need for low-income efficiency investments than do non-residential customers. Moreover, all customer classes benefit in particular from low-income energy efficiency investments. For example, low-income efficiency investments in particular give rise to substantial economic development impacts that benefit all customer classes.

Q. HAVE YOU ACCOUNTED FOR ANY EXTERNAL FUNDING IN YOUR RECOMMENDATION?

A. Yes. While I do not recommend that external funds generated by the Regional Greenhouse Gas Initiative (RGGI) be used as an offset to the CORE funding, I acknowledge that such funding exists. RGGI funding used for low-income efficiency purposes, however, should be used to supplement and not to supplant CORE program funding. To the extent, if at all, such funds are available to invest in low-income energy efficiency, the units treated through such funds should be over and beyond the CORE funding. The "supplement and not supplant" principle for RGGI funds is an important public policy principle to pursue.

In contrast to RGGI funding, DOE/WAP funding should not be used as an offset either. As I explain above, the average per-unit production cost that I use as the basis for my CORE budget is the CORE portion of the blended CORE/WAP

production cost. The reason I use only the CORE portion of the blended production cost is because I am setting the CORE budget. If one were to include DOE/WAP revenues in the budget, it would be necessary to use the total CORE/WAP production cost.

Finally, I do not include American Recovery and Reinvestment Act (ARRA) weatherization funds in this budget. ARRA funding is short-term funding. It will no longer be available at the time that base year calculations are made. To the extent, if at all, that the Commission wishes to take into account ARRA funding, the appropriate place to do that would be in setting the adjustment factor in the base year to account for the number of low-income households that have already been weatherized. That would not be an unreasonable action for the Commission to take; it would be conceptually the same as already accounting for the number of low-income units previously served through HEA and/or through DOE/WAP.

Q. HOW DOES YOUR PROPOSED FUNDING FORMULA RELATE TO FUNDAMENTAL RATEMAKING PRINCIPLES?

A. My proposed funding formula was specifically designed with certain fundamental ratemaking principles in mind. First, the formula is set using a base period using experienced costs. Calculation of the base period budget is described in detail above. Second, future adjustments are based on known and measurable changes. Any change in the number of low-income customers is a known and measurable

change.[16] Moreover, the three-year average per-unit production cost would be a known and measurable change based on utility filings with the Commission. Finally, the adjustments to the base period would be based on authoritative, objective figures. Data on the number of low-income households is reported annually by the U.S. Census Bureau. In addition, per-unit production costs for CORE low-income measures are routinely reported to the Commission.

Q. PLEASE EXPLAIN HOW YOUR RECOMMENDATION RELATES TO PRIOR FUNDING RECOMMENDATIONS OF THE WAY HOME?

A. The Way Home has participated in previous discussions regarding the funding of low-income energy efficiency programs in New Hampshire. Indeed, through New Hampshire Legal Assistance, The Way Home has advanced various proposals for funding low-income efficiency programs. Attached as Appendix A is a copy of the proposal by The Way Home in Docket No. DE-07-106 (February 8, 2008). At that time, The Way Home set forth four alternative "budget options":

- Option #1: Using a higher SBC percentage for calculation of the HEA budget;
- Option #2: Serving a prescribed number of low-income units per year (suggested to be 3,000);
- Option #3: Constructing a budget at the average cost of a core job over 20 years;

[16] The count of low-income customers may lag the budget year by two years. For Budget Year 2010, for example, the most recent report of the number of households at various ranges of the Federal Poverty Level would be from 2007.

- Option #4: Increasing the current HEA percentage share of the statewide CORE budget.

As is evident from my discussion above, my recommendation is a blending of Option #2 and Option #3. I recommend using a prescribed number of low-income units per year (as set forth in Option #2). I further recommend using an average per-unit production cost (as is set forth in Option #3). The blending of these two options, however, is tied to measurable progress toward a pre-established objective. My recommendation is not at odds with either Option #1 or Option #4. Rather than setting the per-kWh millage rate, or the percentage of budget, as the end-in-view for the low-income budget, however, my recommendation views the budget as the means to achieve the prescribed objective of serving 50% of all remaining low-income households in ten years.

Finally, I agree with the original recommendation of The Way Home that the Commission should review the funding formula on a tri-annual basis after the formula adjustments begin to operate in 2016. The Commission should set the formula in the base year (2015) and adjust the formula as appropriate at the point of each three-year review.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

Schedule RDC-01

Cost per Low-Income Unit Weatherized Using Blended DOE/WAP and CORE Program Funding						
	2004	2005	2006	2007	2008	2009
Avg DOE/WAP	$1,693.54	$1,496.57	$1,072.96	$1,407.22	$1,563.91	$3,463.62
Avg CORE rebates	$1,779.33	$1,473.86	$1,576.87	$2,038.14	$2,319.18	$2,863.93
Avg of Project Costs	$3,472.87	$2,970.43	$2,649.83	$3,445.36	$3,883.09	$6,327.55
Q-NHLA-01 (CAAs), Docket DE-09-170						

Schedule RDC-02

Home Energy Assistance Annual CORE Program Goals: Statewide Budget, Units-to-be-Served, Lifetime Savings			
	Units to be Served	Budget	Life-time Savings
2005	984	$2,222,887	34,643,945
2006	994	$2,202,250	17,422,289
2007	968	$2,079,287	24,016,859
2008	873	$2,093,062	24,915,865
2009	691	$2,641,742	19,744,078
SOURCE: Annual CORE Energy Efficiency Filings, Home Energy Assistance (HEA) Program.			

APPENDIX A

DE 07-106

Home Energy Assistance Budget Proposal of The Way Home

I. Goals to promote

1. Energy savings/conservation
2. Lower, more affordable bills for low income customers
3. Address a portion of the need for low income energy efficiency services
4. Improve housing stock

II. Guiding Principles for a Budget Approach

1. Prepare the low income budget before other core budgets
2. Restore the 2009 low income budget to its 2006 pre-SB 228 funding level ($2.222 M)
3. Increase the low income budget, using one of the 4 options described below.
4. Annual increases for inflation
5. Fair share of new revenue sources
6. Periodic review of budget approach

III. Budget Options

The following low income budget options are proposed under the framework set forth in the "Report to the New Hampshire Public Utilities Commission on Ratepayer – Funded Energy Efficiency Issues in New Hampshire", submitted on July 6, 1999 by the New Hampshire Energy Efficiency Working Group.

1. Option #1. Use a higher SBC percentage for calculation of the HEA budget.

   1) In the 1999 Report some members of the Working Group (p. 18) recommended that energy efficiency programs be funded at between 2.5 and 3.2 mills per KWh. This recommended SBC level would be applied to the HEA budget.

   2) At 3.2 mills this would increase the HEA budget from $2.22 M to $4.0 M (3.2 mills is a 78% increase from 1.8 mills; 78% x $2.22 M = $1.7 M; $1.7 M + $2.22 M = $4.0M).

   3) At 2.85 mills, the midpoint between 2.5 and 3.2 mills, the HEA budget would be increased to $3.4 M.

2. Option #2. Serve 3,000 low income households per year (instead of 1000) at a budget of $6.6 M.

1) As noted on page 8 of Order 23,574, dated November 1, 2000, the 1998 Working Group endorsed a low income program proposal (Report pp. 10, A-34, A-35, A-40) that would serve 50,000 low income households (at 150% FPG) over a period of 20 years, at 2,500 households per year, at a cost of $2.5 M/yr.

2) Assuming 60,000 households at 185% FPG, this would require serving 3,000 households per year (60,000 ÷ 20 = 3,000).

3) The pre-SB 228 budget of $2.222 M would be increased to $6.6 M to serve 3,000 households per year (3 x $2.222 M = $6.6 M).

3. Option #3. Construct a budget at the average cost of a core job over 20 years. This would result in a budget of $6 M.

1) Average cost of a core job (per 2007 3d Quarter Report) is $2,000 for the 4 utilities.

2) To serve 60,000 low income households would cost $120 M ($2,000 X 60,000)

3) Over a 20 year period this would cost $6 M ($120,000,000 ÷ 20 = $6 M).

4. Option #4. Increase the current HEA percentage share of the statewide core budget.

1) Current average annual HEA percentage is 11%.

2) In order to serve 2000 to 3000 households per year would require:

a) Doubling the HEA budget % to 22% ($4 M+)

b) Tripling the HEA budget % to 33% ($6 M+)

IV. Further Discussion of Some Guiding Principles.

1. Annual Cost of Living (Inflationary) Increase.

1) To offset real loss in budget dollars by increases in cost of goods and services

2) Example: 2008 HEA budget increases (N-Grid: $40,000; NHEC = $20,000; PSNH: $120,000) resulted in only eleven more jobs due to increase in CAA's costs of goods and services.

2. New Sources of Core Revenues.

   1) HEA budget should not remain stagnant (aside from inflationary increases) if there are significant new revenue sources.

   2) Purpose to speed up the 20 year timeframe for addressing the low income demand.

   3) Equitable fair share allocation to HEA.

3. Periodic Reviews of HEA Budget Approach.

   1) Review budget approach every 3 years, or

   2) At the option of any party or Staff.