Exhibit - N-18

ORIGINAL

2006 P-886

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF THE PUBLIC UTILITIES ACT

- and -

IN THE MATTER OF AN APPLICATION BY NOVA SCOTIA POWER INCORPORATED AND A HEARING FOR APPROVAL OF CERTAIN REVISIONS TO ITS RATES, CHARGES AND REGULATIONS

DIRECT TESTIMONY OF NANCY BROCKWAY
ON BEHALF OF THE CONSUMER ADVOCATE
(REDACTED)

RECEIVED
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Nova Scotia
Utility and Review Board

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TABLE OF CONTENTS

1. INTRODUCTION 1

2. SUMMARY OF TESTIMONY 2

3. FUEL COST ESTIMATES 3

4. REVENUE/COST RATIOS 7

5. COST OF CAPITAL 10

6. TEST YEAR INTEGRITY 17

7. LOW-INCOME BILL AFFORDABILITY ISSUES 24

List of Exhibits:

NB-1 Resume of Nancy Brockway

NB-2 NSPI Response in P-883 to CA IR-2

NB-3 Excerpt from the cross-examination of the Company's witness panel (September 5, 2006) in P-883

NB-4 Changes in R/C ratio made by the Company as it reconciled its proposed rate increases to the various classes

NB-5 Excerpt from the cross-examination of the Company's witness panel (September 5, 2006) in P-883

NB-6 Listing of various citations in Dr. Morin's testimony

NB-7 Copy of Roger Colton's "A Ratepayer Funded Home Energy Affordability Program for Low-Income Households: A Universal Service Program for Ontario's Energy Utilities", April 2006

NB-8 Chart from the National Centre for Affordable Technology

INTRODUCTION

Q. Please state your name and business address.

A. Nancy Brockway, Principal, NBrockway & Associates, 10 Allen Street, Boston, MA, 02131.

Q. On whose behalf are you testifying?

A. I am testifying on behalf of the Consumer Advocate.

Q. Please briefly state your qualifications.

A. I have been working in the field of utility regulation since 1983. I have served on the staffs of two regulatory commissions (Maine and Massachusetts) and was General Counsel of the Massachusetts commission. I was an expert witness for nine years providing testimony before a number of regulatory commissions in the United States on topics ranging from rate design to energy efficiency. I served as a Commissioner on the regulatory board of New Hampshire for five years. Since leaving the New Hampshire Commission, I have been a consultant on energy and utility issues. I have testified on a number of occasions before the Board. My resume is attached as Exhibit NB-1

Q. What is the subject of your testimony?

A. I will provide evidence on the following issues before the Board in this docket:

- Fuel: Has the Company consistently provided complete information to the Board as required to evaluate rate proposals, including the ELIIR-2 rate in September of 2006?
- R/C Ratio: Is it reasonable to leave ELIIR customers at a 95% R/C ratio when all other customers are close to 1.0 or above? Should rate continuity considerations temper the level of increase in the residential class rates?
- Cost of Equity: Has the Company properly analyzed the risks it faces, and drawn the proper conclusions about its required return on equity?

- Test Year: Should the Company be permitted to include costs in its 2007 Test Year that are not now identified? Should the Company be permitted to recover costs incurred before new rates take effect?
- Low-Income: Are there actions the Company can take to mitigate the particular pressure rising electricity costs are putting on its low-income customers?

I will also provide my recommendations to the Board for actions to take in response to the answers I present to these questions.

SUMMARY OF TESTIMONY

Q. Please summarize your conclusions.

A. In summary, I come to the following conclusions:

- The Company has not provided complete and timely information concerning its projected fuel costs at times when the information was needed in order to evaluate rate proposals. This failure has distorted the ratemaking process.
- The Company's proposed revenue/cost ratios cause undue rate increases to residential customers, and require residential and other above-the-line classes to bear a disproportionate share of the costs of serving ELIIR customers.
- The Company's cost of capital analysis is flawed, and tends to overstate the risks to the Company and the associated required return on equity.
- The Company should not be permitted to continually update its Test Year to include cost increases that are specified only after its filing. Such a practice distorts the concept of a Test Year and denies customers a fair opportunity to challenge the proposed cost figures. The Company should not be permitted to retroactively increase rates.
- There are a number of actions the Company could take to mitigate the disproportionate pressure that rising electricity prices are putting on its low-income customers.

FUEL COST ESTIMATES

Q. What issues will you address concerning the Company's estimated cost of fuel?

A. I will address the Company's apparent failure to provide all information at its disposal when presenting evidence supporting the ELIIR-2 base energy rate in September 2006.

Q. What is the Company's estimate of fuel costs for the 2007 test year?

A. The Company estimates that its test year 2007 fuel costs will be $498.7 million [Direct Testimony at p. 2].

Q. During the hearings in September on the replacement for the ELIIR rate, what was the Company's estimate of 2007 fuel costs?

A. The Company was vague in its estimates of fuel cost forecasts throughout the case. In testimony on September 5, 2006, Mr. Tedesco estimated that average energy costs for 2007 would be consistent with fuel cost estimates between $434 and $484 million. In its Undertaking-4 (filed on September 14, 2006), the Company updated its September 5 estimate, and forecast that its fuel costs for 2007 would be $499, the same amount it forecasts now in the rate case.

Q. Was it possible to determine the reasonableness of the Company's $499 forecast, filed in the ELIIR-2 case on September 14, 2006?

A. No. The forecast came in as part of an undertaking, after the hearings closed on September 8, 2006. There was no back-up material accompanying this estimate, and no basis for evaluating its reasonableness. The Undertaking does note four "high-level" assumptions supporting the forecast: (1) Stora Enso operating at 2006C forecast levels, (2) a 1% increase (over 2006C) in forecast net system

requirements, (3) Consensus forecast used for solid fuel pricing, and (4) Contracted and hedged fuels, gas and oil strips (as of July 31, 2006). Two of the factors cited go to the anticipated load to be served. The remaining two deal with the basis of the fuel forecast. However, they are so "high-level" as to make it difficult to assess how the Company arrived at the $499 figure.

Q. Based on the evidence in that proceeding, what energy cost per mWh did the Board determine was appropriate for ELIIR-2 customers?

A. In its Order in P-883, the Board determined that the base energy charge for ELIIR-2 customers should be $52.12 per mWh. This figure is consistent with a fuel cost of about $430 – 434 million. The Company acknowledges that the base energy rate portion of the ELIIR replacement rates is based on a fuel cost estimate of $434 million. See NSPI Response to CA IR-9.

Q. What is the difference in total fuel costs between the basis of the ELIIR-2 decision and the Company's estimate of 2007 fuel costs in this rate case?

A. Total fuel costs forecast in this docket by the Company are about $65 to $70 million higher than the fuel cost estimate implicit in the ELIIR-2 base energy charge in P-883. Note that $15.7 million of this difference represents the fuel cost procurement disallowance by the Board in P-882, which the Board explicitly determine would not continue past the rates set in that docket. See the P-882 Rate Case Order at paragraphs 95-96 (page 52).

Q. You have mentioned that the Company did not produce its estimate of 2007 fuel costs until after the hearings closed in P-883. Was the Company asked to provide forecasts during that proceeding?

A. Yes. The Company was specifically asked in the ELIIR Replacement Rate case discovery by the Consumer Advocate for any estimates of 2007 fuel costs,

however preliminary, and none were forthcoming. NSPI Response in P-883 to CA IR-2, attached as Exhibit NB-2. Exhibit NB-3 is an excerpt from the cross-examination of the Company's witness panel on September 5, 2006, concerning the Company's responses to IRs seeking any forecasts, draft or otherwise, of its upcoming fuel costs. In this testimony, the Company's witness acknowledges that it had been asked by at least two parties in discovery for forecasts of fuel costs for 2007 and beyond, and that the Company had failed to produce any estimates. Thus, despite information requests in P-883, the Company indicated it was unable to provide any estimates of forecast fuel costs, until finally on September 5 its witness suggested a range of fuel costs that might be considered reasonable estimates. It was not until September 14 in Undertaking 4 that the Company put forward its proposed forecast of fuel costs for 2007.

Q. Is the record clear as to why the Company was unable or unwilling to provide any fuel cost forecasts of any kind before hearings in P-883?

A. No, it is not clear why the Company did not or could not produce any estimates of 2007 fuel costs in the ELIIR-2 proceedings until September 5, and did not provide its best estimate until after the hearings had closed. The Company has had a fuel expert on retainer since early in 2006 at least. In fact, the Company received a draft of proposed fuel cost testimony from this expert as early as March 2006. NSPI Response to CA-IR 3. One would expect such a draft to contain some forecast, however preliminary. The Company also states that EVA provides "continuous guidance" to NSPI on fuel prices and fuel markets. *Id.* Invoices show that the Company made use of EVA's fuel expertise as the year progressed,

to assist in managing the fuel portfolio. NSPI Response to CA IR-2, Confidential Attachment 1. Thus, there is reason to believe that EVA was providing advice to NSPI through the year concerning the course of fuel prices. Perhaps most importantly, the Company would have to have had some working forecasts of fuel costs throughout 2006, in order to make prudent decisions in managing its fuel portfolio. There is thus an unresolved conflict between the Company's assertions in P-883 discovery that it had no fuel forecasts it could share with the Board and intervenors, and the Company's own requirements for information on which to make prudent fuel purchasing and operations decisions.

Q. In the excerpt from the Company's testimony in P-833 you have attached as Exhibit NB-3, the Company's witness qualifies the discovery answers by saying that there were no fuel price forecasts that the Company was "prepared to put forward." Does this qualification by the Company's witness excuse the failure to share fuel forecasts in time to be useful for the ELIIR docket?

A. No. As the Company must make decisions based on the best information it has available at any given time, so it must share with its regulator and its stakeholders the information it is using to make such decisions. It is not for the Company to determine that it is not "prepared to put forward" information needed to assess the merits of a disputed rate, such as ELIIR.

Q. The Company has proposed to use the same fuel costs for developing the ELIIR base energy charges in this rate case as it is using for all above-the-line classes. In light of this fact, what is the significance of the failure of the Company in P-883 to provide timely and responsive information concerning its 2007 fuel forecast?

A. The Company's pattern of non-responsiveness in this crucial area in P-883 raises two concerns in this rate case. First, one must wonder what other information the

Company possesses, on any topic at issue in the rate case, that it is not "prepared to put forward." It raises concerns as to the Company's approach to the regulatory process and its responsibilities to the regulator, its rate payers and the intervenors. Second, had the Company put forward and defended a fuel forecast closer to its present $499 million forecast, the Board may have approved a higher base energy charge in P-883 for ELIIR customers. That action in turn might have affected the percentage increases expected of such customers in this rate case, and correspondingly the increases expected of non-ELIIR customers.

REVENUE/COST RATIOS

Q. In developing its proposed rates, what revenue/cost ratios does the Company propose for the various classes?

A. The Company went through an iterative process to reconcile its proposed revenue requirement to classes, and settled on the following proposed revenue/cost ratios for the various classes:

Residential	99.1 %
Commercial	
Small General	100.7
General Demand	105.0
Large Demand	99.1
Industrial	
Small Industrial	101.3
Medium Industrial	100.2
Large Industrial	99.1
ELIIR-2	95.0
Other	
Municipal	99.1
Unmetered	99.6

Source: Figure 9.4, Initial Filing

Exhibit NB-4, attached, shows the changes in R/C ratio made by the Company as it reconciled its proposed rate increases to the various classes.

Q. What constraints has the Company observed in this development of proposed Revenue/Cost ratios.

A. Based on the Company's testimony, and judging from looking at the results of the Company's process, the Company tried to develop rates that would produce R/C ratios between 95% and 105% for each class, and that reflected the capping of the ELIIR R/C ratio at 95%.

Q. Do you agree with the Company's proposed R/C ratios in this docket?

A. No. It is not possible to develop firm recommendations concerning R/C ratios before knowing the revenue requirements determined appropriate by the Board. But even before that stage of the proceeding, it is possible to propose certain changes in the approach to setting class revenue requirements.

Q. What changes would you propose to class R/C ratios, assuming for purposes of this exercise that the Company's proposed revenue requirement is the target?

A. The main change I would propose is that the ELIIR class not be capped at a 95% R/C ratio. I would also ask the Board to consider moving General Demand more slowly to the 105% target, so as to prevent the percentage increase to residential rates that falls out of an effort to ensure that this class' revenue/cost ratio not exceed the 105% target.

Q. The Board as recently as the end of September determined that the ELIIR replacement base energy charge should be set to produce no greater than a 95% Revenue/Cost ratio. Why only two months later are you proposing to increase the maximum R/C ratio for that class?

A. The Board made its determination of the R/C ratio for use in setting the ELIIR replacement base energy charge without having before it the evidence it now has as to the impact of that limitation on the revenue/cost ratios other classes would have to bear. Now the Board has that information, because the Company has filed a rate case. Using the Company's proposed revenue requirement, leaving ELIIR's base energy charge at the 95% ratio puts too much of a burden on other customer classes.

Q. The Company's calculations show that even at a 95% R/C ratio, the ELIIR customers are facing a higher percentage increase than residential and other ATL classes. Does this not argue for continuing to cap the ELIIR R/C ratio at 95%?

A. No. The revenue/cost ratios shown in the Company's figures 9.1 through 9.4 only reflect the base energy portion of the ELIIR rate. They do not take into account the credits the ELIIR customers get for shifting load. These credits can be substantial, as Dr. Rosenberg acknowledged in his cross-examination in the P-883 docket. Dr. Rosenberg estimated that ELIIR customers would receive credits for load shifting upwards of $10 million. P-883 Transcript, Sept. 7, Question 90. This is a credit against an underlying ELIIR class revenue requirement of approximately $131 million, at a 100% R/C ratio. NSPI Response to UARB IR-1, p. 2 of 4. Given the current, higher fuel forecast, the level of credits against this revenue requirement is likely to be even higher than estimated by Dr. Rosenberg. Thus, the percentage increases shown in the Company's figures 9.1 through 9.4 overstate the percentage increase in rates that the ELIIR customers will see.

Q. What is the dollar difference in revenues between an ELIIR base energy price at a 95% ratio, and the same rate component at 97% or 99%?

A. If the ELIIR R/C ratio were set at 97% instead of 95%, the revenue requirement of other classes would be reduced by $2.63 million, assuming the Company's overall proposed revenue requirement and fuel cost estimates. If the ELIIR R/C ratio were set at 99% rather than 95%, the revenue requirement of other classes would be reduced by $5.26 million, again assuming the Company's overall proposed revenue requirement.

COST OF CAPITAL

Q. What is the cost of equity capital requested by the Company in this docket?

A. The Company requests a 9.55 percent return on equity (ROE), based on a 37.5 percent common equity ratio.

Q. In support of this request, the Company has filed the testimony of Dr. Morin. Please summarize your understanding of his evidence in support of the Company's request.

A. Dr. Morin's testimony argues that NSPI's business risk is above average relative to other Canadian utilities, its regulatory risk lies slightly above that of other utilities, and its financial risks are marginal relative to other utilities. Dr. Morin testifies that 2006 ROE awards for major investor-owned Canadian energy utilities (or for the average typical Canadian utility, or both) average approximately 9.0 percent, and that a fair and reasonable ROE for an average-risk Canadian energy utility is in the range of 9.5 to 10.5 percent. Initial Evidence at 109 (lines 15-17, 9-10). He opines that the upper portion of this range is more

appropriate for NSPI because it has "above average" business risk. Initial Filing at 110 (lines 9-13). He concludes that the Company's request to retain the authorized ROE of 9.55% is "extremely conservative."

Q. Why does Dr. Morin state that NSPI has higher business risk than other Canadian utilities?

A. Dr. Morin argues primarily that NSPI is at relatively high risk of lower growth in sales. Initial Filing at 112-113. While noting potential spikes in costs, Dr. Morin concentrates on the risks of demand reduction as a result of the "business cycle, work stoppages, factory closings, etc." *Id.* at 112 (lines 28-29). He goes on to argue that the company "continues to be vulnerable to lost revenues," *id.* at 112 (line 6). He characterizes the potential loss of sales to space and water heating competitors as the most significant "menace to the Company's revenue stream." *Id.* (line 10). He notes the risk of large volume users to reduce their demands of NSPI, and argues that "the loss of this business could have serious long-term financial consequences." *Id.* at 113 (lines 18-19). He concludes that because a large proportion of NSPI's costs are fixed, operating income is more volatile than sales, and NSPI is at increased risk, although he does not specify in relation to which other firms. *Id.* at 114.

Q. Is Dr. Morin correct that the risk of sales reductions from competition and bypass present menacing and serious risks for NSPI?

A. No. Dr. Morin appears to be applying the historical utility model of increasing returns to scale, in which average costs are above marginal costs. He appears not to have considered the specific circumstance of NSPI, in which marginal costs currently exceed average costs. In such a case, rising demand actually increases

risk, because costs go up higher than revenues, and rates must be increased if demand is increased.

Q. Is there recent evidence that loss of sales need not adversely affect NSPI's earnings?

A. Yes. NSPI agreed during the recent hearings on the proposed ELIIR replacement rate that the loss of Stora Enso's load during much of 2006 had the effect of increasing the utility's earnings. Exhibit NB-5 provides an excerpt from the transcript of the September 5, 2006 ELIIR replacement rate hearings in P-883, in which NSPI acknowledged that absent Stora Enso's load in 2006, it expected to end the year with higher, not lower earnings. The loss of significant load through customer cutbacks in an economic downturn would have a similar result, in the present circumstances.

Q. What do you conclude from Dr. Morin's failure to understand the relationship between average and marginal costs for NSPI?

A. I conclude that, to this extent, Dr. Morin overstates the business risk of NSPI, and accordingly overstates the equity return required. Dr. Morin does not quantify the amount by which return should be increased to accommodate different elements of his assessment of business risk. I have not quantified this amount. I would however note that Dr. Morin's use of strong language such as "menace" and "serious long-term financial consequences" suggests that he put significant emphasis on his assessment of this component of risk. For this reason, it would be reasonable for the Board to significantly discount Dr. Morin's estimate of required equity returns.

Q. Please discuss Dr. Morin's estimation of NSPI's generation risk, with particular attention to the risk of fuel cost disallowances.

A. On p. 117 of the Initial Testimony, Dr. Morin states that "the ever-present concern regarding a regulatory finding of imprudent costs or operations" is a component of generation business risk.

Q. Please discuss these aspects of Dr. Morin's analysis of risk, beginning with the risk of a regulatory finding of imprudence.

A. If one takes as a starting point the assumption that NSPI is operating its fuel procurement prudently, there is no basis to think that NSPI is at risk of a regulatory finding of imprudence. For Dr. Morin to point to a risk of disallowance of fuel costs as a reason to increase the required equity return is inconsistent with the Company's assertion that its fuel procurement is and will be prudent. Further, to the extent that the risk of disallowances is related to the disallowances in the 2005 and 2006 rate cases (P-881 and P-882), the concern is misplaced. While good arguments were advanced to the Board that the imprudence determined in the 2005 rate cases had persistent consequences that unreasonably raised fuel costs, into and including the present test year, the Board in P-882 determined that it would cut off consideration of imprudence impacts as of that docket. The Board also noted with approval the Company's actions to improve its ability to undertake sound fuel procurement practices. Order in P-882, paragraph 44, page 30. These rulings by the Board constitute a conservative application of the prudence doctrine, and should allay any reflexive concerns of investors as to the likelihood of imprudence disallowances in the future.

Q. Turning to the issue of the lack of a fuel clause, what is Dr. Morin's argument?

A. Dr. Morin asserts that the lack of a fuel cost adjustment clause further accentuates NSPI's business risk "relative to other energy utilities." He states that because rate decisions cannot be implemented "retroactively," the Company's exposure to regulatory lag is "substantial relative to other utilities." Initial Evidence at 118. Dr. Morin repeats the same concern in his discussion of regulatory risk, starting at p. 118.

Q. Does Dr. Morin correctly interpret the importance for the Company's required equity return of its lack of a fuel adjustment clause?

A. No. There are two problems with Dr. Morin's reasoning. First, Dr. Morin apparently double-counts the risks associated with NSPI's status as a vertically-integrated utility with generation operations and associated risk. In his discussion of business risk, he argues that NSPI's business risk is higher than other energy utilities because NSPI has no fuel cost adjustment clause. Initial Evidence at 117 (lines 23-25). In his separate discussion of regulatory risk, he again argues that NSPI's risk is elevated because it lacks a fuel cost adjustment clause. *Id.* at 118-119. The same risk, to whatever extent it is present, should not be counted twice. Second, Dr. Morin's analysis ignores elements of Nova Scotia's regulatory practice that have helped to cushion the impact of regulatory lag. Dr. Morin fails to note that NSPI has a future test year, and that NSPI has recently come before the Board for rate increases on practically an annual basis.

Q. Please describe the recent history of NSPI rate increases.

A. NSPI last received a rate increase on March 1, 2006 in Docket P-882. Before that, NSPI sought and received a rate increase effective March 2005 in Docket No. P-881. The Board approved a rate increase for ELIIR customers in its Order in Docket P-883. The Board has, accordingly, been responsive to the increased prices experienced by NSPI, and has not delayed rate increases.

Q. Is Dr. Morin clear in his choice of comparison companies when he develops his analysis of relative riskiness?

A. No. Dr. Morin is vague about his bases for comparison, sometimes comparing NSPI to all Canadian utilities, sometimes to major utilities without regard to location, and sometimes only to distribution utilities. Exhibit NB-6 is a listing of all citations in Dr. Morin's testimony where he purports to make a comparison between NSPI and some other entity, for the purpose of showing that NSPI's risk is greater. As can be seen, there are many instances in which the particular risk being examined is not specified, and other instances in which the identity of the comparison entity or group is not specified. There also appears to be a looseness to Dr. Morin's use of the identifiers "peers," "other utilities," "Canadian utilities," "Canadian energy utilities," "major investor-owned Canadian utilities," and the like. While the repeated assertion that NSPI is relatively risky has a cumulative rhetorical impact in Dr. Morin's testimony, it is hard to tie Dr. Morin's assessments of relative riskiness of NSPI to the groups whose deemed capital structures or allowed ROEs form the purported basis for comparison of NSPI's requested ROE and capital structure.

Q. What do you conclude concerning Dr. Morin's testimony on cost of equity capital?

A. I conclude that Dr. Morin has overstated the relative riskiness of NSPI, and hence has overstated the required cost of equity capital for NSPI.

TEST YEAR INTEGRITY

Q. Please describe the Company's proposal for post-filing updates to its 2007 Test Year.

A. NSPI asks that "any additional [2007] spending, resulting from UARB decisions or directives be included in the 2007 Rate Decision and subsequently as part of the Compliance Filing." Initial Filing at 2. In a section entitled Outstanding Approvals and Deferrals, beginning at p. 182, NSPI identifies a number of items for which it requests special consideration by the Board:

- Any changes in NSPI's proposed rates as filed in the 2007 rate case or as a result of the outcome of the appeal of Avon Valley *et al* of the Board's 2006 rate decision;
- Rate "rebalancing over remaining rates" to accommodate the effect of the ELIIR-2 decision or any other decision adjusting rates of other classes;
- Incremental costs if any of the UARB review of NSPI's DSM program, to be reflected in the Compliance Filing in the 2007 Rate Case;
- Changes in spending required in light of a decision by the Board in its ongoing Storm Hearing process and review of NSPI's vegetation management practices, to be reflected in the Compliance Filing;
- Incremental costs of a UARB-required solution in the Storm Hearing process to the problem of call overflow, to be reflected in the Compliance Filing;
- Additional spending to design and implement a relay testing program associated with the 69 kV and 138 kV systems, in response to the Board's Storm Hearing Directives, to be reflected in the Compliance Filing; and
- The inclusion in rates of approximately $18.3 million in deferred First Quarter 2007 fuel costs in addition to the 2007 test year costs, over a 12 month period beginning in 2008.

Q. Are there other deviations from the Test Year concept that NSPI wishes the Board to consider in its filing?

A. Yes, there are two. First, with regard to Point Tupper Marine Terminal, the Company states that it continues to consider whether the Terminal should be sold or included in rate base. NSPI states at page 50 of its Initial Filing that it

"appreciates the Board's willingness to consider inclusions of the costs associated with capital recovery [of the Terminal] if and when NSPI makes an Application to the Board." Second, with regard to the Glace Bay amortization, **[REDACTED]**

Q. Please address these items in general terms.

A. In these nine areas, NSPI is seeking to evade the regulatory constraint of a test year. The test year concept holds that revenue requirements are best identified by determining a representative test period, no shorter than a full year, and examining the relationship between costs and revenues in this period. Test years are chosen to be fairly representative of the current situation facing the utility, and the balance of costs and revenues anticipated in the period during which rates set in this proceeding will be in effect. Known and measurable changes to test years may be made by a Board in assessing revenue requirements. These adjustments are made to ensure that the test year is representative, and to minimize regulatory lag (in either direction). But the Company proposes to hold open the record only to make changes that would increase the revenue requirement. Putting aside the question of whether the cost changes contemplated by the Company will in fact

be known and measurable by the time the Company puts them forward for reflection in its revenue requirement, the thrust of the Company's proposals is lopsided. The one-sided nature of the proposals is an indication that they are not put forward to ensure a representative test year, so much as to provide the maximum revenue requirement for the Company, thus allowing it to raise rates higher than they otherwise could be raised.

Q. You reference the question of whether these changes are known and measurable. Please explain what you mean.

A. For a test year adjustment to be made, the changes must be known in the sense that they are fairly certain to take place. They also must be measurable, in the sense that the Board can determine an accurate level for inclusion in rates. Just because the Board is using a forward test year does not mean that any hypothetical cost, or speculative amount of cost, may be included in the test year. Indeed, the use of a forecast test year heightens the risk of misstating the likelihood of the incurrence of a type of cost (or the receipt of a type of revenue, for that matter). Using forecasts, rather than historic accounting data, also heightens the risk of misestimating the amount of such costs (or revenues). So it behooves the Board to be more vigilant than it might otherwise be in requiring a forecast of cost incurrence and an estimate of the amount of cost to be included in the test year.

Q. Isn't the Company entitled to cost recovery for expenditures it undertakes in response to Board requirements?

A. The answer of course is "yes." But this does not mean that the Company is entitled to a surcharge increasing rates every time it responds to a Board directive

(or indeed to a legal obligation of any nature) and incurs additional costs. Even if the Board approves a type of expenditure, and even if the Company has an estimate of the costs to perform the required activities, the cost may be contingent, and the estimate may be insufficiently certain to justify inclusion in rates without further review.

Q. Nova Scotia regulates using the principle of cost-plus regulation. How does this principle relate to the question of whether NSPI should be able to add new costs into its revenue requirement as a rate proceeding goes forward?

A. Under the cost-plus system of regulation, the Company is entitled to a reasonable opportunity to earn a just and reasonable return on investment devoted to the public service. To calculate whether the Company has a reasonable opportunity to earn a just and reasonable return, it is not sufficient to look at one item (here, a cost increase), in isolation from all other costs and revenues. The test year approach identifies a balance of revenues and costs. The revenue requirement must be estimated as a whole. Meanwhile, changes in revenues and costs happen continually before, during and after rate cases. In the absence of retroactive ratemaking and automatic surcharges and "true-up" provisions, rates are set in rate cases to be reasonably representative of the ongoing cost/revenue balance.

Q. But doesn't regulatory lag then deprive the Company of a reasonable opportunity to earn its allowed return?

A. No. Regulatory lag does not always work against the Company. To the extent it does, regulatory lag provides incentives for the Company to be prudent and to operate in the most cost-effective manner. The continual updating of a test year or inclusion of a surcharge would eliminate this built-in feature of ratemaking.

Because the Company may estimate additional costs identified later in the proceeding does not mean such cost estimates automatically should be folded into the Test Year cost forecast, increasing the revenue requirement. The Company should be made to show the cost estimates are both known and measurable, and the Board and the parties must have a reasonable opportunity to test the Company's support for its contention.

Q. For a number of these items, the Company proposes to bring them forward for inclusion in revenue requirements during the Compliance phase of this proceeding. Is this fair or reasonable?

A. Increasing revenue requirements by new costs during the Compliance of a rate case is especially unfair and unreasonable. It is unfair, because it deprives all the parties of any opportunity to test the extent to which the Company has accurately anticipated the need for certain costs, the level of the costs it will incur, and the impact of such expenditures on other aspects of the filing. It is unreasonable because it deprives the Board of the opportunity to place the proposed costs in the context of an updated estimation of the balance of rates and revenues. A Compliance Filing is intended to be non-controversial. It is not intended to be a reopening of the case.

Q. Does the Board have no latitude regarding when during a rate case it may take new costs (or revenues) into effect?

A. From a policy perspective, I would argue that the Board's latitude in leaving the record open late into a proceeding for proposed updates to the Test Year must be circumscribed by two considerations at least. First, does the timing of the proposed update allow all parties a fair opportunity to test the *bona fides* of the

proposal? Second, does the timing of the proposed update give the Board sufficient time to consider the proposal, and any counterarguments, fully and carefully?

Q. What do you recommend concerning the listed items the Company wishes to include in its revenue requirement calculation during the pendency of this proceeding?

A. I recommend the Board not accept any proposed adjustments if the parties will not have a full and fair opportunity to test them through the hearings process within the constraints of the schedule for a decision in this docket. This recommendation implies, in my opinion, that the Board should not accept any such proposals during the Compliance Filing phase, without exception. The Board may wish to look at the other proposals on a case-by-case basis as the docket proceeds. Having said that, for any items to be considered in setting rates, the evidence will have to establish sufficient certainty that the contingency will occur at the cost level estimated by the Company to justify taking it into account.

Q. Please comment on the Company's proposed inclusion in rates of approximately $18.3 million in deferred First Quarter 2007 fuel costs in addition to the 2007 test year costs, over a 12 month period beginning in 2008.

A. This proposal amounts to a request for retroactive ratemaking, and should be rejected. Its approval would also distort the revenue/cost analysis for 2008, opening the door to double-counting of that level of fuel costs in 2008. It would appear to be a back-door method for introducing elements of a fuel adjustment clause. However, the Company proposes no corresponding reduction to its rate of return. Nor does NSPI propose to reflect any elements of a fuel clause that work

in the customers' favour, such as automatic decreases in rates when fuel costs go down between rate cases.

LOW-INCOME BILL AFFORDABILITY ISSUES

Q. Please indicate your previous experience regarding low-income energy issues; specifically the issues facing low income residential consumers in accessing electricity.

A. A significant portion of my professional experience is in the area of affordability of utility services, with a concentration on energy issues. I represented low-income customers in disputes over access to energy for the first nine years of my career. While working for the Commissions in Maine and Massachusetts, I provided advice to the regulators on low-income issues. For nine years with the National Consumer Law Center, I studied low-income energy issues, wrote analyses of options to address affordability problems, advised low-income advocates around the United States on energy and utility issues, and provided expert witness testimony in support of low-income energy affordability and efficiency programs. I was the co-editor and author of a manual for legal services attorneys on *Access to Utility Services* for low-income customers.

Q. Have you testified in other regulatory proceedings concerning low income energy issues?

A. Yes. As you can see from my resume, attached as Exhibit NB-1, I have testified on fourteen (14) occasions concerning low-income energy issues, before regulatory commissions in five different states. My testimonies presented proposals for burden-based bill payment assistance, arrearage forgiveness, and demand-side management, all targeted to low-income customers. In addition, I worked with local groups in other states to assist in the development of similar programs.

Q. What is the purpose of this section of your testimony?

A. In this section of my testimony, I offer my opinion of the merits of a low-income affordability program for Nova Scotia Power, Inc. along the lines of the *Ratepayer-Funded Home-Energy Affordability Program for Low Income Households* proposed by Roger Colton in his document of the same name for the Low Income Energy Network in Ontario. Mr. Colton is one of the leading experts in the United States on low-income affordability issues. A copy of Mr. Colton's report is attached to my testimony as Exhibit NB-7.

The purpose for expressing my opinion in this docket is to put on the record evidence supporting such a program although I recognize that the Board has ruled on its lack of jurisdiction to require that such a program be implemented.

Q. Please briefly describe the program elements contained in the Home-Energy Affordability Program Mr. Colton lays out in his Ontario report.

A. Mr. Colton proposed a five-part program, including (a) a rate affordability component, (b) an arrearage management component, (c) a crisis intervention component, (d) a conservation and demand-management component, and (e) additional specified consumer protections. With respect to the rate affordability and arrearage management components, Mr. Colton sets out rate and arrearage management components scaled to the energy burdens of low-income households.

Q. In the course of your work regarding low income energy issues have you examined the concept of "energy burden" and can you describe the concept of energy burden?

A. The concept of "energy burden" was developed at the National Consumer Law Center in Boston to provide a mechanism for comparing the affordability of

energy costs across customers from different income backgrounds. The energy burden is the percent of a household's income that must be devoted to covering energy bills. Use of a percentage figure enables the analyst to account for the fact that basic expenses of living do not scale by income. Further, the energy bill may vary by income, but not by nearly the same extent as the incomes of households vary. Use of a percentage makes possible a meaningful comparison of the burden energy costs place on households with different resources.

Q. Can you give an example of how an electricity cost burden would be calculated?

A. Yes. Hypothetically, let us compare two households. One has an annual household income of $14,000 (roughly the income of a household with one wage-earner working 40 hours a week at minimum wage). The family rents an apartment, and does not use electricity for heat. Using roughly 500 kWh per month, the family's annual bill under NSPI's proposed rates is about $800, or about 5.7 percent of the household income. By comparison, assume a family with $48,500 annual income, the average private household income in Nova Scotia according to the 2001 census. Again assuming the household is not using electricity for heat, I hypothesize that this family uses slightly more electricity per month, and has an annual bill is about $866. But despite the slightly higher usage, the average-income household's bill is only 1.8 percent of the household income. Thus, the percent of income the low-income household has to devote to paying the electric bill is more than three times the percent that the average-income family must pay.

Q. In your hypothetical, if the average-income family paid the same percentage of income for electricity as the low-income family, how much would its bill be per month?

A. If the family with a $48,500 annual income paid 5.7 percent of its income for electricity, its monthly bill would be $190. This would represent an increase of $118 per month.

Q. In the context of low income energy burdens, please define what would be considered a sustainable energy burden?

A. Various percentages of income have been identified as a floor for affordable expenditures on energy. My preference is to identify the percentage of income being expended by the household of average income in the area, and for the energy source, being examined, and to designate that percentage as the affordable percentage. As Mr. Colton states, the burden calculation should be tailored to whether the household uses electric space heat. Mr. Colton examines the data and proposes a limit of 6% of income for home energy costs (heat included), and half that amount, or 3%, where heat is calculated separately. Mr. Colton's analysis, based on affordable housing burdens, is sound in my opinion. I concur with Mr. Colton that no more than 10% of income would be a tolerable burden for a household using electricity for space heat, with a corresponding limit of up to half that figure for a household for a household not using space heat.

Q. In your experience, what are the social and economic consequences and other implications of an unsustainable energy burden?

A. If energy costs are unsustainable, the household will face great difficulties in maintaining a minimum standard of living, and will face health and safety risks. Households will typically pay electric (and gas) bills after rental bills and before

food or other expenses. The result of unsustainable electric bills is often a reduction in the ability to obtain sufficient food, decent clothing, adequate transportation, and other necessities of living. Households with electric space heat will often close off rooms in the house in the winter, or go without sufficient heat. Two research studies at a major hospital in Boston have shown that many children in low-income families develop malnutrition in the winter, as their families must pay higher energy bills while income remains fixed.

Q. Please describe the experience of low-income households with disconnection of electric service.

A. In the case of every utility where I have looked at the data, low-income households make up a disproportionate number of the households receiving late notices and disconnection notices, and of the households actually disconnected. As Mr. Colton describes in his Ontario report, the reason is not unwillingness to pay, or even inability to manage limited funds. Rather, the underlying issue is the lack of sufficient funds to cover all necessities. Even as low-income households tend to place a high priority on maintaining utility service, they cannot always afford to pay the bills in full. Late fees and other penalties do not improve their chances of paying the bill; what was unaffordable without the late fee only becomes less affordable with the fee added on.

Once the service is disconnected, it is common for a household to be required to pay the entire back balance, plus any late fees, plus a disconnection and reconnection fee. Again, the additional fees simply make the bill less affordable

than it was before the household went into default. Low-income households whose electricity is terminated often have difficulty obtaining restoration of the service, and consequently go for some periods without electricity service. During extreme weather periods, this is a particular hardship.

At all times, lack of electricity has adverse impacts on the children's ability to do well in school, the health of household members, the ability of adults to obtain and retain employment, and other aspects of normal household life. There is no light at night, and no refrigeration to maintain food safe and fresh.

There are many documented cases where a low-income household unable to pay an electric bill has been disconnected, and has resorted to candles for light or a gas or kerosene stove for heat, with the tragic result that a fire begins, and lives are sometimes lost.

Q. In your experience, can you confirm that the group of people living in poverty who struggle with bill affordability are disproportionately made up of members of other vulnerable groups such as women, single mothers with children, visible minorities, people with disabilities, people in receipt of social assistance, seniors etc.

A. Yes. Members of such vulnerable groups tend to have lower household incomes, as a result of historic factors, social conditions, residual discrimination, inability to take on higher-paying jobs, and similar factors. As members of such groups are disproportionately represented amongst those whose income falls below the Low Income Cut Off (LICO), they have disproportionately less ability to meet all their necessary household expenses, including electric bills.

Q. Please describe briefly the development of ameliorative programs to assist low income energy consumers including bill affordability programs in the U.S.A..

A. Some utilities in the States have had special rates for low-income elders or disabled customers for many years. Beginning in the 1980's, there began a movement in many States to address the payment difficulties of the broader group of low-income customers. In addition to discounted bills and arrearage forgiveness programs, utilities began to provide assistance to low-income (and other) consumers to install energy-saving devices in their homes. As of 2005, low-income bill affordability programs were offered by utilities in 26 of the States. These programs include rate discounts, and in many cases also include arrearage forgiveness and crisis management services. In as many as 18 states, utilities provide assistance to low-income customers to install energy-saving measures. Exhibit NB-8 is a chart from the National Center for Affordable Technology, a clearinghouse that gathers information on programs for low-income energy customers in the States. It shows recent levels of funding for utility and non-utility low-income programming.

Q. How are bill affordability programs delivered through the regulatory systems for energy in the U.S.A. currently?

A. Bill affordability programs provided by utilities in the U.S.A. today typically are based primarily on a rate discount available to income-eligible customers. Additional components, such as arrearage forgiveness programs and crisis assistance, exist to take care of the particular difficulties low-income households experience either coming in to a discounted rate program, or when faced with an

extraordinary setback, such as the loss of a job or a major unexpected expense. Utility-funded efficiency programs are typically offered through a separate structure. In Massachusetts, for example, there are local community action agencies whose mission is to work within low-income communities to assist households in poverty. These agencies run a weatherization program funded with federal and state dollars, and it has made sense for them to add on the job of providing the weatherization and energy efficiency services funded by investor-owned utilities, under contract to the utilities.

Q. Please indicate in your opinion how effective low-income energy assistance programs are in meeting the needs for which they were designed.

A. Low-income energy assistance programs are very effective in reducing bills and making them more affordable. The effectiveness of the programs depends primarily on the level of funding, and also in the program design. Effective outreach is essential, to make the program known to and available to the widest numbers of households who might benefit from the service.

Q. Please discuss the role of late payment fees, negotiated payment plans, and other consumer protections, in an affordability program.

A. Mr. Colton in his Ontario report describes a number of practices that would improve customer protections, particularly for low-income customers. I have not examined these topics in detail in the NSPI context, so it may be that not all of Mr. Colton's suggestions are necessary in Nova Scotia. However, I can concur in the soundness of the policies Mr. Colton lays out under the heading of customer protections.

Q. Please go through the basic customer protections Mr. Colton proposes in the Ontario report, and provide your opinion as to their reasonableness.

A. Starting with late payment fees, I concur with Mr. Colton that they are worse than useless in the case of low-income customers. As mentioned above, late payment fees are ineffective in incenting low-income households to pay their electric bills any more faithfully than they are able to, and thus represent merely an added burden to the household. Eliminating them for low-income households is a sensible course. With respect to the use of disconnection notices to threaten customers into paying, when there is no intent actually to disconnect, I cannot say whether that is the practice of NSPI. If it is, it should be eliminated, along the lines Mr. Colton suggests, and for the reasons he presents. Turning to deferred payment plans, again I do not know the practices of NSPI regarding offering deferred payment opportunities. I can say that the recommendations of Mr. Colton on the issue of deferred payment plans are sound and represent good utility policy. If they are not in place in NSPI's service area, they would be a positive addition.

Q. Please describe how bill affordability programs affect bill-payment patterns and other impacts on the regulatory system such as rates for other consumers and miscellaneous charges.

A. Bill affordability programs have a direct and positive impact on the bill-payment patterns of participating households. When bills are reduced to a level that is affordable, low-income household's percent of timely and full payments improves. This impact has been established in a number of studies performed to evaluate low-income affordability programs.

Q. Are you familiar with the Universal Service Program developed by Roger Colton and submitted as direct evidence in the 2004 NSPI rate hearing?

A. Yes.

Q. Are you familiar with the type of bill affordability program proposed by Mr. Colton? In particular, please provide your opinion regarding the effectiveness of the "fixed credit" program.

A. I am quite familiar with the burden-based forms of bill affordability programs. Mr. Colton's "fixed credit" program is an excellent form of burden-based bill affordability offering. It bases the assistance on the burden that the resulting bill will place on the household, and thus tailors the bill reduction to the need, not to some arbitrary percentage or dollar amount. However, it then translates the bill reduction to a fixed monthly credit on the bill. In this way, the household is given the incentive to maintain usage at the historic level or even lower, rather than being subsidized to increase usage. Mr. Colton explains this approach and the reasoning behind in it greater detail in his Ontario report, and I concur with his approach.

Q. Mr. Colton's program includes components for bill affordability, arrearage management, energy efficiency and crisis intervention. Do you agree that these are the components of an effective and comprehensive low income energy assistance program?

A. Yes. Each of these components deals with a unique aspect of the challenges facing a low-income household in maintaining affordable electric service. The bill affordability component brings the monthly bill down to a sustainable level. The arrearage management component addresses the historic build-up of arrears before a customer enrolls in a the bill affordability rate. Energy efficiency is a core component of any sensible approach to bill affordability, as it is often less

expensive to substitute an energy-saving device and lower the bill in that fashion, rather than subsidize the continued usage at a higher-than-necessary level. Crisis intervention, as noted above, is necessary to handle crisis situations that present challenges beyond the day-to-day management of the bill.

Q. Do you support Mr. Colton's proposed program as set out in his 2004 testimony and his 2005 Ontario report?

A. I could support Mr. Colton's proposed programs in every detail, with the exception that I might explore additional means to deliver low-income energy efficiency beyond those he has set out.

Q. The Federal Government and the Province provide various forms of assistance to households dealing with the effects of poverty and other socio-economic challenges. In light of this, is there still a role for a ratepayer-funded low-income program?

A. There still can be a role for ratepayer funded energy affordability efforts. The value of a ratepayer-funded utility program comes from two sources. To the extent governmental support is insufficient to address the payment difficulties of low-income households, a low-income energy program funded by ratepayers can fill important gaps. In so doing, in addition, the utility can improve the payment patterns of its payment-challenged customers. In turn, this reduces such utility costs as bad debt, working capital, and credit and collections OM&G.

Q. Does this conclude your testimony?

A. Yes.

Exhibit NB-1

Nancy Brockway

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Education

B.A. with honors, 1970, Smith College, Northampton, MA
J.D., 1973, Yale Law School, New Haven, CT

Employment

Consultant and Principal, NBrockway & Associates, 2003 to present
Commissioner, New Hampshire Public Utilities Commission (1998-2003)
Member, New Hampshire Site Evaluation Committee (1998-2003)
Utilities consultant and attorney, National Consumer Law Center (1991-1998)
General Counsel, Massachusetts Public Utilities Commission (1989-1991)
Staff Attorney, Assistant General Counsel, Massachusetts Commission (1986-1989)
Hearings Officer, Senior Staff Attorney, Maine Public Utilities Commission (1983-1986)
Executive Director, Maine Legal Services for the Elderly, Inc. (1981-1983)
Staff Attorney, Directing Attorney, Pine Tree Legal Assistance, Inc. (1979-1981)
Staff Attorney, UMass Student Legal Services (1977-1979)
Staff Attorney, Western Massachusetts Legal Assistance, Inc. (1976-1977)
Staff Attorney, Legal Aid Society of New York (1974-1976)

NARUC and related Committee Memberships and Public Service (1998-2003)

NARUC Consumer Affairs Committee (Vice-Chair)
Consumer Affairs Committee, New England Conference of Public Utility Commissioners (Chair)
Steering Committee, National Council on Competition in the Electric Industry
ISO-NE Advisory Committee
NEPOOL Review Board Advisory Committee
NARUC Ad Hoc Committee on Competition in the Electric Industry
NARUC Ad Hoc Committee on Committee Structure, NARUC
NARUC Committee on Communications
FCC Joint Conference on Accounting
North American Numbering Council
NBANC Board of Directors

Other Current Activities:

Chair, Board of Directors, PAYS America, Inc. (private non-profit promoting innovative way to enable more consumers to take advantage of resource efficiency)

Other Appointments and Professional Activities (1991-1998)

Independent Conservation & Load Management Expert, Commonwealth Electric Co.
President's Council on Sustainable Development, Energy & Transportation Task Force
California Low Income Governing Board (Advisory Bd. to CPUC on low-income issues)
Massachusetts Energy Facilities Siting Board
Massachusetts Board of Registration of Allied Mental Health Professionals

Papers and Publications (partial list)

Primary author (with Oppenheim), *AARP Model Statute for Consumer Protection in Electric Industry Restructuring,* Washington, D.C.: AARP (1999).

Co-editor and author, *Access to Utility Services* (manual for consumer advocates on consumer protection issues and access to utility services), National Consumer Law Center (1997).

Regulatory Jurisdiction to Enforce Consumer Protections Against Competitive Electricity Suppliers: The Case of New England, in Barbara R. Alexander and NCLC, "Consumer Protection Proposals for Retail Electric Competition: Model Legislation and Regulations." The Regulatory Assistance Project (October 1996).

Primary author, *Stranded Benefits in Electric Industry Restructuring*, National Council on Competition and the Electric Industry (1996).

"Intervenor Funding in Public Utility Rate Cases," *Clearinghouse Review*, Chicago, Illinois (June 1995).

A Low-Income Advocate's Introduction To Electric Industry Restructuring And Retail Wheeling. Rev. Boston, MA : National Consumer Law Center (1994).

How Rates are Set for the Regulated Utility: A Quick Overview. National Consumer Law Center (1994).

Bar Memberships

New York State and Massachusetts
Maine (inactive)

NANCY BROCKWAY: TESTIMONIES

Case name	Client Name	Topic	Juris. & Docket No.	Date
Pike County Commissioners v. PCL&P	Pennsylvania Office of the Consumer Advocate	Options to address rate shock in transition to uncapped competitive POLR rates	Pennsylvania Public Utilities Commission, Docket No. C-20065942	11/06 (hearing in January 07)
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Extra Large Industrial Interruptible Rates	Nova Scotia Utility and Review Board, P-883	8/06
UGI/Southern Union, Proposed Merger	Pennsylvania Office of the Consumer Advocate	Impacts of the Proposed Merger on Ratepayers and Rates, Risks and Benefits of Proposed Merger, Synergies, Reliability	Pennsylvania Public Utilities Commission, Docket Nos. A-120011F2000, etc.	5/06
SEMCO Energy Services Gas Cost Recovery Plan	PAYS America, Inc.	Relationship Between DSM and Gas Costs	Michigan Public Service Commission, Docket No. U-14718	5/06 (not admitted)
Re: Electric Service Reliability and Quality Standards	Delaware Public Service Commission	Application of Proposed Rules to Competitive Suppliers and Cooperatives	Delaware Public Service Board, Docket No. 50	1/06
Exelon/Public Service Electric & Gas, Joint Petitioners	New Jersey Division of the Ratepayer Advocate	Impacts of Proposed Merger on Service Quality, Reliability, and Gas Safety, and Options to Maintain Historic Standards.	New Jersey Board of Public Utilities, BPU Docket No. EM05020106 OAL Docket No. PUC-1874-05	11/05-12/05
Exelon/Public Service Electric & Gas, Joint Petitioners	New Jersey Division of the Ratepayer Advocate	Risks and Benefits of Proposed Merger of Exelon and PSE&G, Options for Assuring Benefits and Mitigating Risk	New Jersey Board of Public Utilities, BPU Docket No. EM05020106 OAL Docket No. PUC-1874-05	11/05-12/05
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Economic Development Rates	Nova Scotia Utility and Review Board, P-882	10/05
Nova Scotia Power, Inc.	NS UARB Consumer Advocate	Revenue Requirements, Cost Allocation, Rate Design, Demand Side Management, Economic Development Rates	Nova Scotia Utility and Review Board, P-882	10/05 – 11/05
Bay State Gas Company	Local 273	Customer Service, Reliability, Low-Income Protections, Revenue Requirements	Massachusetts DTE, Docket No. 05-27	7/05
Nova Scotia Power, Inc.	Nova Scotia Utility and Review Board	Domestic Consumer Perspective on Proposed Rate Case Settlement Agreement	Nova Scotia Utility and Review Board, P-881	1/05
Cincinnati Bell Alt Reg	Communities United for Action	Universal Service and alternative regulation of telephone service	PUCO, Case No. 96-899-TP-ALT	12/97
UGI-Electric Utilities, Inc.	Pennsylvania OCC	Universal Service issues in electric industry restructuring plans	PA PUC, No. R-00973975	1997

NANCY BROCKWAY: TESTIMONIES				
West Penn Power Co.	"	"	PA PUC, No. R-00973981	1997
Duquesne Light Co.	"	"	PA PUC, No. R-00974101	1997
PECO, Inc.,	"		PA PUC, No. R-00973953	1997
PP&L	"	"	PA PUC, No. R-00973954	1997
Met Ed.	"	"	PA PUC, No. R-00974008	9/97
Penelec	"	"	PA PUC, No. R-00974009	9/97
In the Matter of the Electric Industry Restructuring Plan	New Hampshire Legal Services	Low-income rates and DSM, impacts of restructuring on low-income consumers	New Hampshire Public Utilities Commission, D.R. 96-150	Nov., Dec. 1996
Notice of Inquiry/ Rulemaking. establishing the procedures to be followed in electric industry restructuring.	Mass. CAP Directors Association, Mass. Energy Directors Association, named Low-Income Intervenors	Electric industry restructuring	Massachusetts Department of Public Utilities, D.P.U. 96-100.	to 10/98
Universal Service Docket	Pennsylvania Office of Consumer Advocate	Rate rebalancing, universal service, telephone penetration.	Pennsylvania Public Utilities Commission Docket No. I-00940035	1996
In Re: Complaint of Kenneth D. Williams v. Houston Lighting and Power Co.	Named Low-Income Consumers	Customer service, rate design, demand-side management, revenue requirements	Texas Public Utilities Docket No. 12065	1994-5
Open Access Non-Discriminatory Transmission Services ... and Recovery of Stranded Costs	Direct Action for Rates and Equality, Providence, Rhode Island	Open transmission access in interstate commerce, and stranded costs recovery.	FERC, Nos. RM95-8-000, RM94-7-000.	1994-5
Bath Water District, Proposed Increase in Rates	Maine Office of Public Advocate	Water district cost allocation, rate design, low-income water affordability	Maine Public Utilities Commission, Docket. No. 94-034	12/94, 3/95
Application of Ohio Bell Telephone Co. for Approval of Alternative Form of Regulation	Legal Aid Society of Cleveland and Dayton	Definition of universal telecommunications service, proposal for Universal Service Access program (USA).	Public Utilities Commission of Ohio, Case No. 93-487-TP-ALT	5/4/94
Pennsylvania PUC vs. Bell Telephone of Pennsylvania	Pennsylvania Public Utility Law Project	Definition of "universal telecommunications service"	Pennsylvania PUC No. P-930715	filed 12/93

NANCY BROCKWAY: TESTIMONIES				
Joint Application for Approval of Demand-Side Management Programs, etc.	LG&E; Legal Aid Society of Louisville, other Joint Applicants	Cost-effective DSM programs for low-income customers; collaborative process to design DSM programs; cost allocation and cost recovery.	Kentucky PSC No. 93-150	11/8/93
Texas Utilities Electric Company	Texas Legal Services Center	Costs and benefits of DSM targeted to low-income customers	Texas PUC No. 11735	1993
Texas Utilities Electric Company	Texas Legal Services Center	Proposed Maintenance of Effort Rate for low-income customers	Texas PUC No. 11735	1993
Philadelphia Water Department	Philadelphia Public Advocate	Costs of Unrepaired System Leaks	Philadelphia Water Comm'r.	1992
New England Telephone	Rhode Island Legal Services	DNP for non-basic service	Rhode Island PUC, No. 1997	1991
Kentucky Power Co.	Kentucky Legal Services	Low Income Rate	Kentucky PSC No. 91-066	1991
Investigation into Modernization	Invited by Commission	Impact of modernization costs on low income telephone users	New York PSC	1991

NOVA SCOTIA UTILITY AND REVIEW BOARD

IN THE MATTER OF: The *Public Utilities Act,* R.S.N.S. 1989, c.380 as amended

IN THE MATTER OF: An Application by Nova Scotia Power Incorporated for Approval of the Extra Large Industrial Interruptible -2 Tariff (ELIIR-2)

RESPONSE TO INFORMATION REQUEST

TO: NSPI

FROM: Consumer Advocate

Question IR-2: **Please provide a copy of any forecasts of fuel costs, and of revenue from export sales and gas sales, prepared by or on behalf of NSPI for fuel costs for any years in the period 2007 to 2011, for any purpose. To the extent it is necessary to qualify such forecasts as uncertain, please explain. If NSPI has no such forecasts for any purpose, please explain how it is possible to perform the planning function without such forecasts.**

Response IR-2: The information requested is not available at this time. In response to SEB IR-1, NSPI provided three potential and hypothetical fuel cost scenarios. These three scenarios assumed fuel costs of $434 million, $484 million, and $534 million. Please see SEB IRs 1a-1c.

Docket P-884
Exhibit NB-3

Excerpt from Transcript, September 5, 2006, ELIIR Replacement Docket, P-882

330. Q. [Mr. Cooper]... The next topic is calculation of the amount of NSPI's rate, and I would ask you to turn to the -- well it's actually the same book. It's N-58, which is the preliminary IRs. And I'm looking to -- I'm asking you to look to SEB-12.

A. (Boutilier) Your question, Mr. Cooper, is SEB IR-12 to NSPI?

331. Q. Yes.

A. (Boutilier) Yes.

332. Q. And the question was to provide forecasts, base forecasts or most likely forecasts, low-case forecasts, high-case forecasts, and so on, of NSPI's net cost to generation after credits for export sales and gas sales, prepared for 2007 to 2011. And were any fuel forecasts provided in response to that request for information?

A. (Boutilier) No.

333. Q. Then question IR-2 from the consumer advocate, which is Exhibit N-34, which you're welcome to look up, but perhaps you don't need to because the question is just a fairly short one -- you're welcome to -- did -- that question asked you to provide a copy of forecasts of

fuel costs or revenues from export sales for the same period, '07 to 2011.

A. (Boutilier) I'm sorry, what was the question, the last part of your question?

334. Q. The -- why don't we look at it. The question is IR-2 from the consumer advocate.

"Please provide a copy of any forecasts of fuel costs and revenue from export sales and gas sales prepared for 2007 to 2011."

Right?

A. (Boutilier) Correct, yes.

335. Q. And the response was that -- reading the first sentence in the response:

"The information requested is not available at this time."

A. (Boutilier) That's correct, yes.

336. Q. Right. Now, my question to you is was the information not available because NSPI had not actually prepared any fuel costs for 2007 or beyond? Is that the reason why?

A. (Boutilier) **NSPI, in the process of planning, obviously does various fuel runs from time to time, but no determination had been arrived at with respect to**

2007.

337. Q. No forecasts, no ---

A. (Boutilier) **No forecasts that we were prepared to put forward at that time.** That's true.

NOTE: Emphasis supplied.

P-884 2007 Rate Case
Exhibit NB-4

NSPI Class Revenue Requirement Development:
R/C Ratio (Percent) Iterations
in Initial Filing

Class	Figure 9.1	Figure 9.2	Figure 9.3	Figure 9.4	*R/C ratios 9.2 vs. 9.4*
Residential	90.8	97.6	97.6	99.1	*1.5*
Commercial					
Small General	93.7	100.7	100.7	100.7	*0.0*
General Demand	101.4	108.9	105.0	105.0	*-3.9*
Large General	90.0	97.7	97.7	99.1	*1.4*
Total Commercial	*99.4*	*106.8*	*103.7*	*103.9*	*-2.9*
Industrial					
Small Industrial	94.3	101.3	101.3	101.3	*0.0*
Medium Industrial	93.3	100.2	100.2	100.2	*0.0*
Large Industrial	91.5	98.4	98.4	99.1	*0.7*
ELIIR-2	85.4	95.0	95.0	95.0	*0.0*
Total Industrial	*89.7*	*97.4*	*97.4*	*97.6*	*0.2*
Other					
Municipal	89.7	96.4	96.4	99.1	*2.7*
Unmetered	100.7	99.9	99.9	99.9	*0.0*
Total Other	*96.2*	*98.4*	*98.4*	*99.6*	*1.2*
Total ATL Classes	92.9	100.0	99.2	100.0	*0.0*

Figure 9.1 Present rates, allocated 2007 costs
Figure 9.2 Across-the-board 7.3% increase
Figure 9.3 First adjustment proposed by NSPI
Figure 9.4 Proposed allocation by NSPI

TRANSCRIPT September 5, 2006
ELIIR Replacement Docket
P-883
(emphases supplied)

p. *238* ***NSPI PANEL - CROSS-EXAM. BY MS. RUBIN***

. . .

655. Q. Now, NSPI has estimated that it has incurred cost savings to date as a result of the shutdown of Stora, that's correct?

A. (Blunden) Yes, our fuel expense in 2006 is less than it otherwise would have been because we have not had to serve that load.

656. Q. And projecting for the rest of 2006 do you expect the value of the avoided fuel costs of not serving the Stora load will be greater than the revenue lost?

A. (Blunden) Sorry, could you repeat the question?

657. Q. Projecting for the rest of 2006 do you expect that the value of the avoided fuel costs of not serving the load will be greater than the revenue lost?

A. (Blunden) In quarter three we would not expect that to happen to the extent that Stora was not operating. **In the fourth quarter of this year, we would expect that**

yes, the avoided cost would be slightly higher than the lost revenue to serve them.

658. Q. And in the event that Stora remains closed for the balance of the year, are you projecting an overall year cost savings?

A. (Blunden) If Stora is not operating the -- we would

expect that there would be a positive effect on an annualized basis, in the event that they are not operating for the balance of the year. To the extent they're operating in -- primarily in Q4, we're not sure at this point in time whether -- how that would actually play out. Some of that will depend on the right set for the ---

659. Q. Right. And have you done any calculations to date of your -- to the end of the third quarter of the cost savings?

A. (Blunden) Let me just characterize it a couple of ways. We -- in Berwick IR-11 we did highlight that it was approximately three million dollars in Q1. It was approximately an equivalent amount in Q2. As we said

we would expect a very nominal positive or negative amount in quarter 3. And quarter 4, again it would depend on whether or not they're operating and what rate they're being served at. **Under any of the scenarios at this point in time we'll be earning a larger rate of return.**

Exhibit NB-6

Citations to Dr. Roger Morin, Evidence in P-884
Entities against which NSPI's risk is compared:

Page (line)	Type of Risk/Factor	Specific Risk	Compared Entity
Investment (business plus regulatory plus financial)			
109 (21-22)	investment	not specified	other Canadian Utilities
109 (25-26)	investment	total investment risk	energy utility industry in Canada
110(23-25)	investment	not specified	typical Canadian utility
120 (7-8)	investment	total investment risk as a result of "medley of risk factors"	Canadian utilities
120(14)	investment	average	other Canadian utilities
Business			
109 (21-22)	business	not specified	other Canadian utilities [implied]
112(4-5)	business	not specified	other Canadian electric utilities
112(31)	business	economy-related	other Canadian utilities
113(1-4)	business	provincial economy (impact on sales levels)	Canadian economy
113(6-20)	business	lost revenues from alternatives/bypass	[not specified]
113(23-29)	business	weather/climate – impact on revenue stream and physical asset costs	[not specified]
114(1-8)	business	fixed cost structure	[not specified]
114(12-27)	business	power generation risks: bypass risk to sales, alternatives, resulting in competitive market; volatile fuel prices and challenging environmental requirements	peers [not specified – presumably T&D-only Canadian utilities]

117(1-21)	business	power generation risks/ fuel and environmental requirements	[not specified]
114 (n. 77)	business	power generation risks – coal and oil fuel dependence	FortisBC
115 (15-21)	business	power generation risks	power companies worldwide generators/T&D companies
116(22-28)	business	power generation risks	utilities as function of extent of generation in activities
116(28-30)	business	power generation risk – S&P score	Canadian utilities. major investor-owned Canadian utilities
120(18)	business	not specified – S&P score	regulated energy utility in Canada
117 (23-25)	business	fuel cost recovery absent fuel clause	other energy utilities
119 (4-7)	business	fuel cost recovery – absence of fuel clause	its peers
117 (29)	business	net effect	Canadian energy utilities
117-118	business	bond ratings/business risk score	peers [not specified]
110(3-5)	business	business risk and deemed and actual capital structures	comparable electricity and gas utilities
110 (12-13)	business	not specified	Canadian energy utility?
119 (25-26)	business	not specified	not specified
120 (9)	business	not specified	other Canadian energy utilities
120(12)	business	average long-run	not specified – "other Canadian utilities" with comparable financial risk?
122 (7)	business	not specified	peers
122(15)	business	not specified	major investor-owned electric utilities
124(1)	business	non specified	its peers
124(15-16)	business	not specified	not specified
Regulatory Risk			
109(22-23)	regulatory	not specified	other utilities (Canadian?)
120(10)	regulatory	not specified	comparable energy utilities

Financial			
109 (24-25)	financial	not specified	other utilities (Canadian?)
119 (23-25)	financial	weak balance sheet and financial measures	U.S. utilities
119 (31-32)	financial	capital structure/interest coverage ratios	Canadian utility companies/other energy utilities
120(2-4)	financial	leverage and cash flow	industry peers in the United States
120(11-12)	financial	not specified	other Canadian utilities
129(18-19)	financial	capital structure	not specified
		Uncategorized	
110(9-10)		average risk	Canadian energy utility
110(15)		2006 ROE awards	major investor-owned Canadian energy utilities
110 (16)		2006 ROE awards	average typical Canadian utility
110(19)		risks	Canadian utilities
110(20-23)		effective capital structure	not specified
124(29)	risk-free return	allowed ROEs	Canadian utilities
125 (10-15,17-21)	risk-free return	interest rates	10-year Canada LTC bonds
126(6-12)	risk premium	risk premium estimates	various groups of Canadian and U.S. energy utilities 2006
127(1)	risk premium	risk premium range	average risk Canadian utility
127(10)	ROE	ROE range	average risk utility
127(20-27)	ROE	2006 ROE rewards	major investor-owned Canadian energy utilities/average typical Canadian utility/typical Canadian utility

129(11-15)	ROE	formulaic adjustments	Canadian utilities with formulaic ROEs
131(16-29)	ROE	allowed returns and allowed equity ratios	U.S. utilities
Capital Structures Specifically			
121(18-20)	capital structure	deemed common equity ratio	TransCanada pipeline
121(23-27)	capital structure	imputed common equity ratios	Alberta gas distributors and electric utilities
App. E, RAM-1	capital structure	deemed common equity ratios	Canadian electric, gas distribution, and gas transmission utilities.
"	"	"	all Canadian energy utilities
"	"	"	electric utilities group
"	"	"	remaining electricity distribution utilities
" 122(16-17)	"	"	average of major investor-owned electric utilities [ATCO, ENMAX, EPCOR, Fortis Alberta, Fortis BC, Newfoundland Power, Maritime Electric]
"	"	"	those electric utilities that are most comparable to NSPI [Fortis BC, Newfoundland Power, Maritime Electric]
App. E, Exh. RAM-2	"	"	both publicly-owned and investor-owned Canadian electric utilities 2000-2004
App. E, Exh. RAM-3	"	"	both publicly-owned and investor-owned Canadian electric utilities, 2005
App. E, Exh. RAM-4			investment-grade vertically-integrated electric utilities and natural gas distributors
124(5-16)	"	"	integrated electric utilities with a business risk ranking of 4, single A benchmark and BBB benchmark

EXHIBIT NB-7
EB-2005-0520
Exhibit K15.1

A RATEPAYER FUNDED HOME ENERGY AFFORDABILITY PROGRAM FOR LOW-INCOME HOUSEHOLDS:

A Universal Service Program for Ontario's Energy Utilities

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Table of Contents

PART 1: THE RATE AFFORDABILITY COMPONENT. 1
A. An Overview and Summary 1
B. Proposed Structure for an Ontario Rate Affordability Program. 3
C. A "Small Utility Alternative" 7

PART 2: THE ARREARAGE MANAGEMENT COMPONENT. 11

PART 3: THE CRISIS INTERVENTION COMPONENT. 14

PART 4: THE CONSERVATION AND DEMAND MANAGEMENT COMPONENT. 15

PART 5: BASIC CONSUMER PROTECTIONS. 21
A. Late Payment Charges 21
B. Disconnect Notices 24
C. Curing/Renegotiating Deferred Payment Plans for Arrears 27

PART 6: LOW-INCOME COLLECTIONS REPORTING. 29

PART 7: COST RECOVERY. 30

PART 8: BENEFITS OF LOW-INCOME AFFORDABILITY PROGRAM 31
A. Low-Income Conservation and Load Management Programs. 31
B. Rate Affordability Benefits. 37

SUMMARY AND CONCLUSIONS 40
1. Rate affordability program component 40
2. Arrearage management program component 40
3. Crisis Intervention program component 41
4. Conservation and demand management program component 41
5. Basic Consumer Protections 41

Ontario has a large and growing home energy affordability gap facing its low-income households. Available resources are grossly insufficient to address this affordability gap. As a result of this mismatch between energy bills and the resources needed to pay them, many low-income households incur unpaid bills and experience the termination of service associated with those arrears. In addition, the paid-but-unaffordable bill is a real phenomenon. Even when low-income households pay their bills in a full and timely manner, they often suffer significant adverse hunger, education, employment, health and housing consequences in order to make such payments.

In response to these affordability problems, this report outlines the essential components comprising an effective and efficient Universal Service Program for Ontario utilities. These components include:

- A rate affordability component;
- An arrearage management component;
- A crisis intervention component;
- A conservation and demand management component; and
- Specified basic consumer protections.

Each individual program component is described in more detail below.

PART 1: THE RATE AFFORDABILITY COMPONENT.

The first critical component of a Universal Service Program is a rate affordability program. Through the rate affordability program component, the price of home energy[1] is set at a level that will generate the greatest ability of low-income customers to make actual payments.

A. An Overview and Summary.

Building a rate affordability program consists of six basic steps:

1. **Eligibility:** Defining the eligibility for the universal service program should allow the program to be *open to enrollment* by any low-income consumer.[2] For purposes of this program, a "low-income consumer" is any consumer with gross household income at or below the Low-Income Cutoff (LICO).[3] In addition, it is appropriate to

[1] This includes either electricity or natural gas or both.

[2] Defining eligibility and targeting outreach are two distinctly different tasks. The utility may define eligibility so that all low-income customers may participate, but nonetheless seek to target *outreach* to specific payment-troubled customers. Targeting places special emphasis on enrolling a particular class of customers from among those classes that are eligible.

[3] A rate affordability program that distributes assistance based on energy burdens is not geared to serve customers living with even moderate incomes. As a general rule, customers with even moderate incomes will have energy bills that do not exceed the affordable burden that serves as the basis for universal service benefits. Assume, for example, a household living with an income of $30,000. If the affordable electric burden were 6% of income, that

allow the Universal Service Program to set aside a reasonable amount of crisis funding to serve customers who are only moderately low-income. In this instance, "need" would not be defined by income alone, but by a fact-specific inquiry into individual circumstances.

2. **Outreach:** Informing low-income customers of the availability of the Universal Service Program involves both education about the *existence* of the program and education about *how to enroll* in the program. The most effective forms of outreach for utility universal service programs have been found to involve the use of community-based organizations as well as organizations that deliver benefits to the same households that are eligible to receive universal service benefits. Outreach should also occur through the local utility channeling customers to the program when, based on utility records, those customers are found to be payment troubled.

3. **Intake:** Enrolling customers in the Universal Service Program involves making customers into program participants. The primary intake should occur by contracting with relevant federal and provincial agencies to "match" electronic lists of residential customers with lists of social assistance program participants. This income verification is effective and inexpensive. In addition, consumers should be given the opportunity to complete an in-person application through a community-based site whether or not they participate in another social assistance program.[4]

4. **Benefits:** Distributing rate assistance benefits should be on a fixed credit basis. The fixed credit benefits are delivered to the program participant as part of a levelized monthly billing plan. The levelized bill under the rate assistance program will represent the annual bill, minus the annual fixed credit, divided into twelve[5] equal monthly installments.

5. **Collections:** Enforcing customer payment obligations after a customer receives a Universal Service assistance benefit should occur through the same credit and collection activities directed toward any residential customer. If a customer receiving a universal service benefit does not make appropriate payments, that customer enters the collection cycle with the same rights and responsibilities as any other customer. In this fashion, no new or special administrative process is created for the universal service participants.

6. **Recertification:** Recertifying income for customers whose income cannot reasonably be determined to be non-variable over the long-term should occur on an annual basis. Most participants will have their income recertified automatically through a contract with the appropriate provincial or federal agency. For those customers whose income cannot be recertified in this fashion, the customer will be notified at an appropriate time before his or her anniversary date of the need for recertification.

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household would need to experience an electric bill of $1,800 or more to benefit from the universal service program. Accordingly, extending the eligibility to these higher income households offers a false sense of program expansion. Few, if any, of these higher income households benefit from a burden-based universal service program.

[4] This direct application process, however, is generally a relatively minor source of program participation.

[5] If a utility offers only an eleven month levelized billing plan, there is no problem. There is no "magic" to a 12-month levelized budget-billing plan.

Having provided this summary, the remainder of this section will address the structural issues of rate affordability assistance in more detail.

B. Proposed Structure for an Ontario Rate Affordability Program.

Rate affordability assistance should be tied to the most recently available Low-Income Cutoffs (LICO). For a family with three persons living in a community of fewer than 30,000 persons, the 2004 LICO is $24,375. For a family of four in the same size community, the LICO is $29,596. The table below sets forth the LICOs for 2004. As can be seen, with households that have three or fewer persons, which covers the typical household in Ontario, the LICO for each type of area (except for communities with a population over 500,000) is significantly less than $30,000. Only when household sizes reach a minimum of five persons do LICOs for all urban areas exceed $30,000. Only when household sizes reach a minimum of six persons do all LICOs exceed $30,000.

Before Tax Low-Income Cut-Offs (LICOs), 2004					
	Population of Community of Residence				
Family Size	Rural	Urban Areas			
		Less than 30,000	30,000 - 99,999	100,000 - 499,999	500,000+
1	$14,000	$15,928	$17,407	$17,515	$20,337
2	$17,429	$19,828	$21,669	$21,804	$25,319
3	$21,426	$24,375	$26,639	$26,805	$31,126
4	$26,015	$29,596	$32,345	$32,546	$37,791
5	$29,505	$33,567	$36,685	$36,912	$42,862
6	$33,278	$37,858	$41,375	$41,361	$48,341
7+	$37,050	$42,150	$46,065	$46,350	$53,821

It should be recognized that under a Universal Service Program that is based on affordable home energy burdens, if, because of relatively higher income or relatively lower home energy bills, the pre-determined percent of a household's income will exceed their annual electric bill, the household will receive no benefit. In those instances, the home energy bill is deemed "affordable" and the local utility will collect the entire fully-embedded rate. Only in those instances where the household, due to low-incomes or high bills, faces a utility bill that exceeds the designated percentage of its income, is the bill deemed to be "unaffordable" and the Universal Service Program rate is offered to reduce the burden to an affordable level.[6]

[6] To illustrate, assume a household has an annual income of $25,000, an annual energy bill of $1,200, and is asked to pay six percent (6%) of her income toward her energy bill in an income-based program. This customer's income-based energy bill payment would be $1,500 ($25,000 x .06 = $1,500). Hence, this customer would decide *not* to participate in the income-based rate, since her fully-embedded bill is *less* than the bill rendered under the Universal Service Program.

Rate affordability assistance in Ontario should be distributed on a percentage of income basis. Using a percentage of income approach to targeting provides a more efficient use of scarce rate affordability resources. This can be demonstrated by comparing an across-the-board discount to a percentage of income approach. While a percentage of income approach delivers those benefits, but only those benefits, needed to bring low-income bills into an affordable range, an across-the-board discount does not. Using an across-the-board discount, the universal service program would pay some customers *more* than is necessary to bring bills into an affordable range while paying other customers *less* than is necessary to bring bills into an affordable range. Accordingly, it is most appropriate to base the rate affordability component of the Universal Service Program on a percentage of income targeting mechanism.[7]

Although a variety of percentage-of-income based approaches exist, delivery of rate affordability assistance using a fixed credit approach is most appropriate. The fixed credit approach begins as an income-based approach. In order to be eligible for the rate, a household must meet *both* eligibility criteria: (1) that the household income is at or below the Low-Income Cutoff (LICO) for Ontario; and (2) that the household energy burden exceeds the burden deemed to be affordable.[8]

The fixed credit approach next calculates what bill credit would need to be provided to the household in order to reduce the household's energy bill to a designated percent of income. To calculate the fixed credit involves three steps: (1) calculating a burden-based payment; (2) calculating an annual bill; and (3) calculating the fixed credit necessary to reduce the annual bill to the burden-based payment. Each step is explained below.

1. **Burden-based payment:** The first step in the fixed credit model is to calculate a burden-based payment. Assume --simply for the sake of illustration here-- that the household has an annual income of $8,000 and is required to pay six percent (6%) for its home energy bill. The required household payment is thus $480. This is determined as follows: $8,000 x 6% = $480.

   Distinctions in the percentage of income payment are made based upon whether the customer is a heating or non-heating customer. The payment is split evenly between the heating and non-heating component of the utility bill. Under a 6% scenario, a natural gas heating customer would be asked to pay three percent (3%) of the household's income toward her home heating bill, and another three percent (3%) toward her electric bill. An all electric customer would pay six percent (6%) toward her electric bill. Other percentage burdens would be similarly split half-and-half (8% converts to 4% toward each fuel).

   The energy burden represented by a combined heating and non-heating energy bill should not generally exceed six percent (6%) of income. It is generally accepted that a household's "shelter burden" (rent/mortgage plus taxes plus utilities) should not exceed

[7] Two states in the United States have adopted a "tiered discount" program to serve as an alternative to an across-the-board discount. A tiered discount is designed so those customers receiving a particular discount level will, on average, pay an affordable percentage of income. The tiered discount approach, while less well-targeted than a burden-based program, nonetheless did an adequate job of targeting rate affordability benefits in those states.

[8] A customer may still participate in the arrearage management program component even if he or she does not participate in the rate affordability component.

30% of income. In addition, a household's home utility bill should not exceed 20% of the household's shelter costs. Combining those two yields an affordable home energy burden of six percent (6%).[9] Clearly, however, the reasonableness of an energy burden is a range and not a point. Ultimately, whether an affordable burden should be set as 6% or as 8% (or some other figure) is a policy decision. The percentage of income burden that triggers significant payment-troubles (*e.g.*, service disconnections) appears to be in the range of 10% to 12% of annual income.[10]

2. **Projected annual bill:** The second step is to calculate a projected annual household energy bill. This calculation is to be made using whatever method the local utility *currently* uses to estimate annual bills for other purposes. A utility, for example, will likely have an established procedure for estimating an annual bill for purposes of placing residential customers (low-income or not) on a levelized Budget Billing Plan (where bills are paid in equal installments over 12 months). That same process can be used to estimate an annual bill for purposes of calculating the needed fixed credit.

3. **Fixed credit determination:** The final step is to calculate the necessary fixed credit to bring the annual bill down to the burden-based payment. Given an annual bill projection of $1,200 and a burden-based payment of $480, the annual fixed credit would need to be $720 ($1,200 - $480 = $720). The household's *monthly* fixed credit would be $60 ($720 / 12 = $60).

In addition to various administrative benefits from use of a fixed credit, the fixed credit offers the advantage of providing a strong conservation incentive to the low-income customer. Under the fixed credit model, the local utility provides a $60 fixed credit to the low-income household irrespective of the household's actual bill. If the household increases its consumption, and thus has a higher bill, the household pays the amount of the increase. If, in contrast, the household conserves energy and thus lowers its bill, the household pockets the savings.

The administrative advantages of the fixed credit program are two-fold. First, use of fixed credits as a benefit distribution mechanism allows the program to work within a fixed operating budget. Once a low-income customer is enrolled in the universal service program, the maximum possible financial exposure for the time of the enrollment is established. At no time, can the maximum financial exposure exceed the budgeted program revenues. Systems can be easily designed to track funds that are obligated and expended to ensure that the budget is not exceeded. In contrast, benefit expenditures through either a straight percentage of income program or a percentage of bill program may vary based upon changes in consumption.

In addition to this budgeting advantage, the fixed credit approach makes the billing less complicated as well. Using the same process that currently exists to establish a levelized budget-billing plan, fixed credits can be subtracted from a customer's levelized annual bill.[11] The monthly bill is then rendered based upon this one-time annual adjustment. The utility does not

[9] This report sets aside for the moment the inclusion of water and sewer utility bills in this six percent.
[10] "Affordability" concerns are triggered at much lower percentage of income burdens. Affordability concerns, involving household budget trade-offs and payment troubles less intense than the loss of service appear to be triggered at the 6% to 8% percentage of income burden levels.
[11] The fixed credit is, in essence, booked as a "payment" on the account.

need to make monthly billing adjustments as is the case with either the straight percentage of income, or with the percentage of bill, approach.

If, because of budget constraints, it does not appear that an entirely "pure" affordability program can be implemented, modest changes can be made to the affordable burden. One reasonable response to a strict budget constraint would be to modestly increase the percentage burden that a customer is required to pay. Setting the "affordable" burdens at 4% and 8% (rather than 3% and 6%), for example, could well bring the program within the budget.

Intake should be automated to the extent possible. This conclusion is based in both policy and operational considerations. An "automated intake" process involves entering into an agreement with the provincial human services agency to certify whether customers are income eligible for Universal Service Program payments.

The Universal Service Program can be automated to a high degree. Many state telephone universal service programs in the United States rely on an automated intake procedure for enrolling participants. In addition:

- Virtually all participants in the New Jersey electric/gas Universal Service Program (USP) are certified by the state's energy assistance agency.

- This, too, is the case with respect to Maryland's Electric Universal Service Program (EUSP).

- Pennsylvania's gas and electric CAP programs[12] also rely largely on income verification through the Pennsylvania Department of Public Welfare and the Pennsylvania Department of Revenue.

- The rate discounts offered by Massachusetts gas and electric investor-owned utilities primarily enroll customers through an automated intake procedure. These gas and electric utilities provide electronic tapes of their residential customer base to the Department of Transitional Assistance (DTA), which then matches the tapes to participants in various public assistance programs. DTA then informs the utility of which customers are eligible for the utility rate discounts.[13]

The impact of this automated approach is that utility companies do not need to devote substantial stafftime to enrollment or income verification. The Pennsylvania Public Utility Commission (PUC) has specifically said that "we have found that automatic referrals to CAP when a customer calls to make a payment arrangement and intake certification by government agencies are simple to administer and cost-effective."

In sum, four critical components of the proposed rate affordability component of a Universal Service Program are proposed above:

[12] CAP is Pennsylvania's universal service program (the Customer Assistance Program).

[13] The agency need not identify precisely which program the household is participating in when it confirms household eligibility. The utility need not know, in other words, *why* the household is eligible so long as it knows that the household is eligible.

- Eligibility is set at the Low-Income Cutoff (LICO);
- Enrollment should be, to the maximum extent feasible, implemented through an automated data exchange with social assistance agencies;
- Rate affordability benefits are to be delivered through a fixed credit approach;
- The level of "affordability" should be set at 6% of household income. This affordability factor should be split evenly between baseload electric usage (3%) and space heating (3%). An all electric household should pay the full 6%.[14]

C. A "Small Utility Alternative".

Not all electric and/or natural gas utilities have the financial wherewithal to adopt the fixed credit rate affordability described above. For these small utilities --the definition of "small" is a matter of municipal or government regulatory policy--[15] a small utility rate affordability alternative is available. The substantive benefits of a rate affordability program can be generated without incurring the administrative costs of implementing a fixed credit program.

The small utility alternative involves the adoption of a tiered discount program. As with the fixed credit program, a tiered discount program is tied to an affordable energy burden. The tools this alternative uses to reach the affordability objectives are simply somewhat blunter and less-well tailored to assure that all customers achieve affordability. Instead of the targeted affordability benefits, a tiered discount program is aimed at ensuring affordability on average.

The purpose of a Home Energy Affordability Program in Ontario is to promote the supply of affordable electric service to low-income customers. As described above, energy burdens are the generally-accepted mechanism by which to measure "affordability." Ontario should establish, by policy, that an affordable burden is three percent (3%) of income for base load electric use and six percent (6%) of income for electric space heating use. The fixed credit approach to distributing home energy affordability benefits, as described above, explicitly reduces low-income electric bills to a point where those bills present an affordable burden. The fixed credit is based on a household's actual annual income and actual home energy bills (with some exceptions). The fixed credit defrays the cost of bills that exceed the affordable burden.

In contrast to the fixed credit approach, a tiered discount approach can only approximate an affordable burden. A tiered discount approach to distributing benefits is designed to reduce a bill to an affordable percentage of income (with the percentage differing depending on whether the customer is a base load customer or a space heating customer) *assuming that the household consumes at the average level of consumption.* To the extent that a household consumes more or

[14] As discussed in more detail above, however, the affordable burden is a range and not a point. Total energy burdens of up to as high as 10% could be determined, by policy, to be within a range of reasonableness.
[15] The Belmont Electric Light Department, a municipal utility serving 10,000 residential customers, adopted a "small utility rate affordability alternative effective January 2006. One alternative to defining "small utility" by policy is to establish the "small utility" alternative and require a utility to petition regulators for the option of adopting the small utility alternative.

less than average, the household will bear a burden either higher or lower (respectively) than the affordable burden.

Calculation of the Tiered Discount

To calculate a tiered discount, all low-income customers are placed into buckets demarcated by annual income levels. Buckets used to develop a tiered discount can be disaggregated into as large (or small) of a range as desired. The buckets used in U.S. programs generally proceed in $2,000 increments as follows:

- Less than $2,000
- $2,000 - $3,999
- $4,000 - $5,999
- $6,000 - $7,999
- $8,000 - $9,999
- $10,000 - $11,999
- $12,000 - $15,000
- Above $15,000

Using the mid-point of each income bracket, an affordable bill can be calculated by applying the electric burden determined to be "affordable." In the bottom bracket, for example (less than $2,000), the mid-point ($1,000) is multiplied by the affordable burden to calculate an affordable bill of $40 ($1,000 x 0.04 = $40). This process yields affordable bills as follows:

Annual Income	Mid-point	Affordable Burden	Affordable Bill
Less than $2,000	$1,000	.04	$40
$2,000 - $3,999	$3,000	.04	$120
$4,000 - $5,999	$5,000	.04	$200
$6,000 - $7,999	$7,000	.04	$280
$8,000 - $9,999	$9,000	.04	$360
$10,000 - $11,999	$11,000	.04	$440
$12,000 - $15,000	$13,500	.04	$540
Over $15,000	$15,000	.04	$600

Clearly, by taking the mid-point of each bucket, the affordable burden is accurate only for those persons exactly at that mid-point. Customers with incomes in the half of each bucket below the mid-point will pay more than an affordable burden, while customers with incomes in the half of the bucket above each mid-point will pay somewhat less than an affordable burden.

Households in each income bucket are next assigned the average annual expenditure for electricity for the company providing electricity. For example, and purely for illustration, all customers, at whatever income level, are assigned the average residential base load electric bill, irrespective of income. While an ideal world would allow bills to be varied based on income level, the data to allow for that refinement does not currently exist.

The *difference* between this average bill and the affordable bill is determined. For example, the amount by which actual average bill exceeds the affordable bill for a household in the $4,000 - $5,999 income bucket (mid-point of $5,000) is $600 (actual bill ($800) – affordable bill ($200) = difference ($600)).

Annual Income	Mid-point	Affordable Burden	Affordable Bill	Average Bill	Difference
Less than $2,000	$1,000	.04	$40	$800	$760
$2,000 - $3,999	$3,000	.04	$120	$800	$680
$4,000 - $5,999	$5,000	.04	$200	$800	$600
$6,000 - $7,999	$7,000	.04	$280	$800	$520
$8,000 - $9,999	$9,000	.04	$360	$800	$440
$10,000 - $11,999	$11,000	.04	$440	$800	$360
$12,000 - $15,000	$13,500	.04	$540	$800	$260
Over $15,000	$15,000	.04	$600	$800	$200

This difference is the benefit that a tiered discount is designed to deliver. So long as a customer has annual expenditures that are equal to the company's residential average, application of a tiered discount will reduce that customer's annual electric bill to the burden determined to be affordable. Converting the data above into discounts would result in the following:

Annual Income	Average Bill	Difference between Affordable and Average Bill	Discount Needed (col 2 / col 1)	Affordable Bill (col 1 * (1 – col 3)
Less than $2,000	$800	$760	95%	$40
$2,000 - $3,999	$800	$680	85%	$120
$4,000 - $5,999	$800	$600	75%	$200
$6,000 - $7,999	$800	$520	65%	$280
$8,000 - $9,999	$800	$440	55%	$360
$10,000 - $11,999	$800	$360	45%	$440
$12,000 - $15,000	$800	$260	32.5%	$540
Over $15,000	$800	$200	25%	$600

The above table demonstrates that a four percent (4%) energy burden is achieved for a household with an annual income at the mid-point between $6,000 and $7,999 ($7,000) by providing a 65% discount to an $800 home energy bill. If the bill is more than $800, the 65% discount will be too little (and the burden will exceed 4%). If the bill is less than $800, the 65% discount will be too much (the burden will be less than 4%).

The discount is "tiered" because, as incomes decrease, it takes a deeper discount to deliver a benefit equal to the difference between an affordable bill and the average bill. The more levels of discount that exist (i.e., the more "tiers"), the more highly targeted the discount will be. However, the more number of tiers, the more complex the program becomes and the more difficult it becomes to set up and administer. Regulators need to determine, by policy, how many

tiers they wish in their tiered discount program. A discount with three to four tiers is recommended.

In all matters other than rate discount, a small utility home energy affordability program should have the same program components (e.g., arrearage management, crisis assistance, energy efficiency) that a larger utility does.

The Issues Raised by a Fixed Credit vs. a Tiered Discount EAP

A decision to implement a tiered discount alternative for small Ontario utilities presents two primary issues. The issues are of two kinds:

- A policy issue, and
- A program issue

The policy issue: The first issue is one of policy. On the one hand, the fixed credit program clearly better targets benefits to low-income customers. A customer would consume at a utility's average residential consumption only by happen chance. Because discounts are based on average consumption, in nearly every case, low-income customers will receive either more benefits than are needed to reduce their expenditure to an affordable burden or fewer benefits than are needed.

And this result does not even consider the fact that average consumption is combined with the use of the mid-point of the income range. Even if a customer consumes exactly at a company's average, unless that customer *also* has annual income exactly at the mid-point of the income bracket for which the discount is established, a tiered discount will give the customer either "too much" or "too little."

The response to this is that, setting aside whether the tiered discount is *exactly* correct in its reduction of energy burdens to an affordable burden, in *every* case, the customer is *better off* than had the customer received no discount at all. The adage that it is better to be approximately correct than precisely wrong informs this observation. Even if the lowest income customers do not have their electric burdens reduced to exactly four percent (4%), paying eight percent (8%) with the discount leaves the customer much better off than paying 40% without the discount.

The fixed credit precisely targets benefits. The issue of whether some customers receive "too much" and others receive "too little" does not arise. This precision in targeting, however, comes with a cost. Small utilities argue that the cost of setting-up and administering a fixed credit program is much higher than the cost of setting-up and administering a tiered discount program. The significance of the higher set-up and administrative costs is that every dollar that goes for set-up and administration is a dollar that is *not* going to pay energy assistance benefits.

The program issue: The program issue is raised by the fact that a fixed credit is "fixed." Once determined at the beginning of the program year, the risk that bills will change (based either on weather or on price) lies with the customer. If the customer has a lower bill, he or she pockets the difference. If the customer has a higher bill, he or she bears the burden of the increase.

In addition to creating a conservation incentive, this approach provides operational benefits. The maximum program expenditure is established at the time a customer enters the program. Changes in weather or price will not drive program costs up. In contrast, with a tiered discount, program costs will fluctuate based on both weather and price. If there is a very cold winter (or a very hot summer), with correspondingly higher bills, the program must bear the cost of the higher discounts that will be provided.

Summary

Outside of these two major issues, the tiered discount should operate in much the same fashion as the fixed credit. No inherent differences exist. The tiered discount and the fixed credit are simply alternative ways of delivering benefits. The program remains basically constant.

As with the fixed credit, the tiered discount should be established as a tariffed rate. It should operate as any other tariffed rate. The significance of this is that credit and collection should be identical to any other residential tariff. The tiered discount is not a "program" which low-income customers can go "on" and "off." If the low-income customer pays his or her tariffed rate under the tiered discount, they remain out of the collection cycle. In contrast, if the low-income customer does *not* pay his or her bill under the tiered discount, he or she goes into the same collection cycle as any other residential customer.

The significance of this approach is several-fold. The basic advantage is that this approach requires no new procedures for any small utility. No separate tracking needs to be created. No processes for removing customers, for providing pre-program removal notices, and the like, need to be created. The exact same credit and collection procedures are used; a low-income customer is simply on a different tariffed rate.

PART 2: THE ARREARAGE MANAGEMENT COMPONENT.

The second critical component to a Universal Service Program involves arrearage management. An arrearage management program component is designed to reduce pre-program arrears to a manageable level over an extended period of time. Through an arrearage management program, a customer earns credits toward his or her preprogram arrears over a period of time, so long as the customer remains on the Universal Service Program. By the end of the time period, the household's preprogram arrears will be reduced to $0.

An arrearage management program component is necessary to help get low-income customers "even" so they have a chance at future success in making payments. It makes no difference to have *current* bills be affordable if the household is subject to service termination for *past due* bills incurred before the program began (known as preprogram arrears). In addition, it makes no sense to have current bills be affordable if the total bill is unaffordable due to payment obligations required to retire past arrears.

While some utilities simply forgive all arrears brought into a Universal Service Program at the time the program begins, most utilities provide arrearage management over an extended period of time. In the latter situations, the time period over which to provide preprogram arrears credits

needs to stay within the reasonable planning horizon of the customer.[16] The program design in this report incorporates an arrearage management period of two years. Arrearage credits are earned on a monthly basis.[17]

No prerequisite is proposed for the offer of arrearage management credits. While at first blush, it may seem desirable to make the grant of credits toward preprogram arrears contingent upon full and timely payment of current bills,[18] there are both policy and operational reasons not to do this.

First, there are the operational issues. To implement such a contingent credit, the local utility would need to develop an information system process that determines, on a monthly basis, not only whether the full bill has been paid, but whether it has been paid on a timely basis. Depending on the answer to those inquiries, different bills will be generated by the utility (either one reflecting an arrears credit or one not reflecting such a credit). Layering a process for "curing" missed payments adds further administrative complexity.

Second, from a policy perspective, program administrators have learned that the best "incentive" for making full and timely payments is to have customers taking service pursuant to the Universal Service Program be subject to the same credit and collection processes as all other customers. In addition, creating layer upon layer of "incentives" for payments clouds the fundamental underlying proposition. That proposition posits that, in recognition of the underlying unaffordable burden posed by utility bills at fully-embedded rates, the low-income customer is allowed to take service under the Universal Service Program. Given that utility response to unaffordability, customers then have the responsibility to make full and timely payment of their bills irrespective of any further "incentive."

Accordingly, nonpayment for service provided under the Universal Service Program will be met by placing the customer into the same collection process as that which would be faced by any other customer. Nonpayment does not result in mere suspension from the program. Nor does it result in mere loss of arrearage management credits. Nonpayment under the Universal Service Program will place the program participant in the collection process.

This program proposal recommends that Universal Service Program participants should make a monthly payment toward preprogram arrears. In this fashion, customers with minimum levels of payment troubles will not receive credits toward their arrears. In addition, in this fashion, universal service customers will bear some responsibility for their preprogram debt.[19]

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[16] To suggest, for example, that arrears will be reduced to $0 over a period of four or more years is outside the horizon within which low-income households do their planning.

[17] While arrearage credits are to be *earned* on a monthly basis, they can be *credited* to the account (or "posted" to the account) on a quarterly or semi-annual basis. The point at which earned preprogram arrears credits are actually credited is often a matter of billing system programming rather than a program policy question.

[18] When universal service programs were first designed, there was a tendency to think of credits toward preprogram arrearages as an "incentive" for low-income customers to make their current bill payments on a full and timely basis. That belief has been since largely abandoned.

[19] However, some utilities have decided that the cost of developing a billing capacity for the customer copayment is not merited by the amount of revenue produced by the copayment process. These utilities provide credits toward 100% of the preprogram arrears.

The requirement of a customer copayment toward a preprogram arrears, however, should not interfere with the underlying affordability goals of the Universal Service Program. Accordingly, rather than setting a customer copayment at some arbitrary dollar level, this proposal recommends setting the customer copayment level equal to a percentage of income. In this fashion, the payments toward preprogram arrears are explicitly tied to affordability considerations.

The proposed preprogram arrears customer copayment for this program is set equal to one percent (1%) of household income. The operation of such an approach, given assumed different levels of preprogram arrears is demonstrated in the table below. A household with an income of $10,000 would make a 1% copayment over a two-year period ($10,000 x 0.01 = $100/year x 2 years = $200). Accordingly, if that customer had a pre-program arrears of $600, the customer would receive an arrearage management credit of $400 ($600 arrears - $200 copayment). A customer with an income of $25,000 would make a copayment of $500 over a two-year period. Accordingly, if that customer had a pre-program arrears of *less than* $500, he or she would receive no arrearage management credit. If that customer had a pre-program arrears of $600, the customer would receive an arrearage management credit of $100 ($600 arrears - $500 copayment).

Operation of a Burden-Based Arrearage Management Customer Copayment

Income	Copayment			Arrearage Management Credits by Level of Pre-Program Arrears /b/			
	Years of Copayment	Income Pct	Dollar Amt /a/	$150	$300	$600	$1,200
$5,000	2	1%	$100	$50	$200	$500	$1,100
$10,000	2	1%	$200	$0	$100	$400	$1,000
$15,000	2	1%	$300	$0	$0	$300	$900
$20,000	2	1%	$400	$0	$0	$200	$800
$25,000	2	1%	$500	$0	$0	$100	$700
$30,000	2	1%	$600	$0	$0	$0	$600

NOTES:

/a/ Years of payment x {income x income percent].
/b Level of preprogram arrears minus dollar amount of copayment.

In sum, five critical components of the proposed arrearage management component of a Universal Service Program are proposed above:

- Arrears are to be retired over a two-year period;
- Customers are to make copayments toward their arrears;
- Copayments are to be set equal to an affordable percentage of income (1% per year);
- No pre-condition is established for the grant of arrearage management credits; and
- The appropriate response to nonpayment is to place the program participant in the same collection process as any other residential customer.

PART 3: THE CRISIS INTERVENTION COMPONENT.

The third critical component of a Universal Service Program involves crisis intervention. The need for a crisis intervention program arises from three different attributes of low-income households.

- First, one attribute of low-income households is their lack of cash assets to allow them to weather the storm of unexpected expenses or unexpected loss of income. Low-income households do not have the ability to withstand, for example, a significant expense associated with a family emergency, or the loss of income associated with such an emergency. Given such exigencies, there is a likelihood that some proportion of customers taking service under the universal service program will have occasional exigencies that can be met through a crisis intervention program.

- Second, one attribute of a low-income household is that low wage workers tend to be hourly wage workers. The overwhelming majority of these workers lack paid leave. The need for either medical leave, or family care leave, in other words, leads directly to lost income when paid leave is not provided. The lack of paid leave time may directly affect the ability of a working poor customer to maintain payments on their monthly utility bill. A person working 35 hours a week on hourly wages may lose three days of work simply due to a sick child missing school and requiring care. If no paid leave time exists for that employee, the sick child translates into permanently lost wages.

- Third, low wage workers tend to have lower quality jobs, often marked by considerable income fluctuations due to the number of hours they are called upon to work. The number of lost hours, and thus the amount of lost wages, is referred to as involuntary part-time employment. This fact of unstable income presents no commentary on the working poor individuals themselves. Rather it reflects the nature of work in which the working poor find themselves.

Given these attributes of the target population, the crisis component of the Universal Service Program provides a budget to provide crisis intervention assistance on an as-needed basis.

Crisis intervention assistance should not be based on income eligibility such as that established for the rate affordability assistance. Crisis intervention is as frequently triggered by unusual expenses as by persistently low-income. A senior citizen facing medical expenses, as well as a working poor household facing substantial automobile repair expenses, may be marginally capable of paying their monthly bills but for their unusual expenses. The agency or community-based organization administering crisis interventions should be provided the flexibility to distribute crisis intervention funding on an as-needed basis rather than be bound by income limitations.

Given this, assistance provided through the crisis intervention component should be on a limited-time basis. The crisis intervention is intended to help meet financial exigencies rather than to provide monthly rate affordability assistance to customers.

As a general rule, universal service programs in the United States set their crisis funding component equal to a multiplier of the total rate affordability assistance. Common percentages range from 5% to 6% of the total program budget. This report recommends a crisis fund equal to 5% of the total rate affordability assistance. These funds can best be distributed through the existing provincial crisis assistance program, known as Share the Warmth.

In sum, five critical components of the crisis intervention component of a Universal Service Program are proposed above:

- The crisis intervention program component should be set at a multiple of the rate affordability program. The recommended multiple is 0.05.
- The crisis intervention component should not be based on income-eligibility;
- The crisis intervention component should provide administering agencies with the flexibility to distribute assistance on an as-needed emergency basis;
- The crisis intervention component should be on a limited-time basis; and
- The crisis funding should be distributed through Share the Warmth, an existing provincial crisis intervention program.

PART 4: THE CONSERVATION AND DEMAND MANAGEMENT COMPONENT.

The fourth critical component to a Universal Service Program involves the delivery of energy efficiency services. Successful implementation of a conservation and demand management program relies on the creation of an ongoing partnership between local community-based organizations (CBOs) and the local utility. The local utility should combine efforts with local CBOs so as to maximize utility investment in cost-effective energy savings measures and maximize total investment in the non-energy savings measures that depress utility benefits.

Unlike the three rate affordability components of the Universal Service Program (rate affordability, arrearage management, crisis intervention), the recommendation here is to set a conservation and demand management budget equal to a designated percentage of total company revenue. That budget would then be applied to the task of delivering conservation and demand management services to the extent that the budget lasts.

Conceptually, "adequate" funding of the low-income conservation and demand management program means that the utility's low-income conservation and demand management budget should increase until the company exhausts its cost-effective measures. While, in theory, the utility should continue to fund its conservation and demand management programs until the program's marginal costs equal the marginal benefits, in reality, no such "full" funding is ever provided. In light of this, there may seem to be no principled basis upon which to set a low-income conservation and demand management budget. Nonetheless, *one* principle does seem appropriate for regulators to adopt. The extent of low-income conservation and demand management funding should be sufficient to ensure that there are no lost opportunities in any given year.

Lost opportunities arise when the accomplishment of some given task precludes the future accomplishment of additional work at that same dwelling. Some frequent lost opportunities involved with similar utility programs include:

- **Low-income housing developments:** Decisions made by low-income housing developers represent decisions that will hold for the useful life of the measures. Accordingly, if a developer installs a relatively inefficient furnace or hot water heater, or fails to install the most cost-effective level of insulation, it is not likely that a utility will soon revisit that home to install more energy efficient measures. The opportunity to install high efficiency measures is lost at the time of the developer's initial decision.

- **Unused institutional capacity:** Assume the institutional capacity of low-income service providers is 8,000 homes per year in a given utility service territory. These service providers might include local contractors, CBOs involved with delivering conservation and load management services through the Green Communities program, and other for-profit or non-profit institutions. If the combined budget of low-income programs funds only 6,000 homes a year, there is a lost opportunity to increase the conservation and demand management in 2,000 homes. By assumption, the maximum capacity is 8,000 homes per year. That capacity thus cannot be pushed to 10,000 for a year to "make up" the earlier lost opportunity.

Clearly, the two parts of this analysis would need to be combined. There will be unused capacity both in the number of units done per year and in the investment per unit.

As can be seen, one component of a utility low-income conservation and demand management program is a periodic inventory of the institutional capacity to deliver low-income conservation and demand management measures. The inventory should cover the planning period of the utility. If the utility files three-year conservation and demand management plans with regulators, in other words, its inventory should include the existing and projected capacity to deliver low-income services over that three-year period. The budget for low-income conservation and demand management should be sufficient to finance full utilization of the inventoried capacity.

A second component of a utility low-income conservation and demand management program is a periodic inventory of the lost opportunities inherent within the existing delivery of energy and housing services. As with the institutional capacity inventory, if a utility files a three-year conservation and demand management plan with regulators, its inventory of lost opportunities should cover a three-year period.

In sum, the proposed decision rule is that utility funding should be of sufficient magnitude to ensure that there is no unused institutional capacity to deliver cost-effective low-income conservation and demand management service. Stated another way, funding should be adequate such that no lost opportunities occur within the realm of cost-effective low-income conservation and demand management. The local utility's low-income conservation and demand management budget should increase until the company exhausts its cost-effective measures, or until it exhausts the institutional capacity to deliver cost-effective measures, whichever comes first.

The low-income conservation and load management component to the Universal Service Program should deliver a full range of efficiency services. These services would include, but not be limited to:

- Energy audits and air sealing services;
- Weatherization services;
- Heating and cooling systems; and
- Lighting and appliance upgrades.

Jurisdictions such as Pennsylvania have established a funding principle that low-income efficiency improvements should be capped at a certain level. The Pennsylvania cap of 0.20% of total company revenue for that state's Low-Income Usage Reduction Program (LIURP) has generated sufficient funding for low-income efficiency programs and should be adopted in Ontario.

In addition to setting a budget for the conservation and demand management program component, this proposal sets a mission as well. The conservation and demand management program directed toward low-income customers should be explicitly targeted to help advance the resolution of payment troubles and improve the affordability of home energy in addition to simply reducing home energy usage.

Maximizing benefits to all utility customers, whether through reduced traditional energy and capacity costs or through the reduction of costs associated with low-income payment troubles, is dependent upon an appropriate targeting of the low-income program. Two primary alternative decision rules exist to guide targeting a low-income efficiency program:

- To target those with the highest energy usage, believing that these households present the greatest potential for energy savings; or
- To target those with the greatest payment problems, believing: (a) that payment problems and high usage are positively associated; and (b) that these households present the greatest potential for improved energy affordability.

To a certain extent, the difference between the two principles is artificial if one accepts the premise that conservation and demand management can not only generate traditional avoided costs, but can generate avoided costs associated with a reduction in payment troubles as well. It has become well-established over the years that payment-troubles are often associated with higher than average utility consumption. By targeting customers with payment troubles, in other words, a utility implicitly targets its high use customers as well.

The Pennsylvania Public Utility Commission (PUC) has explicitly considered this tie-in between high usage and payment-troubles and the use of each for implementation of the Pennsylvania Low-Income Usage Reduction Program (LIURP). The Pennsylvania PUC found as follows:

> . . .we would like to clarify the distinction between LIURP eligibility criteria and the prioritization criteria for the receipt of program services. LIURP eligibility criteria has evolved into a two-part requirement. First, income must be at or below 150% of the federal poverty guidelines. There is an exception to this rule. Up to 20% of the LIURP budget may be spent on customers with an income level in the range 150% to 200% of the federal poverty level. Second, the LIURP experience over the past nine years has shown that high usage is the strongest predictor of high energy savings. Consequently, each of the major electric companies has established company specific minimum usage requirements for each of the three major job types for electric jobs: heating, water heating and baseload. The bottom line is that all income eligible customers do not have a usage profile that warrants the provision of LIURP services.
>
> Prioritization for the receipt of program services is as follows. Most importantly, usage is the driver. Once again, we emphasize that in the actual delivery of LIURP services, each electric company has established minimum usage guidelines for each of the three electric job types. It is only after the usage requirement is met that the prioritization scheme is applied. The prioritization process follows two steps. First, among customers meeting the threshold for usage, participation is further prioritized from highest arrearage to no arrearage. Second, a further prioritization is done to further delineate equal usage and equal arrearage candidates. This is done by prioritizing from lowest to highest income.
>
> We have provided this explanation to illustrate that we do not need to specify negative ability-to-pay customers because ability to pay is neither an appropriate eligibility requirement nor a prioritization issue for LIURP. Instead, high usage is the most important eligibility requirement for customers who meet the income guidelines.
>
> * * *
>
> The primary goal of LIURP is to achieve bill reduction through usage reduction. We have elaborated above that high usage is the best indicator for achieving this primary goal of LIURP. Another LIURP goal states that the reduction in energy bills should decrease the incidence and risk of customer payment delinquencies and the attendant utility costs associated with uncollectible accounts expense, collection costs and arrearage carrying costs. In view of this program goal, arrearage prioritization has been appropriately listed as the first prioritization among the highest users.[20]

This proposal commends the above-quoted Pennsylvania PUC language for consideration. An identical two-step process (involving: (1) eligibility-setting; and (2) priority setting amongst eligible customers) should be adopted in Ontario.

[20] Pennsylvania Public Utility Commission, Re Guidelines for Universal Service and Energy Conservation Programs, No. M-00960890, 178 P.U.R.4 508 (July 11, 1997).

One corollary to the targeting of conservation and demand management to high use, payment-troubled customers involves the benefits derived by a utility that seeks to fully integrate its conservation and demand management functions with other low-income initiatives pursued by the company, itself. This integration may well most commonly fall within the marketing stage of the conservation and demand management program.

The way to operationalize this is to inventory the non-conservation and demand management programs that a utility offers to its low-income (or to its payment-troubled) customers, and then to assess whether targeted conservation and demand management can help make those programs both more effective and more cost-effective.

Again, this process is perhaps best explained by illustration. The issue of a utility's obligation to integrate its offer of conservation and demand management measures with its deferred payment plans for low income households, for example, was raised in a 1991 rate case involving Central Maine Power company (CMP) before the Maine Public Utilities Commission (PUC). In that proceeding, the staff of the PUC submitted testimony concerning CMP's marketing of "energy management services" to low-income customers.

According to information presented in that proceeding, there is a positive correlation between high arrears balances and high usage. The company, according to the PUC staff, "should pursue the implications of the [recent study of payments plans] and undertake a marketing effort that targets high use, low-income customers." The company, according to the staff testimony, was not effective in its marketing.

The state Office of Public Advocate agreed. According to that office, CMP could significantly reduce its write-offs and collection costs by providing energy management services to high usage customers on special payment arrangements. The Public Advocate said that the utility could have saved as much as $2 million a year "if CMP ha(d) been successful in delivering its Insulation Plus and Bundle Up programs to its special payment arrangement customers."

The Maine PUC acted favorably on the criticisms of the lack of action by Central Maine Power. According to the Commission:

> The successful marketing of energy management programs to low-income customers, particularly low-income customers on special payment arrangements, has a clear benefit above and beyond the capacity or energy savings generally associated with demand-side management programs. Low income customers that see a reduction in their bills will be able to manage their bills better. The Company's carrying costs associated with late-paid bills and uncollectibles, which are generally passed on to other ratepayers, should be reduced.

The PUC directed the company to take remedial action.

In sum, aside from the issue of appropriately targeting its low-income conservation and demand management program, one final question to be pursued in designing a utility-funded low-income conservation and demand management is whether the utility has adequately integrated its low-income conservation and demand management program into all aspects of the company's operation. As illustrated by Maine's special payment arrangements, it is possible for a company

to use low-income conservation and demand management to improve the efficiency and effectiveness of other customer service activities directed toward low-income payment-troubled customers.

Finally, this proposal recommends that the low-income conservation and demand management programs should be piggy-backed with non-utility-funded efficiency programs. The low-income conservation and demand management programs should implement appropriate piggyback initiatives to help increase a program's cost-effectiveness and scope. These piggyback initiatives should involve the existing conservation and demand management programs (to the extent that they exist), as well as affordable housing initiatives.

One approach is to combine utility conservation and demand management dollars with dollars in existing home repair, housing rehab, and first time homebuyer programs to form a single comprehensive program. In this fashion, utility funds can be used on cost-effective energy savings measures. In contrast, the housing dollars will be used as the source of financing for the non-energy savings components of the total program.[21] The combination of housing programs dollars with utility dollars will eliminate parallel programs by the utility and the government. Instead, a single program will be created serving the combined populations of what the two programs would have served separately. The allocation of particular expenses to the housing program's responsibility or to utility responsibility will be an accounting function of which the low-income household is not aware.

In sum, five critical components of the conservation and demand management program component of a Universal Service Program are proposed above:

- Low-income conservation and demand management funding should be funded at the rate of 0.20% of total utility revenues on an annual basis;
- Efficiency investments should be targeted on the basis of high usage, but on the existence of payment troubles as well;
- A full range of conservation and demand services should be delivered, including but not limited to energy audits and air sealing, weatherization, heating and cooling systems, and lighting and appliance upgrades;
- The utility's outreach for the conservation and demand management programs should be tied into other aspects of its customer service operations, including the management of arrears; and
- The low-income conservation and demand management investments should be delivered in collaboration and in partnership with existing conservation and demand management and affordable housing programs.

[21] Non-energy program components would include, for example, outreach and intake, minor non-energy saving housing repairs, health and safety upgrades, and the like.

PART 5: BASIC CONSUMER PROTECTIONS.

This section of the narrative outlines proposed consumer protections to mitigate the disproportionately adverse impacts that certain local utility collection practices impose on low-income customers. The proposed consumer protections do not detract from the effectiveness of local utility collections. The section examines three specific collection practices:

- The imposition of late payment fees;
- The issuance of notices of the disconnection of service for nonpayment; and
- The negotiation of deferred payment plans for arrears.

Each of these will be examined in more detail below.

A. Late Payment Charges

Local utilities in Ontario frequently impose a late payment fee that disproportionately (and adversely) affects low-income customers and which explicitly lacks any cost basis. These late fees disproportionately and adversely affect low-income customers. Not only do higher proportions of low-income customers (compared to all customers) incur arrears (against which a late fee will be charged), but the level of arrears incurred by low-income customers is higher as well. These arrears are largely due to an inability-to-pay rather than to conscious choices to pay other bills prior to paying local utility bills. Increased bills attributable to high prices are associated with increases in low-income payment troubles.

The Level of the Late Fee Relative to Its Purpose

The primary purpose of a utility late payment charge is to compensate the utility for expenses associated with delinquent payments. A customer's delinquent payment of her utility bill can result in two types of expenses to the company. The utility may first experience out-of-pocket collection expenses. A second expense involves the carrying charge associated with delinquent payments. A utility is entitled to compensation for each.

Late payments by utility customers can create out-of-pocket collection expenses for the utility. These expenses might include, for example, the postage associated with delivering reminder notices or shutoff notices, the costs of telephone calls to make "personal contact" prior to a shutoff, and the cost of fuel used in making a premise visit to disconnect service.

A late payment charge designed to compensate a utility for out-of-pocket collection expenses should be based on the decremental cost of collection to the utility. In this fashion, the utility will be compensated for those costs, but only for those costs, that are incurred as a result of the late payment. A decremental cost is the cost that the utility would save should one late payment instead be made in a timely fashion. Use of a decremental cost analysis is necessary to prevent a double compensation to the utility. Without a decremental cost analysis, a utility would collect its costs first through its base rates and then again through the penalty and/or late payment charge.

Local utilities often overcharge their late pyment charges, also, by imposing such charges prematurely. Given the fact that late payment charges are intended only to compensate for out-of-pocket expenses, the imposition of such a charge must be triggered by some event that also triggers the incurrence of the expenses. It is common for a local utility to set a past due date of the 30th day after a bill is rendered, with a penalty and interest charge levied for all unpaid amounts outstanding after that date. With nearly all utilities, however, no collection activity begins at the time the bill first becomes overdue. Customers making payments during that interim period (between the time a bill becomes past due and the time collection activities begin) are paying compensation for collection expenses that were never incurred.

This realization --that payments must be overdue by some time before the utility begins its collection process and thus before the utility begins to incur expenses --is particularly important to ensure that households who pay late, but who do not have collection activities directed against them, are not discriminated against. Discrimination would exist if a late payment fee were imposed on the day after the due date, failing to recognize that collection activity is not initiated until some later date.

In addition to timing, these local utilities effectively have a minimum arrears below which they will not begin any collection activity. Local utility officials generally begin their collection process with the largest bills first. The smaller bills are not made subject to collection interventions. In such an instance, charging the penalty and interest charges immediately after the bill payment due date charges the customer for expenses the local utility has not yet incurred.

The Level of the Late Fee Relative to Costs

A second cost component that a utility is entitled to collect through its late payment fee is the carrying cost of money. There will be a carrying cost irrespective of whether the local utility has to borrow money as a result of the unpaid bills. If the utility borrows money, the interest charge will be necessary to generate dollars to pay the interest expense. Even if there is no borrowing, the failure to pay will generate an opportunity cost for the utility. If the utilities *had* collected the money and not needed to use it immediately to pay expenses, they would have invested that money and received a return on it. The nonpayment thus generates a foregone return.

There are several items that are *not* appropriate to place into an interest rate charged on unpaid bills, however. Administrative overhead costs do not go into the late payment charge. These costs are not caused by the late payment; in addition, they have already been collected through base rates. The late payment charge is not to be a profit center or revenue-raising measure.

In this respect, a comparison of the interest rate to consumer credit interest rates is inappropriate. It is important to recognize that a late payment fee is ***not*** the equivalent of interest charged in consumer credit transactions. A consumer credit interest rate has cost components that may not be included in a late payment rate. Overhead and depreciation costs, for example, would be included in a commercial interest rate. Those utility costs, on the other hand, are already included in base rates. While an interest rate for consumer credit transactions will include a component for uncollectibles, to the extent that the utility has uncollectibles, those expenses are already included in the bill subject to collection.

The maximum carrying cost of money for a utility will be the short-term borrowing rate incurred by the utility. Utilities do not incur long-term debt to cover unpaid bills by home energy customers. A long-term interest rate would thus be an inappropriate measure for an interest charge.

The annual cost of short-term borrowing is likely to range between 2.1 % to 2.6% in today's environment. The addition of a reasonable premium (calculated in terms of basis points) would provide adequate compensation for out-of-pocket credit and collection expenses. Local utility annual late payment charges above 6% (0.5% per month) are excessive under these circumstances.

What the non-cost-based late fee *really* does is to generate a stream of revenue by charging low-income customers *more* than it costs to serve them. After charging such a fee, local utilities then take that money and redistribute it to non-low-income customers by using that money to lower rates on a per unit of commodity basis. The revenue generated by the late fee, in other words, simply flows into general revenues. Since there are more non-low-income customers than low-income customers, and since those non-low-income customers have higher consumption than do low-income customers, the dollars that have been disproportionately *contributed* by low-income customers will be primarily *returned* to non-low-income customers in the form of reduced rates.

This redistribution is simply exacerbated by the efforts of local utilities to increasingly isolate specific components of the collection process and to charge a separate fee for each collection activity rather than to have the late fee pay for the costs of the late payment. Low-income customers, therefore, who are disproportionately payment-troubled, thus not only pay the explicitly non-cost-based late fee, but pay the other specific collection fees as well.

The Level of the Late Fee Relative to Incentives

Remember, again, that since low-income customers are substantially more likely to have arrears, and that their arrears are likely to be higher than non-low-income customers, low-income customers pay a disproportionate amount of the late fees. In addition, again, the policy basis for the lack of cost-basis for the late fee rate was to make utility bill late fees competitive with credit card interest rates so that there would be no incentive for customers to pay their credit cards prior to paying their utility bills. Whatever relationship might have once existed between the late payment fee and credit card interest rates, however, no longer exists.

It comes as no surprise that interest rates in today's economy are hitting historical lows. One additional phenomenon that corresponds to this downward plunge in interest rates is the downward trend in credit card interest rates as well. As of late 2005, the average interest rates on credit card debt was less than 13%.[22] As of that date, it was not difficult to obtain annual credit card interest rates at 10% or below. Despite this decrease in the interest rates with which late payment charges were purportedly designed to compete, the non-cost-based late payment charges has remained at their previous levels. Whatever policy basis supported the level of the late fee in the past simply no longer exists.

[22] Remember, too, that carrying a credit card balance is not an indicator of payment-troubles.

The Disproportionate Impact on Low-Income Customers

This late payment fee disproportionately and adversely affects low-income customers. The basis for reaching this conclusion largely rests with information generated in the energy utility industry. While the notion that payment-troubled customers are disproportionately low-income is commonly accepted conventional wisdom,[23] remarkably little empirical data has been collected to verify or to challenge that conventional wisdom. National data reported by the U.S. Census Bureau indicates that, in the United States, 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.[24]

Moreover, late payment fees disproportionately affect low-income customers in that these customers do not gain the incentive provided through high fees. The argument often posited in support of high late payment fees is that such fees are necessary to serve as a disincentive for customers paying their credit card bills prior to paying their utility bills. Even accepting this incentive function as a legitimate policy reason to impose non-cost-based late payment fees, the incentive function bears little relationship to the finances of low-income customers.

In January 2003, staff of the Federal Reserve Board (FRB) published its analysis of consumer finances based on the FRB's 2001 Survey of Consumer Finances.[25] According to this FRB staff analysis, few low-income customers have credit cards and fewer still carry credit card balances. The FRB reports that while 44.4% of all households hold a credit card balance, only 30.3% of households in the bottom 20% of income (the bottom quintile) do. This stands in sharp contrast to the proportion of households in the second through fourth quintiles of income (between 50% and 60% of whom hold credit card debt). This data simply cannot be reconciled with the impact of late fees on low-income customers. These low-income customers are charged a non-cost-based late fee to have those fees be competitive with credit card debt that they do not hold on credit cards that they do not own.

Late Fee Proposal

Late fees should be waived for identified low-income customers. Low-income customers can be identified through the eligibility process discussed in detail above.

B. Disconnect Notices

As with any other business, Ontario's public utilities have the right to expect the bills rendered for their services to be paid. However, also as with any other business, these utilities must operate under limits on how they can seek to collect their unpaid bills. Designated credit and collection practices, because of their unfair and/or deceptive nature, have been found to

[23] This is not to say that all low-income customers are payment-troubled, nor that all payment-troubled customers are low-income. It is merely to say that low-income customers are disproportionately payment-troubled.
[24] U.S. Census Bureau, ***Extended Measures of Well-Being: 1992***, P70-50RV (November 1995).
[25] Ana Aizcorbe, et al. (January 2003). "Recent Changes in U.S. Family Finances: Evidence from the 1998 and 2001 Survey of Consumer Finances," Federal Reserve Bulletin (January 2003).

constitute inappropriate collection practices. Placing limits on these practices does not deny either the existence or the legitimacy of the underlying debt. It merely recognizes that the interest of the vendor in collecting its bills is outweighed by the interest of the customer in being free of unfair and oppressive collection tactics.

For Ontario's utilities, the disconnection of service for nonpayment, along with the issuance of notices associated with such service terminations, should be governed by these same principles. The following recommendations flow from this discussion.

Notices with no Present Intent to Disconnect

Local utilities shall not threaten to terminate service when they have no present intent to terminate service or when actual termination is prohibited. Notice of the intent to terminate shall be used only as a warning that service will in fact be terminated in accordance with the procedures set forth in utility regulations, unless the ratepayer or occupant remedies the situation which gave rise to the enforcement efforts of the utility.

It is common for local utilities to send out shutoff notices when they have no present intent to terminate service. Either the utility does not have the staff to effectuate a service discontinuance for each customer receiving a notice of discontinuance or the utility finds that it is not cost-effective to discontinue service for customers with arrears that are either less than some internally established "treatment amount" or younger than some internally-prescribed threshold.

Aside from the unlawful nature of threatening collection activities when no present intent exists to engage in those activities, the provision of a notice of a service discontinuance when there is no present intent to engage in the discontinuance is counterproductive to the entire purpose of notice with which to begin. One purpose of a notice is to provide a clear and believable warning that a service termination is about to occur. In response to such a notice, the customer must either take the steps necessary to prevent the service termination or take those steps needed to protect himself or herself against the dangers to life, health and property that might result from the loss of service.

It should be noted that providing notice of a pending discontinuance of service, when in fact such discontinuance is not imminent or intended, can be destructive to a customer's life, health and property. This is particularly true for low-income consumers. One study by the Iowa Department of Human Rights, for example, found that, with energy bills, Iowa energy assistance recipients go to extraordinary lengths to pay unaffordable bills.[26] The Iowa study found, for example, that:

- More than 12% of the more than 3,000 Iowa survey respondents reported going without food for at least one meal a week to try to save enough money to pay their utility bills.

- More than 20% reported going without medical care, by either not filling prescriptions, taking prescription medicines in lower than prescribed doses, or by

[26] Joyce Mercier, Cletus Mercier and Susan Collins (June 2000). ***Iowa's Cold Winters: LIHEAP Recipients' Perspective***, Iowa Department of Human Rights: Des Moines (IA).

skipping or postponing doctor's appointments in order to save money to pay for utility bills.

- Nearly 10% reported not making their rent or mortgage payments in order to pay their home heating bills.

The presence of these responses to threatened loss of service was confirmed by research June 2004 research with respect to Missouri low-income households,[27] as well as by national research completed in April 2004 for the National Energy Assistance Directors Association (NEADA).[28] Low-income customers should not be forced into making these decisions by threats of non-existent collection actions.

Aside from the social cost of empty collection threats, there is a business cost as well. A study by the New York Public Service Commission staff, for example, reported that:

> The effectiveness of Final Termination Notices as a means to encourage payments or to make payment arrangements prior to field action has deteriorated. The rate of customer non-responses to Final Termination Notices has increased from 33% in 1983 to 46% in 1987. This may result in part from customer perception that utilities threaten to terminate service, but rarely do. In 1983, 16% of the customers who did not make arrangements on their arrears in response to a termination notice had their service terminated; in 1987, only 9% of those customers had their service terminated.[29]

For both these business and social reasons, as well as because it is in violation of consumer credit law in any event, regulators should make clear that sending a notice of a pending service termination when there is no present intent to undertake that termination is prohibited.

Time Limit on Efficacy of Shutoff Notices

A written notice of service termination for nonpayment shall become void if the local utility has not disconnected service within 15 days of the date indicated on the notice for termination. If termination of service is not accomplished within 15 days following the final notice required before a service discontinuance, the utility shall follow the same procedures for providing new notice.

As discussed above, a notice of discontinuance serves several different functions. As time passes subsequent to the initial issuance of the notice, the efficacy of the notice deteriorates. This recommendation recognizes that at some point after a final notice of discontinuance is issued, if no action has occurred, the purpose of the notice is no longer served. Under these circumstances, a new notice must be issued. Since the passage of time makes the initial notice void, it is as

[27] Roger Colton (June 2004). ***Paid but Unaffordable: The Consequences of Energy Poverty in Missouri***, National Low-Income Energy Consortium: Washington D.C.
[28] Apprise, Inc. (April 2004). ***National Energy Assistance Survey: Final Report***, National Energy Assistance Directors Association: Washington D.C.
[29] David Sawyer and Phillip Teumin, ***Gas and Power Utility Uncollectibles and Collection Activity***, A Report by the consumers Services Division of the New York State Public Service Commission.

though the initial notice had not been issued in the first place. Accordingly, the new notice must be issued using the same procedures as the initial notice.

Limits on Shutoff Notices Not Acted Upon

A local utility shall not make a practice of delivering more than two consecutive notices of discontinuance or past due bills without engaging in the collection identified in the notice. Through a shutoff notice, a consumer should be provided with the information she needs to quickly and intelligently take available steps to prevent the threatened termination of service. The notice should meet sufficiently stringent standards so as to protect all customers, given that customers are of various levels of education, experience and resources. The notice should be made at a meaningful time and in a meaningful manner. It should present truthful information.

To meet these standards, the notice should contain specific information and meet specific standards. In providing information regarding the pending disconnection, the notice should state the reasons for having the utility seek the termination of service. In addition, to fulfill the notion that the notice be "meaningful," it should give a clear and believable warning that termination is about to occur.

The issuance of notices must be read in light of the purpose of a notice. To meet the requirement that the notice be "meaningful," it must give a clear and believable warning that termination is about to occur. The key word in this formulation is that the notice be "believable." One can, for example, consider the United States federal district court case of *Palmer v. Columbia Gas Co.*, where the utility's notice was invalidated when that utility sent out 120,000 to 140,000 shutoff notices each year while actually disconnecting only 6,000 households.[30]

Like Columbia Gas, Ontario's local utilities, by sending repeated disconnect notices, with no collection follow-up, destroy the message contained by the notice. The recommendation above seeks to prevent this situation.

C. Curing/Renegotiating Deferred Payment Plans for Arrears

This section proposes greater flexibility in renegotiating and allowing for the "cure" of broken payment plans entered into by low-income customers. In negotiating a deferred payment plan for arrears (PPA) with a customer that is unable to pay the bill in full, a local utility should consider, amongst other things, the customer's ability to pay. Having negotiated such a plan, however, a utility has considerable flexibility to make the plan "work" or not if PPA payment terms are breached.

Three recommendations are advanced with respect to the renegotiation of PPAs with low-income customers in the event of a default on the plan.

- If a customer's economic or financial circumstances change during the effective period of a deferred payment agreement, and not more than 14 days have elapsed since the customer defaulted on the deferred payment agreement, the utility shall be obliged if the customer so requests, to renegotiate the terms and conditions of the

[30] 342 F.Supp. 241, 242 - 243 (N.D.Ohio 1972)

deferred payment agreement, taking into consideration the changed economic and financial circumstances substantiated by the customer. The reinstatement of a previously defaulted deferred payment agreement shall not prevent the renegotiation of a deferred payment agreement.

- If a customer defaults on a deferred payment agreement but has not yet had service discontinued by the utility, the utility shall permit such customer to be reinstated on the deferred payment agreement if the customer pays in full the amounts which should have been paid up to that date pursuant to the original payment agreement (including any amounts for current usage which have become past due).

- An installment payment plan agreement shall consist of regular monthly installments. The terms shall be extended if, and to the extent necessary, to ensure that average monthly installment payments do not exceed a one-month average bill.

The Basis for the PPA Recommendations

These proposals prevent a local utility from falling into the classic error of equating the term "ability to pay" of a customer with the "income" of a customer. The need to avoid this error was explained in a study performed for the National Fuel Funds Network (NFFN) in 2002.[31] That study examined reasonable payment plan practices for working poor households in particular.

That NFFN study reported that standard regulations adopted by utility regulators provide that a utility shall take into account designated factors in deciding what payment plans are "reasonable." These factors include, but are not limited to, "ability to pay." The phrase "ability to pay," however, is often treated as being synonymous with "level of income." If a household's income is sufficiently high, the reasoning goes, the household is deemed to have an ability to pay its home energy bills.

Taking into account the "ability to pay" of the working poor should involve *more* than simply taking into account income level. The *stability* of income is one additional aspect of the ability to pay of the working poor. The negotiation of a deferred payment plan for utility arrears should take into account the potential instability of income amongst the working poor as one aspect of ability to pay. Income for the working poor, in particular, can be erratic and unpredictable. A working poor customer may not *know* in April what his or her income is going to be in July or August, let alone in the following December or January. Periods of unstable wages may make payments that were reasonable in April unreasonable at a later date.

Working poor families tend to find themselves in lower quality hourly wage jobs, often marked by considerable income fluctuations due to the number of hours they are called upon to work. The Urban Institute quantified the types of occupations which characterize the working poor. Even aside from the level of wages, the presence of hourly wages and unpredictable hours mark occupations that are the province of the working poor.[32]

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[31] National Fuel Funds Network (March 2002). ***A Fragile Income: Deferred Payment Plans and the Ability to Pay of Working Poor Utility Customers***, National Fuel Funds Network: Washington D.C.

[32] Acs, Gregory, Katherin Ross Phillips and Daniel McKenzie (May 2000). ***Playing by the Rules but Losing the Game***, at 10 – 11, Urban Institute: Washington D.C.

The NFFN study finally reported that families in the bottom quartile of income are significantly less likely to have access to paid sick leave, paid vacation leave, or flexible work schedules than families with higher incomes. More than three fourths (76 percent) of workers that are in the bottom quartile of family income lack regular sick leave; more than half (58 percent) do not have consistent vacation leave. Families in the bottom income quartile are more likely than other workers to lack *both* sick leave *and* vacation leave.

The lack of paid leave time may directly affect the ability of a working poor customer to maintain payments on a deferred payment arrangement. A person working 35 hours a week on hourly wages may lose three days of work simply due to a sick child missing school and requiring care. If no leave time exists for that employee, the sick child translates into permanently lost wages. Personal illness, too, results in permanently lost wages, whether illness keeps a worker away from his or her job for a day, for two days, or for a week.

One of the primary recommendations of the NFFN report was to avoid the one-strike-you're-out payment plan structures addressed by this recommendations.

Finally, monthly installment payments should be capped at a level equal to a one month average bill. Keeping total bills at an affordable level increases the likelihood that the bill will be paid and the installment payment agreement will be maintained. If an arrears is large enough that its retirement would require a payment in excess of a one month average bill, there has not only been nonpayment by the customer, but non-collection by the utility. The burdens of such non-action on the part of each party to the transaction should be shared in such instances.

PART 6: LOW-INCOME COLLECTIONS REPORTING.

The final critical component of a Universal Service Program involves imposing specified low-income collections reporting requirements upon the local utility. Reporting requirements should build on the reporting requirements incorporated into a variety of similar programs in the United States, including the New Jersey Universal Service Fund (USF) program. This reporting allows utility regulators, utility staff, community advocates, and other interested parties to track the impact of the Universal Service Program on collection outcomes for participating customers.

Given this focus on results, in subsequent years, it will be possible to answer the question: "are low-income customers better off today because of this Universal Service Program?" What is accomplished from a reporting perspective is the generation of a set of data that allows regulators, the industry, and the community to review not that "x" amount of money has been spent, or that "y" numbers of low-income customers have been reached, but that certain performance goals have been accomplished.

A list of the elements of a Universal Service Reporting system is provided below.

Data to be Included in Collections Report For Confirmed Low-Income Customers		
Report	**Frequency /a/**	**Notes**
Number of Universal Service Program participants	Monthly	
Distribution of full retail bills	Monthly	Bill bands to be determined.
Number of accounts	Monthly	Active accounts
Number of discontinuance notices	Monthly	
Number of accounts with pre-program arrears	Monthly	
Number of accounts successfully retiring arrears	Monthly	
Telephone contacts	Monthly	Tracking inbound and outbound calls should occur separately if available.
Number of residential field visits	Monthly	
Number of residential terminations	Monthly	
Number of residential reconnections	Monthly	
Charge-Offs (Gross)	Monthly	Number of accounts and total dollars
New deferred payment arrangements	Monthly	
Distribution of overdue accounts by dollar amount	Monthly	Number of accounts and total dollars (bill bands to be determined).
Distribution of overdue accounts by payment status (i.e., current, 30 days, 60 days, 90 days or more)	Monthly	Number of accounts and total dollars.
NOTES: /a/ Information may be reported on a less frequent basis, so long as the data is reported for the time periods identified. Monthly data can be reported on a quarterly basis.		

PART 7: COST RECOVERY.

The rate affordability program described in this document focuses on a ratepayer-funded rate affordability program. This stands in sharp contrast to programs funded, in whole or part, by state and/or federal tax dollars. The national program in the United States, called the Low-Income Home Energy Assistance Program (LIHEAP), is a federally-funded state block grant program.[33]

A January 2006 survey of the 50 states (and the District of Columbia) found that 26 states plus the District provide rate affordability assistance through programs where the costs are recovered, in whole or in part, directly from increased utility charges to other ratepayers.[34] The six states with the largest programs include:

- California: $453 million
- Pennsylvania: $215 million
- Ohio: $200 million
- New Jersey: $160 million

[33] Pursuant to a block grant program, a state is provided with an allocation of money each year to be distributed through a program design largely of its own choosing. Eligible households are neither assured of receiving benefits from the program, nor assured of receiving any particular level of benefits. When the state's allocation is depleted, the distribution of funds stops. In contrast to a "block grant" program are "entitlement" programs. Under an entitlement program, eligible households are entitled to receive federally-prescribed benefited. In essence, the federal government will increase funding of the initial appropriation is insufficient to serve all eligible households that, in fact, apply for benefits.

[34] The District of Columbia will henceforth be included within references to "states."

- Illinois: $65 million
- Massachusetts: $48 million.

Each of these six states has a well-developed rate affordability program. In each instance, the costs of the programs are assessed to all customer classes (with the exception of Pennsylvania).[35] In California, all customer classes pay a public purpose charge. In Pennsylvania, customers In Ohio, all customer classes are assessed via a rider to support low-income rate assistance. In New Jersey, all customer classes pay into the Universal Service Fund (USF) via a volumetric charge on all electric and natural gas bills. In Illinois, the program (SLEAF: Supplemental Low-Income Energy Assistance Fund) is funded by a flat fee on all residential account, with a higher flat fee from commercial and industrial customers. In Massachusetts, the costs of low-income programs are recovered from all of the state's electric and natural gas distribution customers. In all 27 states, the programs are funded with ratepayer dollars (rather than government dollars).

In these 26 states, there is a substantive split between states where the cost recovery mechanism was created by legislation and where the cost recovery was authorized under the generic regulatory authority exercised by state utility commissions over natural gas and electric utilities. Within the six largest state programs, for example, Pennsylvania, Ohio and Massachusetts were all authorized by state regulatory authority without explicit legislative approval. In contrast, California, New Jersey and Illinois all implemented programs in response to a legislative directive to do so.[36]

PART 8: BENEFITS OF LOW-INCOME AFFORDABILITY PROGRAM

There can be little question today but that low-income universal service programs not only can, but do, provide tangible benefits to the investors and nonparticipating customers of the companies that operate them. The discussion below separately considers the advantages of low-income rate assistance, as well as conservation and demand management, programs.

A. Low-Income Conservation and Load Management Programs.

The existence of indirect financial benefits to utilities arising from conservation and load management programs targeted specifically to low-income households was first postulated in 1987. In that analysis, low-income advocates stated that targeted conservation and load management programs had advantages that went beyond the traditional energy and capacity savings associated with conservation and load management measures:

> The cost-effective reduction of system costs is relevant and important in every part of the business operations of the utility, not simply to the power supply function. Accordingly, a utility should be concerned with the problem of nonpayment, overdue payment, and partial payment of utility bills. Bad debt[37] arises when

[35] The Pennsylvania PUC is reconsidering this policy in a pending proceeding. Docket M-00051923.
[36] In each of these instances, the state legislation not merely authorized the program, but mandated it.
[37] "Bad debt" was specifically defined in the article as the costs associated with delinquent payments. "The term `bad debt' in this article, therefore, is to be distinguished from its general usage as synonymous with `uncollectibles.'

> ratepayers demand power from the system and then do not pay for it on a timely basis.* * *[A] new conservation program [can be proposed] that is justified on an avoided cost basis. The proposal rejects the historical view that avoided costs include only an energy and a capacity component. Instead, it introduces the notion of avoided bad debt. As long as the conservation program costs less than the bad debt it will avoid, the program is cost-justified.[38]

The theory gained credence when two researchers in Minnesota and Wisconsin began to empirically find such savings associated with delinquent payments. According to Quaid and Pigg, traditionally, impact evaluations of low-income weatherization programs had focused on measuring energy savings, and had neglected quantification of other potential benefits.

> One such benefit relates to the financial aspect of reducing energy use. Low-income households often get behind in paying their bills. Reducing energy consumption in these households may set off a chain of impacts: lower, more affordable utility bills; fewer unpaid utility bills; lower past-due bills (arrearages); and ultimately, lower utility costs to process past-due accounts, and lower utility write-offs from uncollectible debts.[39]

The benefits identified are far from conceptual. Some utilities are beginning to capitalize on this recognition of the expanded avoided costs associated with conservation programs targeted to payment troubled households. The discussion below will set forth some of the research that has been done, or is being done, by various utilities in furtherance of this concept.

Columbia Gas Company of Pennsylvania

Columbia Gas of Pennsylvania has performed perhaps the most sophisticated analysis of arrears reduction associated with conservation and load management strategies directed toward low-income households. Columbia Gas began its evaluation with the proposition that:

> the realization that fuel savings often lead to reduced billings warrants the study of secondary and tertiary non-energy impacts. If reduced customer billings result from energy conservation programs, then it is reasonable to suggest that the utility has made its service more affordable for program participants.[40]

In its evaluation of the company's usage reduction efforts, evaluators introduced two measures: utility shortfall and customer billing deficit.[41] Utility shortfall is the difference between the billings and the total amounts applied to the account. Customer billing deficit is the difference between the billings and the amount paid directly by the customer (as opposed to being paid by public assistance and the like).

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[38] Colton, R. and Sheehan, M. "A New Basis for Conservation Programs for the Poor: Expanding the Concept of Avoided Costs," 21 ***Clearinghouse Review*** 135, 139 (1987).

[39] Quaid, M. and Pigg, S. (1991). ***Measuring the Effects of Low-Income Energy Services on Utility Customer Payments***, Washington State Energy Office: Olympia, WA.

[40] Monte de Ramos, K., *et al.*, "An Assessment of Energy and Non-Energy Impacts Resulting from the 1990 Columbia Gas Low-Income Usage-Reduction Program," ***Proceedings of the 1993 Energy Program Evaluation Conference***, at 771, Energy Program Evaluation Conference: Chicago.

[41] *Id.*, at 775.

> We found that both utility shortfall and customer billing deficit were improved as a result of the 1990 LIURP. The control group had an average monthly utility shortfall equal to 3% of the average monthly billing during the pre-program period; this rose to a 10% surplus during post-program period. A similar change occurred for program participants, who went from a 3% utility shortfall to a surplus of 15% in the post-program period. This represents a control-adjusted improvement of 5%, which proved to be statistically significant.[42]

The *actual* expected improvement should be even more, Columbia Gas noted.

> Given that the average utility bill for program participants in the post-program period was $62, the expected total payments for the month would be $65 ($62 + 5%). We feel this amount could be improved. The LIURP participants lost significant amounts of state and federal [fuel] assistance relative to the control population. Since the change in assistance amounts is unexplained, it is possible to hypothesize that the levels of public assistance could remain constant between the pre- and post-program period. If that were the case, the expected monthly payment would have been $79--a surplus of $17 per month per participant.[43]

In addition to the utility shortfall, Columbia Gas had its second measure of payment improvement: the customer billing deficit. The utility found that this deficit was improved by 14 percent of the average monthly billing when compared to the control group. Participants of LIURP paid 58 percent of the average monthly billing in the pre-program period, while in the post-program period, LIURP participants paid 75 percent of the average monthly billing. This compared with the control group, which went from paying 64 percent of the average billing to 67 percent of the average billing. While the reduced billing deficit was statistically significant for the program participants, the control group change was not.[44]

> We found the levels of customer payment remained significantly constant for both the study group and control population through the pre- and post-program periods. As a result of LIURP, monthly billings were reduced for the program participants while the monthly billings remained constant for the control group. This allows the participants' payments, which remained constant, to represent a higher portion of the overall bill. This suggests that Columbia Gas of Pennsylvania improved the affordability of service for LIURP participants without substantive changes in customer payment behavior.[45]

Wisconsin Gas

Wisconsin Gas Company has implemented a pilot program explicitly designed to use conservation measures as a means to reduce the costs associated with delinquent payments and bad debt. The purpose of the study, Wisconsin Gas said, was "to examine the effects of Wisconsin Gas

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[42] *Id.*, at 775.
[43] *Id.*
[44] *Id.*
[45] *Id.*

Company's Weatherization Program on the arrearages of low-income customers."[46] Wisconsin Gas divided its study homes into two groups: (a) single family homes; and (b) two-family homes.[47]

For single family homes, Wisconsin Gas experienced an overall therm savings of 23.4 percent.[48] Moreover, therm savings based on heat load were computed. The company produced "an overall single family heat load savings rate of 30.7 percent* * *."[49] Two-family homes generated similar results.[50]

Wisconsin Gas found that not only did the program reduce arrears for households, but the company recognized significant savings from the program as well. According to the company, the program reduced the customers with $100 of annual arrears by nearly 300 percent.[51] Moreover, Wisconsin Gas found that it received a 20 percent return on its weatherization investment, strictly from the reduced nonpayment, and before considering traditional avoided costs, in the first year of the program.

In sum, Wisconsin Gas concluded from its study:

> The study indicates that single family dwellings generated on average $353 less annual arrears after weatherization. For the two family group, weatherization reduced arrears $502 annually. Taken a step further, for 1,300 dwellings weatherized annually and split evenly between single and two-family jobs, over $550,000 in billed arrears or approximately $360,000 in gas cost would have been avoided.[52]

Finally, Wisconsin Gas concluded, "within the parameters of this study, 20 percent of the study group would have generated $0 or less annual arrears with weatherization as compared to 5 percent without. This reflects favorably on weatherization potential as an arrears eliminator."[53]

Connecticut Light and Power Company

The use of DSM as an "arrears avoidance" technique is not limited to utilities that may have high uncollectibles. Consider Connecticut Light and Power (CL&P), a Connecticut investor-owned electric subsidiary of Northeast Utilities (NU). CL&P was a utility that had a bad debt ratio of less than one percent (0.67%). In NU's December 1991 evaluation of the CL&P low-income DSM program, the utility found:

> Overall, the data indicated an improvement in the average *monthly* change in arrearage of $9.73 for the 1989 participants and $18.77 in 1990.* * *(One plan)[54]

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[46] *See*, ***Weatherization Arrears Savings***, Wisconsin Gas Company (April 1988).

[47] The company stated, however, that "due to the integrated nature of two-family energy use and weatherization measures, two-family accounts were treated as one dwelling unit." *Id.*, at 1.

[48] While the savings ranged widely between units, the company noted that 64 percent of the single family homes fell in the 10 percent to 35 percent savings range. *Id.*, at 2.

[49] *Id.* Again, while the savings ranged widely between units, 60.2 percent of the single family homes fell in a range of 25 percent to 50 percent savings

[50] *Id.*, at 5. Over 70 percent of the dwellings fell in the 10 percent to 35 percent savings range.

[51] *Id.*, at 2.

[52] *Id.*, at 6.

[53] *Id.*

> was specifically targeted to payment-troubled customers, with the express purpose of reducing arrearages.* * *(This plan) was highly successful in this regard. The average (monthly) improvement in arrearages among plan E4 participants was approximately $40.00 for 1989 and $28.00 for 1990.[55]

The Northeast Utilities effort, begun in 1989 in conjunction with other interested parties in Connecticut, implemented a pilot weatherization program directed at low-income payment-troubled customers.[56] The program, called Plan E4, provided for a maximum investment in conservation and load management of $1500. Participants must have annual income at or below 200 percent of the Federal Poverty Level and the customer's account must be "seriously delinquent." An account having $200 or more in arrears qualified.

Niagara Mohawk Power Company

In a different program, participants in an energy education program offered by Niagara Mohawk Power Company, an investor-owned electric utility, in conjunction with its company-financed weatherization program improved their payment patterns in two ways, according to Niagara Mohawk's evaluation.[57] "First," the utility's report said, "through the affordable payment plan -- which guaranteed that their utilities would not be shut off as long as they made a mutually agreed-upon payment amount-- they increased the frequency of their monthly utility payments to almost 100 percent. In contrast, Groups 1 and 2 participants made their monthly utility payments about 50 percent of the time."[58] Second, although the monthly payment amount was as low as $10 per month for participants with very low incomes (and as high as $190), Education participants "increased the average amount of total dollars paid to the utility over the pre-treatment period."[59]

According to the company's evaluation, while all low-income households incurred new arrears, those who had received the weatherization services had fewer new arrears than those who did not.[60] Moreover, the company found, the new arrears for the weatherized households likely arose because the provision of weatherization services was matched with a decrease in fuel assistance. "If those [fuel assistance] dollars had been received at the previous level, it is probable that [the weatherized] households would on average *not* have built up new arrears."[61]

Commonwealth Electric Company

Similar results can be obtained for electric companies. One investor-owned *electric* company in Massachusetts, for example, has considered an arrears control program using conservation as the mechanism. COM/Electric found that "from the analysis, a Bad Debt Program appears to be not only theoretically sound, but also empirically supported for electrically heated homes and for homes having electric water heaters. It also appears beneficial to offer the program to `other'

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[54] This plan was called Plan E4.

[55] ICF Resources (1991). ***Program Evaluation: Weatherization Residential Assistance Partnership (WRAP) Program: Volume I, Final Report***, Northeast Utilities: Berlin, CT.

[56] Other programs were implemented at the same time directed toward other populations.

[57] Harrigan, M. (1992). ***Evaluating the Benefits of Comprehensive Energy Management for Low-Income, Payment-Troubled Customers*** Alliance to Save Energy: Washington D.C.

[58] *Id.*, at 2, 47 - 61.

[59] *Id.*

[60] *Id.*

[61] *Id.* (emphasis added).

homes in the Commonwealth service territory."[62] According to SRC, "the main source of economic value to COM/Electric is the reduced carrying costs for late payments."[63]

SRC found for COM/Electric that the Bad Debt Conservation program had, from a system perspective (*i.e.*, based upon system "avoided cost" savings), a benefit-cost ratio of 1.857 (for electrically heated homes), of 2.290 (for homes with electric hot water but not electric heat), and 1.944 (for all "other" --non-electric heat, non-electric hot water-- homes) of pre-treatment consumption.

Detroit Edison

In early 1991, the Detroit Edison Company, an investor-owned electric utility, began a concerted marketing and energy management effort to improve the payment practices of the company's low-income customers.[64] The company decided to concentrate attention on addressing issues involving, among other things, the effect of usage reductions on payment behavior. The company had identified high electric use and high arrearages amongst low-income customers as a substantial problem for the utility.

> While these problems were by no means new, the unfolding of the Michigan state budget process made action to address them particularly urgent. In the proposed budget, income support grants to families who received Aid to Families with Dependent Children (AFDC) were to be decreased, as were categorical grants (CAP payments) available to AFDC recipients to pay electric bills.[65]

The need for the corrective action by Detroit Edison was made apparent by internal company analyses showing that "positive billing customers," which involved most of the company's AFDC customers, represented roughly three percent of all residential customers, but accounted for 29 percent of all residential arrears over 30 days old.[66]

Detroit Edison responded by offering an extensive energy management program --called Energy Options-- directed toward these high use, high arrears, customers. As part of the program, Detroit Edison said:

> Energy Options participants received reports with each bill, comparing usage for the month with usage for the same month a year ago. Furthermore, outstanding arrearages were reduced by $0.10 for each kWh of usage reduction(;) the reduction was doubled if the customer paid his or her bill on time.[67]

Detroit Edison's evaluation found significant problems with data collection as to payment and collection histories. According to their evaluators:

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[62] Synergic Resources Corporation (1988). ***Evaluation of the Cost-Effectiveness of a Bad Debt Conservation Program: Final Report***, Northeast Utilities Co.: Berlin, CT.
[63] SRC did not study collection costs.
[64] Rosenberg, M. and Feblowitz, J. (1993), "The Detroit Edison Low-Income Customer Service Program: Evaluation in Action," ***Proceedings of the 1993 Energy Program Evaluation Conference***, at 764, Energy Program Evaluation Conference: Chicago.
[65] *Id.*, at 764.
[66] *Id.*
[67] *Id.*, at 766 - 767.

> Most of the analyses of the effects of energy efficiency programs on customers' payment patterns have run into the same kinds of data problems we experienced. In our case, the published experience of other investigators enabled us to anticipate what some of those problems might be, but we ran afoul of them nonetheless. For example, we dutifully examined the record layout for the Shop File and conferred with Detroit Edison's analysts on the availability of payment information. All of us thought that we had identified fields that contained historical payment records, but it turned out these fields recorded something else entirely. Moreover, due to the sheer volume of transaction details recorded for each customer, the [data processing system] holds only a few months of historical information. We gather the situation is similar at other utilities.[68]

Despite these data problems, Detroit Edison concluded that on average, program participants reduced the amount of their account balance by $150 over the period from July 7, 1992 to December 12, 1992.[69] Moreover, the evaluators found, "concentrating on high-use households will maximize energy savings and cost-effectiveness. Given the demonstrated relationship between high bills and payment problems, targeting high-use customers will also pay off in terms of reduced financial stress."[70]

B. Rate Affordability Benefits.

That rate schedules, themselves, can in fact improve collections and generate a range of savings to the utility offering the rate has been confirmed by impact evaluations of other rates. For example, the impact evaluation of the Columbia Gas Company (Pennsylvania) Customer Assistance Program (CAP) -- Pennsylvania's low-income rates are generally referred to as CAP -- found that the company's CAP customers had 61% fewer disputes, 53% fewer *new* payment agreements, and 67% fewer credit hold requests. In addition, the Columbia Gas impact evaluation found further that, for CAP customers, cancellation of payment plans was reduced by 69%, termination notices declined by 48%, and shutoff orders were printed 74% less often.[71]

Equitable Gas Company

Equitable Gas (Pennsylvania), an investor-owned gas company, found the same thing with respect to its Energy Affordability Program (EAP). The Equitable Gas evaluation found that there is a net administrative *cost* to the low-income rate of $15.13 after one year of operation.[72] Like many initiatives, however, with higher administrative costs in earlier years, the evaluation found further that the participants who stayed on the rate for a second year (70% of the participants) return a $12.87 *savings* in Year 2. By the end of Year 3, the total savings had completely paid off the costs from the first year and yielded a total net advantage of $10.61 per customer.[73] The Equitable Gas evaluation found that, based on administrative costs alone:

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[68] *Id.*, at 769 - 770.
[69] *Id.*, at 769.
[70] *Id.*
[71] Final Pilot Evaluation, Columbia Gas (PA) Customer Assistance Program (CAP), at 13, A&C Enercom Inc. (November 1996).
[72] Impact Assessment of the Equitable Gas Company Energy Assistance Program. H.Gil Peach and Associates (September 1996)
[73] Equitable Gas, at 96.

> . . .for each 100 customers entering EAP, the 65% retained for three years would return $689.65 in net administrative cost reduction (65 x $10.61). For those who remain in EAP, these savings would increment over future years.[74]

The Equitable Gas evaluation found additional *total* benefits (not just administrative savings) to nonparticipating ratepayers as well through application of a "net back" analysis. Net back recognizes that the revenue gained by a utility through its credit and collection efforts is only the total revenue collected *minus* the costs of collection. Hence, if a utility collects $100, but spends $40 in the process of collection, the utility's "net back" is only $60 (for a net back rate of 0.60).

The Equitable Gas evaluation found that that utility experienced a net back ratio (NBR)[75] of 0.91 for low-income customers without the Equitable Gas rate affordability program. The evaluation then found that:those who fully participate in one year of EAP show an NBR of 1.41. Those with two full years of EAP show essentially the same performance, with an NBR of 1.37. Both of these results are quite favorable compared to the 1989 Reference Group with its NBR of 0.91.[76]
The evaluation then translated these ratios into "dollars returned" (to other ratepayers). Without the program, the evaluation found, "a customer who would have been billed $1368 at the standard residential rate would have created a shortfall of $684 from the standard residential rate, not including the increased cost of collection."[77] The evaluation then found tha tEAP succeeds in recovering (in the sum of customer payments plus grants) dollars which would otherwise not have been received by the utility:

> For those in EAP for one full year, this amount is $262. For those who remain in EAP for a second year there is an additional $206. These added to a total of $468 for each customer who is retained in the program for two full years.[78]

The evaluation concludes: "This means that EAP is not only revenue neutral, but revenue positive in relation to the comparison situation for which it was designed."[79]

Niagara-Mohawk Power Company

Niagara-Mohawk Power Company (New York) also offered its low-income customers an affordable rate.[80] The Niagara-Mohawk initiative involves conservation and load management services and a negotiated bill payment, which can be below the "cost of energy" (what Equitable Gas referred to as the "standard rate"). Niagara-Mohawk tested four different groups. Group 3 and Group 4 had an affordable payment plan as a component of the services delivered.

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[74] Equitable Gas, at 96.
[75] A net back rate of greater than 1.0 means that the company is not only collecting all of its current bill, but is collecting part of the arrears owed by the customer as well. Hence, the company is collecting *more* than its bill for current usage. A net back rate of less than 1.0 means the customer is never paying his or her bill for current usage and is, as a result, falling further and further into arrears.
[76] Equitable Gas, at 115 – 116.
[77] Equitable Gas, at 112.
[78] Equitable Gas, at 116.
[79] Equitable Gas, at 116.
[80] Merillee Harrigan (1992) Evaluating the Benefits of Comprehensive Energy Management for Low-Income, Payment-Troubled Customers, Alliance to Save Energy: Washington D.C.

According to the evaluation of the Niagara-Mohawk initiative: "Group 3 and 4 participants almost doubled the total number of payments to the utility during the post-treatment period compared to the pre-treatment period (from 426 to 849 payments for Group 3; from 368 to 792 payments for group 4). In contrast, Group 1 actually decreased the number of payments made and Group 2 increased the total number slightly (from 404 to 446 payments)."[81] Neither Group 1 nor Group 2 had an affordable payment plan. The Niagara-Mohawk evaluation found further that the Company benefited from these increased payments. The evaluation found:

> Corresponding to the average dollars per month, the total customer dollars paid to the utility also increased for the three treatment groups. Again, Group 2 payments increased slightly from $844 to $895. Group 3 on the average increased its payment from $883 to $1174 and Group 4 increased from $968 to $1188.[82]

Unfortunately, Niagara-Mohawk undertook its efforts during a time when fuel assistance dollars were being substantially cut back and fuel assistance dollars dropped for the program participants. Nonetheless, despite this drop in fuel assistance funding, the evaluation found:

> The increase in amount of customer dollars, despite the drop in receipt of assistance dollars, resulted in an increase in total dollars paid to the utility of $31 for Group 3 and $91 for Group 4, compared with *decreases* in total dollars of $26 for Group 1 and $102 for Group 2.[83] (emphasis added).

National Fuel Gas Distribution Company

National Fuel Gas Distribution Company (New York) operates what it calls its Low-Income Rate Assistance (LIRA) program.[84] The impact evaluation of the NFG program developed a mathematical model for calculating whether the program was cost-beneficial to the company (and thus to nonparticipants). The impact evaluation refers to the fact that "the cost effectiveness model measured cash in-flows and out-flows with and without the LIRA program over time."[85] The impact evaluation stated further that: "cash flows were computed using collected revenue, billed revenue, collection expenses, and carrying charges for both the participants and the nonparticipants." [86]

Part of this model recognized that only $939 of each $1,276 bill is paid before LIRA. Under LIRA, however, the impact evaluation found, low-income customers pay $772 of each $811 bill. According to the National Fuel Gas evaluation: "Several indices were selected as robust measures of the impact of the program. These included change in the number of payments made, change in the percentage of bill paid, change in the amount paid, change in the number of disconnections, and change in the amount of outside aid received by participants. . .The program has been successful in moving most of the indices in the *right* direction."[87] (emphasis in original). The impact evaluation reported the following "list of changes in the right direction":[88]

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[81] Niagara-Mohawk, at 47 – 48.
[82] Niagara-Mohawk, at 48.
[83] Niagara-Mohawk, at 49.
[84] National Fuel Gas (PA) Low-Income Rate Assistance (LIRA) program. Barakat & Chamberlin (March 1999).
[85] National Fuel Gas, at 23.
[86] National Fuel Gas, at 23.
[87] National Fuel Gas, at 23.
[88] National Fuel Gas, at 23.

- The number of payments made by the participants increased by 30% (an average of 2.2 payments per participant);

- The percentage of the bill paid per participant increased by 10%;

- The number of service disconnections decreased by "slightly over 80%."

The National Fuel Gas impact evaluation reported that:

> the [net present value] of the participant's pre-program cash flow was computed at ($3,805,936). This means that, had the program not existed (pre conditions remained the same), NFG would have been expected to under collect over $3.8 million (present valued over the next five years). Based on the post program conditions, NFG is still expected to under collect, but only by approximately $2.3 million. In other words, the program's gross impact is an improvement in collections of $1.5 million (nearly a 40% improvement over the next five years).[89]

The impact evaluation concluded that "this indicates a cost-effective endeavor."[90]

SUMMARY AND CONCLUSIONS

The Universal Service Program proposed above consists of five major program components. Each program component has multiple major policy decisions to be made. The proposal above includes the following program recommendations:

1. Rate affordability program component

- Eligibility is set at the Low-Income Cutoff (LICO);

- Enrollment should be, to the maximum extent feasible, implemented through an automated data exchange with social assistance agencies;

- Rate affordability benefits are to be delivered through a fixed credit approach;

- The level of "affordability" should be set at 6% of household income, split evenly between home heating and baseload electric usage.

2. Arrearage management program component

- Arrears are to be retired over a two-year period;

- Customers are to make copayments toward their arrears;

- Copayments are to be set equal to an affordable percentage of income (1% per year).

[89] National Fuel Gas, at 20.
[90] National Fuel Gas, at 20.

- No pre-condition is established for the grant of arrearage management credits.

- The appropriate response to nonpayment is to place the program participant in the same collection process as any other residential customer.

3. Crisis Intervention program component

- The crisis intervention program component should be set at a multiple of the rate affordability program. The recommended multiple is 0.05.

- The crisis intervention component should not be based on income-eligibility;

- The crisis intervention component should provide administering agencies with the flexibility to distribute assistance on an as-needed emergency basis; and

- The crisis intervention component should be on a limited-time basis.

4. Conservation and demand management program component

- Low-income conservation and demand management funding should be funded at the rate of 0.20% of total utility revenues on an annual basis;

- Efficiency investments should be targeted on the basis of high usage, but on the existence of payment troubles as well; and

- The utility's outreach for the conservation and demand management programs should be tied into other aspects of its customer service operations, including the management of arrears; and

- The low-income conservation and demand management investments should be delivered in collaboration and in partnership with existing conservation and demand management and affordable housing programs.

5. Basic Consumer Protections

- Late payment fees should be waived for low-income customers, as qualified in the manner identified for the rate assistance program;

- Ontario utilities should be prohibited from issuing disconnect notices when they lack a present intent to actually effectuate a disconnection of service;

- The disconnect notices of Ontario utilities should have a 15-day efficacy period. In the event that service is not disconnected within that time frame, the notice period should be reinitiated;

- Ontario utilities should be prohibited from issuing disconnect notices in more than two consecutive months in which a disconnection of service is not actually effectuated;

- Ontario utilities should be required to renegotiate deferred payment plans for arrears (PPAs) in the event the customer can demonstrate changed circumstances;

- Ontario utilities should be required to accept payments that "cure" defaulted payment plans, and to reinstate those defaulted payment plans, so long as the customer has not yet experienced a service disconnection based on the arrears underlying that payment plan; and

- Ontario utilities should be required to offer payment plans of sufficient length that the average monthly installment payment for arrears does not exceed a one-month average bill.

In addition to the program components described above, Ontario utilities should be required to adopt mandatory collection and reporting of specified data elements to be used in outcome evaluations of the program

EXHIBIT NB-8

2005 State-by-State Supplements to Energy Assistance and Energy Efficiency

Compiled by the LIHEAP Clearinghouse

http://www.liheap.ncat.org/Supplements/2005/supplement05.htm

last viewed December 18, 2006

	State	State Local	State System Benefit Funds		Fuel Funds Church Community	Utility		Bulk Fuel Discount	Misc.	Total
			Rate Assistance	Energy Efficiency		Rate Assistance	Energy Efficiency			
1	AL				$2,572,693	$1,741,198				$4,313,891
2	AK	$6,476,632								$6,476,632
3	AZ	$8,815,461			$1,755,340	$11,429,441	$869,861		$1,151	$22,871,254
4	AR	$1,000,000			$14,496,303					$15,496,303
5	CA	$218,885			$8,485,891	$563,654,294	$99,056,964	$93,185	$6,156,705	$677,665,924
6	CO	$13,839,532			$3,148,535		$2,700,000			$19,688,067
7	CT				$808,661	$13,946,397	$3,929,786	$1,872,578		$20,557,422
8	DE		$800,000		$400,000					$1,200,000
9	DC		$3,577,000	$3,500,000		$1,780,000				$8,857,000
10	FL	$1,300,000			$250,000					$1,550,000
11	GA		$5,5941655		$564,141	$13,020,000	$1,430,000			$20,608,796
12	ID						$2,225,000			$2,225,000
13	IL	$2,171,528	$84,186,350	$4,844,753	$5,484,327					$96,686,958
14	IN	$5,536,308			$2,253,878	$12,323,917	$567,303	$13,617	$17,147	$20,712,170
15	IA	$6,211,850			$1,039,676		$4,814,744			$12,066,270

16	KY	$217,459			$1,402,477	$898,417	$361,418			$2,879,771
17	LA				$5,638,000	$684,836	$882,584			$7,205,420
18	ME	$737,782	$6,286,492	$1,700,000	$21,088			$1,142,720	$1,600,204	$11,488,286
19	MD	$1,805,930	$29,577,965	$1,600,000	$6,008,603	$3,614,959	$716,885	$462,092		$43,786,434
20	MA	$7,500,000	$42,559,915	$21,215,000	$958,662	$85,050		$2,734,513		$75,053,140
21	MI	$26,972,793	$55,650,000	$5,000,000	$6,874,289	$23,299,283				$117,796,365
22	MN	$13,858,097			$2,315,729	$6,097,631	$3,956,177	$52,106	$67,525	$26,347,265
23	MS				$766,240	$194,990			$831,930	$1,793,160
24	MO				$8,381,146		$500,000			$8,881,146
25	MT		$3,762,155	$1,274,371	$1,763,730	$25,080			$435,852	$7,261,188
26	NV	$189,074	$12,553,566	$2,621,272	$464,948	$62,094	$1,454,000			$17,344,954
27	NH	$3,746,534	$13,658,338	$953,398	$574,995			$467,175		$19,400,440
28	NJ		$181,914,332	$13,671,113	$360,646	$17,400,400				$213,346,091
29	NM	$800,000			$587,000			$834		$1,387,834
30	NY	$79,370,522		$3,660,426	$928,077	$30,000,000	X		$7,763,815	$121,722,840
31	NC	$225,917			$2,598,726			$3,039		$2,827,682
32	OH		$210,376,889	$6,976,875			$13,000,000			$230,353,764
33	OK					$2,467,979				$2,467,979
34	OR		$11,600,000	$8,900,000	$1,500,000					$22,000,000
35	PA		$191,012,957	$20,645,515	$7,673,574	$58,177,131				$277,509,177
36	RI			$1,100,000	$525,000	$5,354,679				$6,979,679
37	SC				$350,000					$350,000
38	SD	$190,000			$140,000			$140,000	$60,000	$530,000

39	TX		$47,792,184		$3,824,854	$1,545,316	$2,098,850			$55,261,204
40	UT					$1,715,278				$1,715,278
41	VT	$5,676,717		$2,100,000	$261,546		$49,344	$906,854	$18,450	$9,012,911
42	VA	$2,853,486			$1,251,207	$110,458				$4,215,151
43	WA	$3,884,696			$15,718,962	$13,082,417	$5,452,255		$2,634,821	$40,773,151
44	WV	$3,000,000								$3,000,000
45	WI	$6,499,761	$13,475,238	$41,484,767	$1,233,414	$106,063			$154,227	$62,953,470
50	WY	$375,000								$375,000
	Totals	$203,473,964	$914,378,036	$141,247,490	$113,382,358	$782,816,908	$144,065,171	$7,888,713	$19,741,827	$2,326,994,467

Click here for an explanation of the state-by-state supplements table.

2005 State-by-State Supplements to Energy Assistance and Energy Efficiency Overview

The LIHEAP Clearinghouse Summary of Supplements to Energy Assistance and Energy Efficiency is a continuously updated, state-by-state compilation of the resources that supplement LIHEAP and low-income energy efficiency programs. It includes links to enabling legislation or regulatory commission orders, where available. Resources are grouped into these categories:

- state and local funds
- state public benefit funds
- utility rate-payer funds
- private funds (fuel funds, church, charitable and community contributions)
- non-regulated bulk fuel vendor contributions
- miscellaneous resources

Note: The two state categories, State and Local Funds and State Public Benefits Funds differ as follows: The former are funds from state, county or city governments, usually from general funds, special taxes, or tax waivers. Public benefit funds, also called system benefit funds, or universal service funds, are those created through state electric or natural gas restructuring legislation or regulation. Funding comes from a charge assessed on electric and/or gas consumers, which states refer to as a public goods surcharge, system benefits charge, societal benefits charge, public benefits fee, universal service fee, meters charge, etc. These funds are administered or overseen by a state agency, typically the state LIHEAP/weatherization agency or the regulatory commission.

Sources of the compilations:

1. state LIHEAP leveraging reports. (Filed at the end of each fiscal year, these reports summarize by dollar amount and resource category, the non-federal resources states have obtained to supplement energy assistance and energy efficiency for low-income households).

2. individual utilities

3. utility regulatory commission reports and filings, including resources obtained through utility restructuring

4. state government / legislative Web sites for legislation

Limitations of the data: The reported totals are estimates based upon the most reliable and recent data available. However:

1. LIHEAP leveraging reports are over a year old: The most recent reports available were submitted in November 2005 for FY 2005. FY 2006 totals will be available in mid-2007.

2. Leveraging is voluntary; not all states participate in the LIHEAP leveraging incentive program.

3. Leveraging reports do not always give a complete statewide picture. Some resources are not reported through leveraging or are underreported, and some resources, while addressing low-income households' energy needs, are not countable because they are not coordinated and integrated with the state LIHEAP, a requirement under the leveraging program rules. As a result, the database cites a state's LIHEAP leveraging report when it is the only information available. Where more complete totals are available, they are included in place of reported leveraging totals.

4. In some cases, resource totals are what utilities have committed to spend, the resource is estimated based on previous years' reported expenditures, or it is prorated based on a partial year. As a result, year-end totals may differ from the database estimates.

5. It should be noted that because a state has no monetary resources listed does not mean it has no energy safety net for low-income households. For example, many states prohibit disconnection of low-income, elderly or disabled households during extreme cold or heat. (For a summary of these prohibitions see "Seasonal Termination Protection Regulations." These and other costs associated with maintaining services to non-paying customers are often included in utilities' uncollectible write-offs.

It is advisable to follow links from the database to the LIHEAP Clearinghouse utility restructuring section where more complete information is presented on low-income energy programs under restructuring, which are constantly changing. For example, each state's programs under restructuring legislation or regulatory orders are summarized, including programs authorized but not yet funded.

Page Last Updated: August 29, 2006

http://www.liheap.ncat.org/Supplements/2005/supintro.htm

Last viewed December 18, 2006