Low-Income Energy Network

Sent by Electronic Mail and RESS Filing

November 10, 2014

Attention: Kirsten Walli, Board Secretary

Ontario Energy Board
2300 Yonge Street
Suite 2700
Toronto, ON M4P 1E4

Dear Ms Walli:

Re: Low-Income Energy Network Comments Board File No.: EB-2014-0227 – Development of an Ongoing, Ratepayer Funded, Electricity Bill Assistance Program

Enclosed please find LIEN's comments on Development of an Ongoing, Ratepayer Funded, Electricity Bill Assistance Program.

Sincerely,
Low-Income Energy Network
Per:

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Encl.

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Supplemental Comments to Ontario Energy Board
Regarding
Stakeholder Consultation: Ontario Electricity Support Program (OESP)

Submitted by:
Low-Income Energy Network (LIEN) / Advocacy Centre for Tenants Ontario (ACTO)

November 10, 2014

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1. The administrative costs of a percentage of income-based fixed credit program are not unreasonable.

The administrative costs of a percentage of income-based fixed credit program, such as has been proposed by LIEN/ACTO are not unreasonable. In its program cost estimate, LIEN/ACTO projected administrative costs to be 12% of total program bill credits. This estimate provides $4.2 million in administrative costs for a $35.4 million program. Even if administrative costs were increased to 15%, however, the difference would be minimal. Increasing administrative costs to 15% would increase the total administrative budget to $5.3 million.[1] Increasing administrative costs from 12% to 15%, holding all else equal, would increase the cost recovery for a typical residential customer from $3.10 per year ($0.26 per month) to $3.18 per year ($0.27 per month).

A 15% provision for administrative costs, however, should not be needed to operate the program proposed by LIEN/ACTO. The Pennsylvania Public Utility Commission's ("PUC") Bureau of Consumer Services ("BCS") publishes an annual report on universal service and collections performance. The BCS annual report includes data on total costs for the ratepayer-funded Customer Assistance Programs ("CAP") operated by Pennsylvania utilities. Nearly all Pennsylvania utilities operate a percentage of income-based program such as has been proposed by LIEN/ACTO for Ontario.

The Table below sets forth the administrative costs as a percentage of total program costs for Pennsylvania's electric utilities. As can be seen, the administrative costs for ***each*** program are ***below*** the 12% provision allowed by LIEN/ACTO's cost estimate. Even the First Energy Companies (Met Ed, Penelec, Penn Power, West Penn Power[2]) have now controlled their program administrative costs.

[1] Each one percent of administrative costs is equal to roughly $354,000.
[2] Allegheny became West Penn Power in 2011.

Administrative Costs as Percent of Total Program Costs:
Pennsylvania Customer Assistance Programs (CAPs) (electric)

Company	2010	2011	2012	2013
Allegheny	17%	xxx	xxx	xxx
Duquesne	14%	14%	7%	8%
GPU (Met Ed 2003)	19%	16%	5%	10%
PECO-Electric	14%	12%	3%	3%
Penelec (2003+)	18%	15%	6%	11%
Penn Power	21%	17%	5%	11%
PPL	23%	28%	5%	4%
West Penn Power (2011+)	xxx	18%	8%	5%

In addition to these Pennsylvania utilities, Appendix C to these comments (discussed further below) is the Direct Testimony of Public Service Company of Colorado ("PSCO") witness David Wolaver, when PSCO presented its percentage of income-based fixed credit program to the Public Utilities Commission of Colorado. Note that PSCO reported an administrative cost of 5.77% of total program costs (Wolaver Exhibit DAW-4).[3]

There is no reason that Ontario's electric utilities should have particularly high administrative costs in operating the percentage of income-based fixed credit program as proposed by LIEN/ACTO.

2. The Minister of Energy has required a program that "meets the needs of low-income electricity consumers."

The April 23, 2014 Minister of Energy letter to the Ontario Energy Board requested that the Board apply its expertise to develop a low-income program that "*meets the needs of low-income electricity consumers* while balancing the need for just and reasonable distribution rates." (April 23, 2014 letter, at page 2) (emphasis added). Indeed, the Minister of Energy directed the Board to include, as part of its report, "identification of low-income consumers *and their needs*. . ." (April 23, 2014 letter, at para. 3(a)) (emphasis added).

Pursuant to the Minister's letter, in other words, the program options described by OEB must not only identify low-income needs, but must *meet* those needs. In response to the Minister's request for information on low-income needs, LIEN/ACTO presented substantial information (see, Appendix B, response to Question 16).

[3] A second important aspect of Mr. Wolaver's Direct Testimony is presented in his Exhibit DAW-7 ("low-income impacts on non-participants"). Note that PSCO reports a "maximum cost per month" of $0.315, clearly in line with the cost estimate presented for Ontario by LIEN/ACTO ($0.26/month).

A program option, such as the 10% across-the-board discount as was proposed by some Ontario utilities, does not fulfill the language of the Minister's letter in that it does not "meet the needs of low-income electricity consumers." Moreover, a program option such as the 10% across-the-board discount as was proposed by some Ontario utilities, does not fulfill the language of the Minister's letter in that such an option does not create an opportunity for program expense offsets such as those that have been identified by LIEN/ACTO.

LIEN/ACTO have identified the following specific needs of low-income consumers:

- The need for affordable current bills.

- The need to address pre-existing arrearages.[4]

In addition, LIEN/ACTO recognized the need for emergency crisis assistance. Such crisis assistance is, however, insufficient as a stand-alone program, both in concept and in practice. In practice, a stand-alone crisis program cannot reach all households facing payment troubles. In addition, such a program (if done on a stand-alone basis) is conceptually flawed in that it waits for households to reach a crisis situation before addressing the problem. Just as one would not do that with health care, one should not do that with utility payment difficulties. It is less expensive to prevent the problem than to try to remedy the problem through crisis intervention. The crisis intervention program currently existing in Ontario should continue as a complement to the proposed percentage of income-based fixed credit program.

Finally, LIEN/ACTO recognized the need for a low-income conservation and demand management (CDM) program to complement the affordability program. Appropriate CDM programs can be beneficially tied to the affordability program in two ways: (1) targeting very high use customers; and (2) targeting very low-income customers. In each of these ways, the targeted CDM program will generate not only the energy benefits arising from ***any*** CDM program, but also will reduce the overall costs of the affordability program. Every dollar of bill reduction flowing from a low-income CDM program will be one less dollar of program cost incurred by the affordability program. Targeting very high use, and very low-income, program participants is the way in which to target affordability program participants with the greatest potential for program cost reductions.[5]

[4] It makes no difference if ***current*** bills are made affordable if ***total*** bills remain ***un***affordable because of payment responsibility for past-due bills.

[5] LIEN/ACTO addressed the complementary relationship between CDM programs and an affordability program in its responses to the Minister of Energy's questions (see, Responses to Questions 12, 13 and 15, in Appendix B).

3. The Minister required that the low-income program "balanc(e) the need for just and reasonable distribution rates."

The percentage of income-based (POI) fixed credit program proposed by LIEN/ACTO meets the needs of low-income customers while balancing the need for just and reasonable distribution rates, the only proposal submitted to the OEB that meets both tests set forth in the Minister's letter. The fact that the LIEN/ACTO program design "meets the needs of low-income customers" has been addressed in other filings by LIEN/ACTO. The fact that the LIEN/ACTO proposal also "balances the need for just and reasonable distribution rates" is addressed below. Indeed, the percentage of income-based fixed credit program proposed by LIEN/ACTO is the *only* proposal that has been advanced that meets both of the Minister's explicit guidelines: (1) to meet the needs of low-income electricity consumers; *and* (2) to balance the need for just and reasonable distribution rates.

Just and reasonable distribution rates: The percentage of income-based fixed credit program proposed by LIEN/ACTO results in just and reasonable distribution rates. As LIEN/ACTO have demonstrated, the total cost of a program directed toward households with income at or below 100% of LICO would be $39.961 million. Using a volumetric rate recovery would result in an annual program cost of $3.10 for the typical residential customer, or 26¢ ($0.26) a month. Using a volumetric rate recovery would result in a program cost of $0.00034/kWh (or substantially *less* than one-half of one mil per kWh).

One aspect of program analysis requested by the Minister was an assessment of "options for scaling costs up or down." LIEN/ACTO has provided those options. As LIEN/ACTO has acknowledged, "affordability" is a "range, not a point." While LIEN/ACTO has proposed an affordable percentage of income payment of six percent (6%) (mirroring New Jersey, Illinois, Colorado in this regard), program options that might scale the cost of the program "down" include (but are not limited to):

- Changing the percentage of income burden. An increase in the burden to 7%, for example, would result in a program cost of $35.235 million ($2.73/year; $0.23/month to a typical residential customer).

- Increasing the period of years over which pre-program arrearages are forgiveness. An increase from a three-year program to a four-year program, for example, would result in a program cost of $39.266 million ($3.05/year; $0.25/month to a typical residential customer).

Scaling program costs "up" would be more difficult. Increasing the income eligibility does not result in a substantial increase in program costs. While increasing the income eligibility would

increase the participant population, the "new" participants would have incomes sufficiently high that they would qualify for $0 in benefits (i.e., their "affordable" bill would be ***more*** than their actual bill). If one were to scale the program "up," the best way to do this would be to modify the allocation of the 6% of income payment between heating and non-heating. The LIEN/ACTO proposal is to have non-heating customers pay 4% of income, while having heating customers pay the full 6% (in effect, allowing 2% of income for non-electric space heating fuels). If one were to change that split to 3%/3%, the total cost of the program would increase significantly (to an annual cost of $64.658 million) ($5.02/year; $0.42/month to a typical residential customer). LIEN/ACTO does ***not*** recommend such a modification. Rather, the 4%/2% split for electric base load consumption and non-electric heating is appropriate.[6]

Cost-effectiveness (Indiana): In addition to the just and reasonable rate impact that the LIEN/ACTO proposal imposes with which to begin, the LIEN/ACTO proposal balances the need for just and reasonable distribution rates by demonstrating that its proposal is "cost-effective."[7] The analysis of cost-effectiveness considers the costs of collecting the revenue deficit occurring with and without the rate affordability program. The analysis thus takes into account both of the following factors: (1) the effectiveness of the programs in generating payments; and (2) the impact of the programs on the productivity of the collection effort needed. If the rate affordability program is less effective at collecting revenue, the "revenue deficit" increases as does the total cost. In addition, if the rate affordability program is less productive at collecting revenue, the number of "needed collection activity months" will increase as does the total cost.

Through the use of this Effectiveness/Productivity Analysis, the Minister (and the OEB) can determine the impacts on nonparticipating ratepayers. The Table below shows the positive financial benefits generated by a low-income program such as has been proposed by LIEN/ACTO in two ways. On the one hand, the Table shows the positive financial benefits attributed to the increased collection productivity.

[6] In January 2014, the Minister of Energy submitted a set of questions to LIEN/ACTO regarding its proposed percentage of income-based fixed credit program. Question #4 concerned the percentage split between space heating and baseload electricity usage. The full set of LIEN/ACTO responses to the Minister's questions, with attachments omitted, are attached to these comments as Appendix B.

[7] ". . .many opponents of [cost-benefit analysis], defined as a procedure that seeks to monetize benefits, do not oppose cost effectiveness analysis. . .Cost effectiveness analysis evaluates the costs of different means of achieving a pre-determined goal." Driesen (2005). *Is Cost-Benefit Analysis Neutral,* Syracuse University College of Law. A significant body of literature exists distinguishing a "cost-effectiveness" analysis from a cost-benefit analysis. See generally, Stewart, A New Generation of Environmental Regulation, 29 *Cap.U.L.Rev.* 21, 41 (contrasting cost effectiveness analysis with cost-benefit analysis); Hahn et al., Empirical Analysis: Assessing Regulatory Impact Analysis: The Failure of Agencies to Comply with Executive Order 12866, 23 *Harv.J.L. & Pub.Pol'y* 859, 872-74 (2000) (cost effectiveness analysis does not involve monetization of benefits); Anderson et al, Regulatory Improvement Legislation: Risk Assessment, Cost-Benefit Analysis, and Judicial Review, 11 *Duke Ent'l L. & Pol.* 89, 93 (2000 – 2001) (cost effectiveness analysis is used instead of cost-benefit analysis for many applications in public health and medicine); Posner, Transfer Regulations and Cost-Effectiveness Analysis, 53 *Duke L.J.* 1067, 1069 (2003) (cost effectiveness analysis compares different means of achieving the same regulatory end).

- On the initial revenue collection, the Company spent only $29,986 to collect the $215,897 with the low-income program, while spending $33,432 to collect $194,577 without the low-income program. Without the low-income program, in other words, the Company spent more to collect less.

- On the deficit revenue collection, the Company spent $10,796 less to collect the $57,730 "deficit" than it did to collect the $109,495 "deficit."

Clearly, the rate affordability program presents the more productive and lesser cost approach to collecting low-income revenue.

Effectiveness/Productivity Cost-Benefit Ratio
for CGCU Rate Affordability Program (RAP)

	Billed Revenue	Collected Revenue	Payment per Collection Activity Month	Needed Collection Activity Months	Cost per Collection Activity Month /a/	Total Cost
CGCU Initial Collections						
With RAP	$273,627	$215,897	$360	599.7	$50	$29,986
No RAP	$304,072	$194,577	$291	668.6	$50	$33,432
Sub-total benefit		$21,320				$3,447

	Billed Revenue	Collected Revenue	Revenue Deficit	Payment Per Collection Activity Month	Needed Collection Activity Months	Cost per Collection Activity Month /a/	Total Costs
CGCU Deficit Collections							
With RAP	$273,627	$215,897	$57,730	$360	160.4	$50	$8,018
No RAP	$304,072	$194,577	$109,495	$291	376.3	$50	$18,814
Sub-total reduced collection costs							$10,796
Total benefit from reduced collection costs (sum sub-totals)							$14,242
Total benefit from reduced costs plus increased collections /b/							$35,562

NOTES:

/a/ It does not matter what this cost is given that it is a constant.
/b/ The "adjusted benefit" sums the gain or loss in collections due to the increased/decreased collections percentage on the original billed revenue.

Finally, the "adjusted benefit" in the Table above further accounts for the gain or loss in revenue from the base billing. Had the original discount resulted in a revenue loss, this loss would be used as an offset to the collections gain. The decreased billing through the rate affordability program, however, in fact, resulted in both an absolute (and percentage) *increase* in collected revenue. That increased revenue further increases the positive financial benefit to CGCU.

As can be seen, the business case to the utility arises through two different benefits:

- On the original billing, the utility offering a rate affordability program can be expected to collect both a higher proportion and a higher absolute dollar amount, while spending fewer dollars on the process of collection.

- On the deficit between the billing and initial collections, the utility can also be expected to spend fewer dollars on the process of collection to eliminate the deficit.[8]

The ultimate conclusion is that a low-income program can be justified through a business case analysis. The low-income programs that have been implemented in other jurisdictions have found that the result is both an improved effectiveness in collecting revenue, and an improved productivity in collecting revenue (both on an individual collection activity basis and an aggregate collection activity basis).

Appendix A to these comments documents the benefits through the GCGU low-income program.

4. A close connection with low-income conservation and demand management programs should occur, but participation should not be mandatory.

A discussion of the close connection that should occur between the rate affordability program and the conservation and demand management programs of Ontario utilities is presented bellow (Appendix B, questions 12, 13 and 15). In addition, the testimony of Public Service Company of Colorado ("PSCO") witness David Wolaver, upon the submission of PSCO's application for approval of its low-income percentage of income-based fixed credit program, explains the connection that utility developed between its CDM and rate affordability programs. Mr. Wolaver's Colorado testimony is attached to these comments as Appendix C.

LIEN/ACTO strongly believes, however, that participation in CDM programs should not be a "mandatory" prerequisite to participation in the proposed rate affordability program. Several compelling reasons counsel that participation should not be mandatory.

- CDM budgets would never be sufficient to offer services to all low-income affordability participants. Making CDM participation mandatory prerequisite would, in other words, simply be an artificial limitation on rate affordability program participation.

[8] The utility receives further benefit through the collection of additional revenue from program non-participants because of the ability of the utility to redeploy the resources freed-up by the increased productivity of low-income collections.

- Too many reasons exist for a low-income customer not to participate in a CDM program. The customer may be a tenant and not have dominion control (i.e., decisionmaking authority) over household energy consuming systems (whether it be space heating, water heating, or even refrigerators); the customer may live in a home that has housing quality problems (e.g., needed roof repairs) that would make energy efficiency investments inappropriate; the customer may live in a multi-family building where the energy consuming system is a central system (e.g., central space heating, central water heating) rather than a system serving the customer's own individual units.

- The very fact of the customer's poverty may impede his/her ability to participate in a CDM program. Unless the offered CDM investment represents 100% of the cost of installation, low-income customers frequently (if not generally) do not have sufficient discretionary resources to invest in CDM measures, even if those measures are "cost-effective."

Aside from participation barriers from the perspective of the customer, to impose a requirement that rate affordability participants participate in CDM programs would impose an impossible burden on the entities supplying the CDM services. It would be inappropriate to "require," as a rat affordability program participation prerequisite, customers to accept services that the program is not capable of providing in a timely fashion.

Program participants with high consumption, and/or high bill credits, should be targeted for treatment by CDM programs. But, CDM program participation should not be made a mandatory prerequisite to rate affordability program participation.

5. A "cost-effective" program does not mean that program cost reductions exceed program costs.

The Minister's directive to the Ontario Energy Board does not anticipate a program that imposes no net costs on Ontario utilities. The Minister's April 23, 2014 letter clearly indicates that the report of the Ontario Energy Board should address, amongst other things the "funding" of the program (para. 3). The Minister's letter states that the Board's report should address the "overall cost of the program, including Program benefits and administration, and options for scaling costs up or down." The Minister's letter finally directed that the Board's report should address "options for funding of the Program through electricity rates and details regarding anticipated. . . costs to ratepayers."[9]

Utility arguments that only such programs be implemented that have cost reductions that exceed program costs are in clear contravention of the Minister's directive.

[9] Footnote 7, supra, discusses the difference between a "cost-effectiveness" analysis and a "cost-benefit" analysis.

Increasing revenue through a low-income program: A third-party evaluation of the low-income affordability program operated by Public Service Company of Colorado found that the PSCO program, called "PEAP" ("Pilot Energy Assistance Program") increased revenue to the utility. The revenue neutrality of a low-income program examines the extent to which, if at all, a low-income rate affordability program generates the same dollars of revenues to the utility as would have been generated without the offer of discounted rates or bills. Revenue neutrality is based on the observation that it is better to collect 90% of a $70 bill ($63 revenue) than it is to collect 60% of a $90 bill ($54 revenue). Revenue neutrality occurs when a low-income program increases collected revenue sufficiently to offset any reduction in billing attributable to the program's bill discount.

Assessing whether PEAP results in revenue neutrality is determined by calculating whether the Company would have collected more or less revenue if non-participating customers would have been billed at the same discount and made payments that would equal the PEAP "customer payment coverage ratios" generated by program participants. Table 1 presents the results of this revenue neutrality calculation involving a comparison of the PEAP participant population (who participated for 21 -24 months) to two comparison groups: (1) the federal energy assistance (LEAP) population; and (2) the general residential population.

The LEAP and residential populations were further disaggregated based on their Month 1 arrearage levels to assess whether there would be a difference in the results if the comparison groups were broken down by prior payment history.[10]

[10] As noted previously, the "residential" population is *not* a non-low-income population. The residential population was randomly selected irrespective of whether someone received LEAP assistance. In contrast, the LEAP population excluded all customers who were or had participated in PEAP at any time.

Table 1. Cumulative Dollars of Revenue Excess/(Deficit) if LEAP/Residential Bills Collected at the PEAP Customer Payment Coverage Ratio and Discount Level for By Selected Months over 24-Month Study Period							
Population	Sep 09	Jan 10	May 10	Sep 10	Jan 11	May 11	Jul 11
LEAP (arrears = $0)	$24,441	$28,563	$48,546	$12,920	($124,490)	($145,548)	($151,525)
LEAP (arrears = $1 - $250)	($5,129)	($40,180)	$682	($41,075)	($134,006)	($148,060)	($154,442)
LEAP (arrears = $251+)	($15,889)	($44,789)	($2,773)	($57,652)	($131,161)	($143,873)	($156,769)
Residential (arrears = $0)	$28,421	$72,410	$144,961	$176,473	$245,652	$278,996	$284,189
Residential (arrears = $1 - $250)	$4,131	$72,267	$168,031	$177,312	$241,051	$269,277	$276,052
Residential (arrears = $251+)	($5,866)	$43,057	$118,912	$108,998	$144,825	$144,644	$145,720

As Table 1 indicates, the PEAP program generated revenue neutrality when PEAP participants were compared to other low-income customers, but not when compared to the residential population as a whole. Within the LEAP (i.e., low-income non-participant) comparison population, moving customers to the affordability program would have generated even more revenues for customers with higher pre-existing arrears than for customers with lower pre-existing arrears.

The lesson learned from Table 1 is that PEAP generates a sufficiently substantial improvement in payment coverage ratios for program participants relative to the low-income non-participant (i.e., LEAP) population to more than offset the discount provided. To the extent that the low-income customers have a prior history of non-payment, the revenue neutrality will be somewhat (but not substantially) greater. However, because the payment coverage ratios of the residential population as a whole are higher with which to begin, the revenue that is being "lost" to nonpayment in the absence of the discount is smaller, and the increase in payment coverage ratios is insufficiently large to offset the effects of the discount.

Reducing expenses through a low-income affordability program: The Colorado program evaluation also found that the low-income affordability program increased the relative efficiency and effectiveness of collection activities for the PEAP customer population. The evaluation examined the costs that the Company would have incurred for the PEAP participant population, as well as for the low-income non-participant population in the absence of the rate affordability program. This was done by comparing the incremental costs to generate the customer payments received from the comparison low-income non-participant population had those payments been generated at the same efficiency as the PEAP payment were.

The calculation is based on a simple three-step process:

1. To calculate the cost of the collection activity given the efficiency and effectiveness of the PEAP population's collection activities;

2. To calculate the cost of the collection activity given the efficiency and effectiveness of the alternative non-participant comparison population; and

3. To compare the two resulting cost figures.

This comparison resolves the problems that face a traditional benefit/cost analysis, both conceptually and in-practice. Most importantly, this comparison resolves the conceptual problems that reside in a traditional benefit/cost analysis and make such an analysis inappropriate to use in assessing the "cost-effectiveness" of a low-income rate affordability program. Two such problems are addressed. First, this analysis does not ask whether the low-income program is "cost-effective" in the abstract. Rather, it asks whether the low-income program is cost-effective relative to the available alternatives. Second, this analysis does not ask whether the low-income program is "cost-effective" irrespective of outcome-based performance. Instead, the calculation determines cost-effectiveness after normalizing for performance.[11]

The expense comparison for the participant ("PEAP") and non-participant ("LEAP") populations is set forth in Table 2 below. As the Table shows, given the difference in collection activity between the low-income non-participant population (LEAP) and the low-income participant population (PEAP), the low-income program resulted in substantial cost savings. These Colorado results are consistent with the Indiana results previously discussed.

[11] For example, if Activity A costs $40 to collect $100 and Activity B costs $30 to collect $200, it would clearly be incomplete and inappropriate to assert simply that Activity B "saves" $10 of cost. The two activities do not achieve the same outcome. The cost-savings must be normalized to reflect similar achievements.

Table 2. Relative Costs of Disconnection for Nonpayment (DNP) for LEAP and PEAP Populations			
	LEAP Population by Month 1 Arrears		
	Arrears = $0	Arrears = $1 - $250	Arrears = $251+
Dollars of payments (LEAP)	$1,662,038	$1,720,224	$1,337,655
Payments ($000) (LEAP)	$1,662	$1,720	$1,338
DNP notices per $1,000 pyts (LEAP)	6.9	6.8	5.4
Cost per DNP notice /a/	$1.50	$1.50	$1.50
Total cost	$17,202	$17,546	$10,835
	PEAP Population by LEAP Month 1 Arrears		
Dollars of payments	$1,662,038	$1,720,224	$1,337,655
Payments ($000) (LEAP)	$1,662	$1,720	$1,338
DNP notices per $1,000 pyts (PEAP)	2.3	2.3	2.3
Cost per DNP notice	$1.50	$1.50	$1.50
Total cost	$5,734	$5,934	$4,615
Cost increase/(Cost reduction)	($11,468)	($11,612)	($6,220)
Percent cost reduction under low-income program (PEAP)	67%	66%	57%
NOTES: /a/ Under this analysis, the actual cost becomes less important. If, for example, only a $0.50 "incremental" cost were used, while the absolute dollar savings would be less, the "percent savings" would remain identical.			

6. Suite metered tenants and access to OESP.

Currently, the LEAP Energy Financial Assistance (EFA) grant program is available to eligible low-income customers of utilities and unit sub-metering providers. LIEN believes the OESP should also be available to these same customers.

In its July 2012 report Apartment living is Green, the Federation of Rental-Housing Providers of Ontario (FRPO) estimated that rental suites in about 85% of high-rise rental buildings in the province were not individually metered for electricity consumption and direct billings to the tenant households. Instead, these buildings are bulk metered, with the landlord receiving the electricity bill and the tenants in the buildings paying for their in-suite electricity service in their monthly rent.

As of January 1, 2011, the Ontario government's new legislative and regulatory framework for the incremental installation of smart meters in the multi-residential rental sector came into effect. The Ontario government's updated 2013 Long-Term Energy Plan projects typical residential bills will increase on average by 2.8 per cent per year over the next 20 years. This is a strong financial incentive for landlords to move forward with suite metering of electricity service in their buildings – and for suite metering providers to step up their marketing to the sector - as they will decrease their direct exposure to an ever increasing cost in their annual operating budget.

Having electricity service included in the rent is a valuable term in a lease agreement. It means that:

- Tenants have vital services protections under the law that prohibit the landlord from disconnecting the electricity service to their apartment,
- Annual increases in tenants' total housing costs are predictable and governed by rent rules in the Residential Tenancies Act, and
- The impact of rising electricity costs on tenants is "smoothed out".

Ontario tenant households have less than half of the average and median incomes of homeowner households, and the percentage of renters in core housing need (housing affordability is the main reason for core housing need) is persistently well above that of homeowners.

LIEN is concerned that, as suite metering in the multi-residential rental sector expands, low-income tenants will be struggling to pay for their monthly rent and the separately-billed electricity service. It is essential that these vulnerable households are able to access the OESP. In particular, LIEN is concerned about the financial impact on tenants living in "grandfathered" rental buildings where the suite metering bill includes the electricity used for space heating in the rental unit and in buildings where landlord has contracted with an electricity retailer and the price for the commodity charged to suite metered tenants is higher than that charged by a regulated LDC.

Appendix A:
Increased Collections Efficiency and Effectiveness: Indiana

ASSESSING THE BUSINESS CASE FOR AFFORDABLE LOW-INCOME RATES

Assessing the business case for a low-income affordability program involves performing the following steps:

- Articulating the outcomes the program seeks to accomplish;
- Assessing the effectiveness of the program in achieving those outcomes;
- Assessing the productivity of the program in achieving those outcomes;
- Comparing the costs of the low-income program against the costs of alternatives that would achieve the same or comparable outcomes.

Each of these steps is examined in greater detail below.

Articulating the Objectives of a Low-Income Program

Articulating the objectives of a low-income program is a necessary first step in assessing the business case for a low-income rate affordability program. Without having first identified the business objectives it seeks to accomplish, a utility cannot hope to assess whether it is spending money wisely or unwisely. Identifying the program objectives helps a utility to determine up-front the extent to which it is committing resources in furtherance of some purpose.

For purposes here, the objectives of a low-income affordability program are limited to those objectives that are exclusively related to the utility as a utility. Without endorsing the notion that any social function is beyond the purview of ratepayer dollars –utilities certainly spend money on such "social" functions as workplace safety, environmental protection (including clean air and water), and workplace diversity—for the purposes of the instant analysis, the social function of providing affordable rates because of the social benefits generated by affordability (e.g., housing, public health and safety, nutrition, business competitiveness) is set aside for the moment.

Having done that, the business objectives of a low-income rate affordability program are two-fold:

- To provide an uninterrupted supply of the products and services the utility seeks to sell; and
- To collect the revenue from those sales in a full and timely fashion.

Effectiveness of an Affordability Program in Achieving Business Outcomes

A business case for a low-income program affordability program must consider the effectiveness of the program in accomplishing the articulated outcomes. No matter what level of cost is being incurred, by the program or by the alternatives against which the program is being compared, to the extent that the business objectives are not being accomplished, a "business case" cannot be

made for that activity.[12] With this in mind, assessing the business case of a low-income program first considers whether the identified desired outcomes are being accomplished.

The Effectiveness in Maintaining Uninterrupted Service

A low-income rate affordability program can be a more effective mechanism for providing an uninterrupted supply of the products and services which the utility seeks to sell than existing alternatives. For purposes of this analysis, the "interruption of sales" is measured by the involuntary disconnection of service for nonpayment.[13] In turn, the disconnection of service is measured in two ways: (1) the frequency of disconnections; and (2) the duration of disconnections.

The impact of a low-income affordability program on the disconnection of service was directly studied for the rate affordability programs offered by two Indiana utilities. The evaluation of Indiana's disconnections for nonpayment compared the disconnections without the program to the disconnections with the program. It further compared the rate of disconnections for program participants to the rate of disconnections for the residential customer base as a whole.[14]

The Indiana "Universal Service Program" (USP) was more effective in achieving the outcome of uninterrupted service than was the status quo (i.e., delivering undiscounted bills coupled with collection activity, payment plans, and the like). The empirical evaluation found:

- The USP succeeded in reducing the low-income shutoff rate to virtually the same level as the residential population as a whole. In the "high disconnect" months of April and May,[15] while Vectren Energy disconnected 13 accounts for each 1,000 residential accounts, the Company disconnected between nine (9) and 18 accounts within the low-income population.

- If one limits the comparison to accounts with arrears, the low-income program participants outperformed the residential population as a whole. While Vectren disconnected services for nonpayment to between 13 and 15 of each 100 residential accounts at least 60 days in arrears, the company disconnected service to between 10 and 11 accounts of each 100 low-income program participants who were at least 60 days in arrears.

[12] Consider the farmer who is assessing the "business case" for how to keep the grass in his back pasture short. He identifies three alternatives: (1) a push mower (with a low capital investment but high labor costs); (2) a power mower (with a high capital investment but low labor costs); and (3) a herd of sheep. The first question the farmer asks is *not* "what is the cost?" The first question must be: is the grass being kept short?

[13] A second way to measure service interruptions would involve an examination of "final bills." The level of final billed accounts is a more comprehensive metric in that it picks up the voluntary disconnection of service, including the voluntary disconnection associated with frequent mobility. See generally, Colton (1996). The Road Oft Taken: Forced Mobility and Childhood Education in Missouri, 2 *Journal on Children in Poverty* 23.

[14] Colton (2007). *An Outcome Evaluation of Indiana's Low-Income Rate Affordability Programs*, Citizens Gas and Coke Utility/Vectren Energy Delivery/Northern Indiana Public Service Company. See also, *An Outcome Evaluation of Indiana's Low-Income Rate Affordability Programs: 2008 – 2009 Program Year*, Citizens Gas and Coke Utility/Vectren Energy Delivery/Northern Indiana Public Service Company.

[15] Manitoba Hydro experiences these same high disconnect months.

The improved performance could be attributed to the rate affordability initiatives. In November 2006, the evaluation found, "it is evident that the households who would eventually become program participants were performing less well than the total population. This is true for all three metrics (DNPs[16] to total accounts; DNPs to accounts in arrears; DNPs to accounts 60+ days in arrears). It is not until after the Vectren program delivers its bill payment assistance during the winter months that the DNP performance begins to substantially improve." Low-income customers receiving payment assistance experienced a decrease in disconnections, while low-income customers not receiving such assistance continued to see an increase in the number of disconnections they experienced.

The performance of Indiana's rate affordability participants was far superior to the performance of low-income customers statewide in Indiana. The 2006 annual "Billing and Collections Report" reported that, statewide, a low-income account in Indiana receiving a shutoff notice was more likely to move to the actual disconnection of service than was a residential account in general. The rate affordability program reversed that result for program participants.

In addition to reducing the *frequency* of involuntary disconnections for nonpayment, the Indiana USP reduced the *duration* of disconnections as well. The Indiana evaluation found that "Vectren succeeded in lessening the duration of service disconnections for nonpayment when compared to the total residential customer base as a whole."[17] The evaluation reported that "low-income customers consistently outperformed the total residential customer base in having their service quickly reconnected. In no month did the reported proportion of short-term reconnections for low-income program participants fall below the proportion of residential customers generally."

The Effectiveness in Collecting Billed Revenue

In addition to the success in maintaining the uninterrupted supply of product, the Indiana rate affordability program generated positive outcomes regarding the collection of revenue as well. This positive outcome was measured in terms of whether the program generated revenue neutrality. Revenue neutrality examines the extent to which, if at all, a low-income rate affordability program generates the same dollars of revenues to the utility despite the offer of discounted rates or bills. Revenue neutrality occurs when the discounted rates or bills improve payment patterns sufficiently to offset any reduced billings through the offer of the rate discount.

Revenue neutrality for Indiana's rate affordability program was measured by comparing low-income program participants to customers known to be low-income but not participating in the rate affordability program. One impact of the rate affordability program was to significantly increase the rate at which low-income customers paid their Vectren bills. Customers that participated in the Vectren program paid 82% of their Vectren bill, compared to a payment of 50% for Vectren low-income non-participants.

The results of the Citizens Gas and Coke Utility (CGCU) rate affordability program, while not as substantial, nonetheless demonstrated the same outcome. While CGCU participants paid 79% of their current utility bill, non-participants paid only 64%. The Indiana evaluation found: "As can

[16] A "DNP" is "disconnect for nonpayment."
[17] 2007 Indiana Outcome Evaluation.

be seen, the [rate affordability program] was better than revenue neutral to Citizens Gas. While [program] participants were billed 90% of what nonparticipants were billed, they paid 111% of what nonparticipants paid."[18] Table 19 presents the results:

Table 19. Billings and Revenues Under CGCU Rate Affordability Program

Population	Billed Revenue	Collected Revenue ($s)	Collected Revenue (%)
Program participants	$273,627	$215,897	79%
Program non-participants	$304,072	$194,577	64%
Ratio: participant : nonparticipant	0.90	1.11	--

NOTES: Based on study sample.

As the Indiana evaluation found, had the low-income non-participants paid at the same rate as program participants did, they would have paid nearly $46,000 more than they actually paid (on a base billing of $304,000).

Similar results were found in the recent evaluation of the Xcel Pilot Energy Assistance Program (PEAP) operated by Xcel Energy in Colorado. The PEAP evaluation found that program participants paid 67% of their current bills, compared to PEAP non-participant payments of 51%. According to the PEAP evaluation, rather than collecting $533,684 from customers if they had not participated in PEAP, Xcel Energy collected $701,278 from customers enrolled in PEAP, a gain of $167,469 attributable to the program.[19]

Productivity of an Affordability Program in Achieving Business Outcomes

In addition to assessing the effectiveness of a low-income program in accomplishing desired business outcomes (relative to the alternatives), it is necessary to judge the productivity of the program (i.e., the efficient use of company resources) in accomplishing the desired outcomes. Assessing productivity supplements the assessment of "effectiveness" from two different perspectives.

Addressing the productivity of utility efforts helps the utility assess whether there is a proper match between the tool being employed and the type of payment problem that is sought to be remedied. On the one hand, in other words, evaluating the productivity of the program (relative to its alternatives) helps to identify when inappropriately extensive tools are being employed by the utility. An involuntary disconnection of service, for example, is not a collection tool that addresses temporary inability-to-pay. The bill would be paid whether or not the disconnection was employed. In these circumstances, the disconnection serves no business purpose. It is not "productive," in that it generates no additional revenue.

[18] 2007 Indiana Outcome Evaluation.
[19] Colton (2010). *Interim Report on Xcel Energy's Pilot Energy Assistance Program (PEAP): 2010 Interim Evaluation*, Xcel Energy: Denver (CO).

On the other hand, evaluating productivity will help the company evaluate whether it is using a tool that is insufficient given the types of problem extent on the utility's system. Considering productivity, in other words, helps identify when tools are being employed that have no hope for success. A deferred payment plan, for example, is not a tool that addresses chronic inability-to-pay. If a customer could not pay his or her full bill in the past because of a lack of money, it lacks good sense to use a tool that would require that customer to pay the full bill ***plus*** some increment to retire arrears in the future. In these circumstances, the tool is likely to be unsuccessful. It is not "productive," in that it generates no additional revenue.

Productivity implies not only some absolute level of output (i.e., "effectiveness") but some level of output given a designated level of input as well.[20] In order to evaluate productivity, both the input and the output data are needed.

Enhanced Productivity of Individual Collection Activities

The use of a rate affordability program helped the Indiana utilities discussed above to enhance the productivity of their collection efforts. Vectren Energy's rate affordability program, for example, allowed that company to move to an increased reliance on payment plans as a collection device for its low-income program participants rather than relying on the disconnection of service for nonpayment when low-income customers falls into arrears. Table 20 shows that that while the payment plan-to-disconnect ratios are similar for all customers and for low-income customers in the early study months, as the company implemented its rate affordability program, it consistently moved to a greater reliance on payment plans rather than on service disconnections to respond to low-income arrears. In the pre-winter month of November, the ratios of payment plans to service disconnections for nonpayment were virtually identical.[21] The data is disaggregated by the three "tiers" of the rate affordability program (called USP, "Universal Service Program").[22]

- In April, while USP3 customers have 11.1 payment plans for each disconnection for nonpayment, the residential customer base as a whole had only 2.7 payment plans;

- In May, while USP1 customers had 6.9 payment plans for each disconnection, the residential customer base as a whole had only 1.6 payment plans.

[20] If one were to compare the effectiveness of two district offices in collecting bills, the absolute amount of revenue collected would not be the exclusive performance factor to use in the comparison. Even assuming that both offices faced identical numbers of payment-troubled customers with identical payment problems, it would be invalid to say *ipso facto* that one office was more "productive" if it collected 10% more revenue. If the office which collects more had twice the staff, but collected only 10% more revenue, the revenue collection per staff member would be much lower. If the office that collected more had a substantially greater investment in equipment (e.g., auto-dialers), but collected only 10% more revenue, the revenue collection per dollar of capital investment would be much lower.

[21] The Table presents ratios. A ratio of 1.0 means that for every disconnection of service for nonpayment, there is an account on a deferred payment plan. If there were 100 disconnections for nonpayment, in other words, there were also 100 accounts on payment plans. A ratio of 3.0 means that for every one account subject to disconnection, there were three accounts on a deferred payment plan.

[22] The Tiered Rate Discount has three tiers to the Discount. "USP1" includes the low-income program participants in the highest income tier; "USP3" includes the low-income customers in the lowest income tier. "USP" represents Universal Service Program, the name of the Tiered Rate Discount.

Table 20. Ratio of Deferred Payment Arrangements to Disconnections for Nonpayment: Pre- and Post-Winter Heating Season: 2006/2007 (Vectren) /a/

	Nov 2006	April 2007	May 2007
All residential	3.1	2.7	1.6
USP 1	4.4	9.1	7.7
USP 2	3.7	12.1	8.2
USP 3	2.8	11.1	6.0

NOTES:

/a/ Winter months not considered given Indiana's winter shutoff moratorium.

The ability to treat the arrears of its low-income customers in a less intensive fashion is also evident from an examination of the ratio of field collections to the number of other collection activities. Table 21 presents data on the ratio of field collection activities to mail collection activities. If the ratio is 1.0, there is one field collection activity for every 100 mail collection activities. If the ratio is 3.0, there are three field collection activities for every 100 mail collection activities. A higher ratio evidences a greater reliance on the more intensive (and more expensive) field collection activities.

Table 21. Ratio of Field Collection Activities to 100 Mail Collection Activities: Pre- and Post-Winter Heating Season: 2006/2007 (Vectren) /a/

	Nov 2006	April 2007	May 2007
All residential	4.7	6.7	10.0
USP 1	5.3	3.1	3.8
USP 2	7.8	2.4	2.9
USP 3	8.9	2.7	4.2

NOTES:

/a/ Winter months not considered given Indiana's winter shutoff moratorium.

The Vectren rate affordability program allowed it to move to a less intensive collection activity directed toward its low-income customers when compared to its residential customer base as a whole. In the pre-winter/pre-program month of November, the ratio of field collection activities per 100 mail collection activities was similar between the low-income population and the residential population as a whole. If anything, the intensity of collection effort was greater for a significant portion of the low-income population (USP2 and USP3), with noticeably more field collection activities per 100 mail collection activities than for the residential customer base as a whole.

After operating its rate affordability program, however, Vectren could collect its low-income revenue with less intensive collection activities. Contrary to the pre-program results, after the company implemented its rate affordability program for low-income customers, the company was

exerting between two and three times more field collection activities (per 100 mail collection activities) for its residential customer base as a whole than it was for its low-income population.[23]

Enhanced Productivity of Aggregate Collection Activities

In addition to considering the impact of a low-income affordability program on individual collection activities, a productivity analysis should look at the overall collection effort as well. The level of collection effort is an important constraint on any evaluation of revenue collection. Two groups of customers, each of which have paid 80% of their bills for current usage, present substantially different pictures of cost and risk to the utility if one group makes payments with little or no collection effort while the other makes the same dollar payment, but only after the utility exerts considerable collection interventions directed toward the customers.

Improvements in the productivity of collection activities can occur in either of two ways:

- The need for collection interventions can be reduced thus allowing an increased payment per each collection intervention performed; in the first instance, improvement can be seen even if total dollars collected remains the same (but the interventions needed to generate those dollars decreases); or

- The customer response to the collection activity can improve thus allowing an increased payment per each collection intervention performed. In this second instance, improvement can be seen if the total number of collections activities remains the same but the dollars generated by those activities increase.[24]

In essence, this evaluation process considers the effectiveness and efficiency of collection activities from two different but related perspectives. On the one hand, it examines how much revenue is generated by each collection intervention. On the other hand, it examines how many collection activities are associated with the generation of the revenue.

In the discussion below, the effectiveness of collection activities directed toward participants in the Indiana rate affordability program is measured by reference to the average payment per collection activity month.[25] The Indiana utilities exhibited the ability to generate greater payment advantage for its longer-term USP participants. In eleven of the seventeen study months, customers who had participated in USP for both 2007 and 2008 paid more per collection month than did customers who began their USP participation in 2008. This payment productivity increased as the length of participation in the rate affordability program increased. An increase in the average payment per collection month occurs for one or both of two reasons: (1) the

[23] These results are consistent with the "theory" of a low-income program. A low-income program will not likely result in an absolute decrease in the number of collection activities. Instead, a low-income program allows a utility to switch its commitment of collection resources away from low-income customers, where the collection activity is not likely to be effective, to non-low-income customers where the activity is more likely to have a positive effect on revenue collection.

[24] Productivity is measured by the ratio: DC / CE, where "DC" = dollars collected; and "CE" = collection effort. In the first illustration, "CE" (the denominator) is reduced. In the second illustration, "DC" (the numerator) is increased.

[25] A "collection activity month" is a month in which any level of collection activity occurs.

payments made in response to collection activity increases; and/or (2) the number of payments made without need of any collection activity increases. The cumulative average payment of the CGCU USP participant by the end of the study period was $366, compared to $291 for the nonparticipant.

Appendix B:
Responses to Minister of Energy Program Questions to LIEN/ACTO

1. **The consultant writes, "The 40% participation rate figure is based on my experience with numerous low-income programs." It would be helpful to know which low-income programs he is referring to and explain in greater detail as to why he chose this particular figure.**

Response:

Several factors limit the participation of low-income households in a percentage of income program (PIP) such as that which LIEN has proposed for Ontario. Not all households that are income-eligible, for example, will be eligible to receive program benefits. Under the LIEN program, which sets an affordable burden at 6% of income, some proportion of households will have actual energy burdens that are *less than* 6%, even without program assistance.

- In New Jersey, for example, which also uses a 6% burden to determine program benefits, while 646,192 households were income-eligible, only 360,935 households (56%) were eligible to receive benefits (by having a burden exceeding 6% of income). In New Jersey, the actual participation of 176,707 households was only 27% of the income-eligible population.

- Ohio's PIP presents a similar pattern. Ohio had 952,150 households income-eligible for its PIP, yet only 47% (445,509) had gas and electric burdens that were sufficiently high to qualify for Ohio's percentage of income benefits. The Ohio program served 209,960 participants, 22% of the total income-eligible population and 47% of the total population that would qualify to receive PIP benefits.

Even Maryland, which does *not* set a percentage of income threshold as a limit on receiving program benefits, experiences a reasonably low participation. Maryland's 83,853 participants are to be compared to its 286,187 income-eligible population (a participation rate of 29%). Maryland's program, however, provides only electric (and not natural gas) benefits, and thus may correspondingly generate a lower participation rate.

The 40% figure used for Ontario is based on Pennsylvania data. The Pennsylvania public utility commission (PUC) has adopted a low-income rate affordability program for both electric and natural gas utilities. The program is called the Customer Assistance Program (CAP). On an annual basis, the Pennsylvania utilities report their CAP participation, along with the number of "confirmed low-income customers" in their service territory. In 2011, the most recent year for which data is available,

- Pennsylvania's natural gas utilities had 460,425 confirmed low-income customers and 181,986 CAP participants, a participation rate of 39.5%.

- Pennsylvania's electric utilities had 583,581 confirmed low-income customers and 311,000 CAP participants, a participation rate of 53%. Two of Pennsylvania's electric

utilities, however, use the very fact of program participation as the means of "confirming" low-income status,[26] thus artificially escalating their participation rate. Excluding those two utilities, the electric participation rate reflects the natural gas industry's (39%).

2. In the model, one of the assumptions is that program participants are four months behind on the payment of their bill. It would be helpful to know why the consultant chose four months. He says this is the case in other jurisdictions. Which jurisdictions are these?

Response:

In Pennsylvania, it is possible to divide the average arrears (not on agreement) for confirmed low-income customers by the average monthly bill for those low-income customers to determine the extent to which low-income customers are "behind" on their bills. In Pennsylvania:

- Pennsylvania low-income electric customers were 4.2 "bills behind."
- Pennsylvania low-income natural gas customers were 3.7 "bills behind."

Other states have reported similar data. Public Service Company of Colorado (PSCO) operated what it called its Pilot Energy Assistance Program (PEAP, a percentage of income program). The combined gas/electric pre-program arrears for customers who had been program participants for between seven and 20 months shows the "bills-behind" absent any temporary seasonality. The "bills-behind" (based on pre-program arrears at the time of enrollment) for participants in the program for seven (7) to twelve (12) months was 3.7. The "bills-behind' (based on pre-program arrears at the time of enrollment) for participants in the program for 13 to 20 months was 3.9. The "bills-behind" may vary somewhat above or below these on a seasonal basis, but on an annual basis, a four month bills-behind is a reasonable assumption.

3. How did the consultant decide to choose the number $50 for the maximum credit ($70 per month on electrically heated households)?

Response:

The $50 maximum monthly credit was policy driven, not empirically driven. The maximum credit has no impact on average. The spreadsheet indicates that the "actual bill" (Column B) minus the "affordable bill" (Column I) yields a "per-household program cost" (Column L) less than the maximum credit.

Care must be taken with the maximum credit, however. If the maximum monthly credit is set too low, on an individual basis, unintended difficulties may be created. By definition, these

[26] These utilities, in other words, confirm that someone is "low-income" by whether the household participates in their respective CAP. To use these utilities in a comparison of CAP participation to the total confirmed low-income population would be the ultimate in circular reasoning.

unintended difficulties will disproportionately flow to those households with the lowest incomes. Since the affordable bill will decrease as income decreases, the per-household program cost will increase, even holding consumption constant. A maximum credit should be used to control the extreme outliers in consumption, not as a regressive cost control mechanism the burden of which falls disproportionately on the lowest income.

Setting the maximum monthly credit at $50 assumes that program participants receive their bills on a levelized "budget billing" basis. If monthly bills are not levelized, the maximum credit should be implemented on an annualized basis. Otherwise, a program participant might "lose" benefit in high cost winter months (e.g., an affordable bill of $80 applied against a monthly bill of $200, which would exceed the monthly maximum credit), even though in low cost months the affordable bill of $80 might be applied against a monthly bill of $20, thus yielding a monthly credit of $0.

4. **The consultant assumes that electricity base load bills are a higher proportion of total home energy bills. But why does the model divide the total percentage of income 60/40 between base load and space-heating? Could the consultant provide further details on his definition of base load and space heating?**

Response:

"Space heating" and "base load" are not defined in what perhaps is considered to be the "typical" sense. Space heating is used as the categorization when electricity is used as the primary space heating fuel. Within that categorization, however, no distinction is made between end-uses (e.g., cooking, hot water, etc.). "Base load" refers to electricity when electricity is not used as the primary space heating fuel. The cover terms "space heating" and "base load," in other words, are used for convenience of expression to cover "when electricity is used as primary space heating fuel" ("space heating") and "when fuel other than electricity is used for primary space heating" ("base load").

Several considerations go into dividing the total percentage of income 60/40 between base load and space-heating. Note, of course, that space-heating standing alone is not used in the model. When electricity is the primary space heating fuel, a household would pay the entire 6% affordable burden toward that electricity bill (on the assumption that the home is more often than not going to be an all-electric home). When a fuel other than electricity is used as the primary space heating fuel, nonetheless, the household will pay 4% of income toward the electricity usage since experience counsels that electric baseload bills will represent a larger proportion of the total bill than the space heating bill will represent.

Even though the 60/40 "principle" is articulated, note that the actual percentage of income burdens used are rounded to the nearest whole percentage. As a result, while 60% of an affordable 6% burden would be 3.6%, the actual burdens employed in the LIEN spreadsheet have been rounded to 4%. This rounding has been utilized to simplify the explanation of the affordable percentage to program participants. Program payment responsibilities rounded to a

whole percent (4% rather than 3.6%) presents a simpler program design to explain to customers. Finally, rounding the affordable percentage to the nearest whole percentage takes away any appearance of false precision. As LIEN has indicated, "affordability" is a range, not a point. Setting an "affordable" bill to the tenth of a percentage of income would falsely convey an implicit message that affordability is being measured more precisely than the concept merits (for example, 3.6% is affordable while 3.7% is not).

5. **The model assumes the start-up costs are equal to 5% of benefit costs, which is then amortized over five years. The budget contained in the model's worksheet assumes that the program will be fully-subscribed from day one of the first year. We would appreciate a more detailed explanation of what these assumptions are based upon.**

Response:

Setting the incremental start-up costs equal to 5% is based on judgment, not by empirical measurement. Note, however, that the 5% start-up costs are intended to set an upper bound on the incremental start-up costs to be separately recovered from ratepayers.

The cost-recovery for start-up costs is, in fact, associated with the second question above. The program will not likely be fully-subscribed from Day One of the first year. As a result, cost recovery based on an assumption of full subscription from Day One will somewhat over-recover program costs. In other states (e.g., New Hampshire), the utilities implementing the low-income program were instructed to take their cost-recovery for program start-up expenditures out of this over-recovery. Only to the extent that the incremental start-up expenses exceeded the ability of a utility to be compensated out of this first-year over-recovery would the utility be allowed to recover start-up costs as a separate line-item amortized over five years.

Providing a utility the opportunity to gain this Year One cost recovery was consciously intended to be advantageous to the utility. Utilities often resist the notion of providing rate affordability assistance. To allow quick cost recovery for start-up costs is designed to over-come that resistance.

Outside of this ability to gain early recovery of start-up costs, given expected cost recovery of program costs through a reconcilable rate rider, the over-recovery of Year One costs would have no impact on ratepayers. To the extent that costs are over-recovered in Year One because the program is not fully-subscribed, the over-recovery would be identified and reconciled to actual expenditures, with the excess recovery returned to ratepayers, at the time of the first reconciliation.

A five year amortization period is based on policy. Amortization periods for extraordinary, non-recurring costs, are generally set using a balancing of the immediate rate impacts on customers to whom the rate applies and reasonably prompt cost recovery for the company. In addition, based on what is commonly called the "Matching Principle," cost recovery should

seek to match the payment of costs to the ratepayers benefitting from those costs. There would be no factual dispute that the proposed LIEN affordability program provides benefits over more than the first year of operation. Benefits of the program would continue beyond Year One. A five-year amortization period best appears to reasonably match the cost recovery with a reasonable planning period for program impacts.

6. Both the current bill cost estimate and the arrearage forgiveness cost estimate have a "cost offset" applied to them, based on bad debt; working capital; and credit and collection costs. Why does the consultant choose an offset of 25%? How did he calculate this figure?

Response:

The 25% figure is derived from the attached spreadsheet, developed by LIEN's consultant to evaluate low-income affordability programs proposed for the State of Colorado. The attached spreadsheet is accompanied by a narrative explanation. Note that the *expected* offsets significantly exceed 25%. The lower 25% figure was utilized to provide a financial incentive for utilities to fully and aggressively implement the low-income program. The difference between the expected offset, and the 25% offset used in the cost-calculation for Ontario, would redound to the benefit of participating utilities.

7. LIEN's proposal suggests either a fixed credit or tiered discount approach, but do they feel one of these models is stronger?

Response:

LIEN endorses use of a fixed credit as the stronger approach. The best and most current analysis of a tiered discount approach as compared to a fixed credit approach was presented in the following report: Colton (October 2013). *Review of PECO Energy's Report on Alternative Models for the Delivery of Customer Assistance Benefits*, prepared for submission to the Pennsylvania Public Utility Commission (PUC) on behalf of the Office of Consumer Advocate (OCA). This report compared a tiered discount approach to a fixed credit program based on ten criteria:

1. The "breadth" of unaffordability;
2. The "depth" of unaffordability;
3. The total dollars of unaffordability;
4. The payment coverage rate;
5. The dollar cost of the rate affordability "shortfall;"

6. The incentive to conserve provided by price signals;

7. The number of customers receiving $0 benefits;

8. The impact on the bad debt write-off from CAP participants;

9. The impact on the number of service disconnections for nonpayment for CAP participants; and

10. The IT costs of implementing the revised alternative means of delivering rate affordability assistance.

This October 2013 report is attached to this response. The report offered the following comparison of the program designs based on the above criteria (with the acronyms presented in the following chart having been defined and explained in the attached report):[27]

Summary of Four Options by Outcome Metrics											
	Unaffordability			Pymnt Covrge	Shortfall		Price Signals	$0 Benefits	Bad Debt	DNP[28]	IT Costs
	Breadth	Depth	Total $s		Total	LIURP Impact					
Status Quo	+	-	-	-	N/I	-	-	+	-	-	+
7-Tier R/S/SD	++	-	-	-	-	-	-	+	+	+	+
PIP	-	+	++	+	+	+	N/I	+ /a/	+	+	-
FCO	-	+	++	+	+	+	+	+ /a/	+	+	-

NOTES:

+: Positive impacts relative to the alternatives.
-: Negative impacts relative to the alternatives.
N/I: No Impact
/a/ The positive impact conclusion assumes adoption of a minimum benefit, which would result in an improvement (relative to the Status Quo) of the percentage of customers who receive a benefit that reduces burdens to less that the range defined to be affordable by the Commission.

[27] FCO: Fixed Credit Option; Status Quo: tiered rate discount; PIP: percentage of income plan; 7-Tier R/S/SD: a revised tiered rate discount redeploying discount dollars between higher and lower income program participants.
[28] DNP is the acronym for "disconnect nonpayment."

As can be seen from the above chart, the fixed credit option (FCO) is the most advantageous affordable home energy program.

8. **Does the consultant prefer a block discount model or a discount based on consumption (for example, Vermont)? Does he prefer the Vermont model over others, such as Minnesota, Pennsylvania, Ohio, and why?**

Response:

LIEN recommends a fixed credit percentage of income based program. A PIP has been adopted in New Jersey, Pennsylvania, Ohio, Maine and Colorado. A PIP was also recently recommended by the Maryland public service commission (PSC) staff and Office of Peoples Counsel. The advantages of a fixed-credit PIP were explained in response to Question #7.

9. **Does the consultant or LIEN have any cross-jurisdictional research they can share? What other programs do they suggest looking at with regards to best practices (design, implementation, etc.)?**

Response:

LIEN would recommend the following three reports as an introduction to cross-jurisdictional research (each of which is attached):

1. Colton (2007). Best Practices: Low-Income Rate Affordability Programs: Articulating and Applying Rating Criteria, prepared for Hydro-Quebec.

2. Colton (2010). Home Energy Affordability in Manitoba: A Low-Income Affordability Program for Manitoba Hydro, prepared for Resource Conservation Manitoba/Time to Respect Earth's Environment.

3. Colton (2012). Public Service Company of Colorado's (PSCO) Pilot Energy Assistance Program (PEAP) and Electric Assistance Program (EAP): 2011 Final Evaluation Report, prepared for Public Service Company of Colorado.

In addition to these three specific reports, the attached table shows the range of cross-jurisdictional research that is available.[29] Those reports that are available electronically can be provided on CDROM upon request.

One primary "message" to be derived from the attached table of program evaluations is the recognition that a low-income rate affordability program such as that proposed by LIEN is not a

[29] This Table has been omitted since it was attached as an appendix to the LIEN/ACTO presentation to the stakeholder conference of November 6, 2014.

"new" concept and does not operate on a "theoretical" basis. These types of low-income programs have been operated, and evaluated, time-and-again over more than 20 years. The Table below identifies more than 65 specific reports, most (but not all) of which are post-hoc evaluations of the operation of a low-income utility-funded rate affordability program (not based simply on providing crisis assistance).[30]

10. Does the consultant have any disaggregated data on low income populations and associated energy consumption patterns?

Response:

In the U.S., the best source of disaggregated data generally is the quadrennial Residential Energy Consumption Survey (RECS) by the Energy Information Administration of the U.S. Department of Energy (EIA/DOE). Information is provided, disaggregated by region (perhaps the East North Central Region would be most analogous to Ontario), consisting of Wisconsin, Michigan, Illinois, Indiana and Ohio. The data provided relates to:

- Fuel consumption and expenditures (both by BTU and by physical units, e.g., kWh, gallons, CCF).
- End use consumption and expenditures (totals and averages).
- End use consumption and expenditures (again, by BTU and by physical units).

In addition to this consumption and expenditure data by fuel and by end-use, the RECS provides data disaggregated by housing and household characteristics, including:

- Fuels used and end-uses.
- Structural and geographic characteristics.
- Household demographics.
- Housing unit size (square footage).
- Individual end-uses (appliances, televisions, computers/electronics, space heating, air conditioning, hot water).

Summary and detailed tables are available, along with micro-data, at the RECS web-site: http://www.eia.gov/consumption/residential/data/2009/ (data is also available on-line for 2005, 2001, 1997, and 1993).

[30] The reports that are not program-specific evaluations are noted as such ("non-program") in the column marked "Utility/Program."

Detailed information on energy bills and burdens can also be found in the six annual "LIHEAP Home Energy Notebooks" prepared for the U.S. LIHEAP Office (LIHEAP is the federal Low-Income Home Energy Assistance Program). These six reports (2004, 2005, 2006, 2007, 2008, 2009) are available on-line at: http://www.appriseinc.org/reports_survey.htm . The most recent annual report (2009) was published in 2011.

Detailed (county-by-county; state-by-state) data on low-income home energy bills and burdens (bills as a percentage of income) (prepared annually by LIEN's consultant) is also available for the United States for 2004 through the present (2012 published in May 2013) at the following web-site: http://www.homeenergyaffordabilitygap.com.

11. Does the consultant have any information on the geographical concentration of low income energy consumers in Ontario?

Response:

The Ontario Power Authority ordered and paid for custom data from Statistics Canada's 2006 Census for the Ontario-specific number of low-income households (using pre-tax, post-transfer payment low-income cutoffs or LICOs), and their housing tenure and housing type. The OPA shared their Ontario-wide stats with LIEN in May 2011 (a copy of which has been provided to Anna Di Misa by E-mail), but did not share the LDC service area breakdown of these stats (because the Stats Canada license sharing agreement did not permit it).

Stats Canada now has an open licence agreement – so LIEN has asked the OPA to order the 2011 National Household Survey (NHS) update to the 2006 Census low-income household stats that can then be shared with all interested stakeholders. It must be noted that there may be reliability issues with the data from the 2011 NHS.

12. Is LIEN aware of other long-term low-income assistance programs which include a conservation component? Can LIEN share any research/data on this topic, (e.g. program design)?

Response:

LIEN recommends a review of the following report, available on-line:

Carroll, Berger and Colton (July 2007). Ratepayer Funded Low-Income Programs: Performance and Possibilities, multi-sponsor study available at the following URL:

http://www.appriseinc.org/reports/NLIEC%20Multi-Sponsor%20Study.pdf

In addition, many of the program evaluations listed in the table attached in response to Question 9 above specifically discuss the relationship between the rate affordability program and a usage reduction program component. Integrating the delivery of usage reduction measures into a rate affordability program not only is a long-term, albeit limited, way to improve home energy affordability, but is a way through which to reduce the overall cost of the rate affordability

program. This relationship was discussed in some detail in the report attached to Question 7 above regarding the PECO Energy program design.

13. Can LIEN share its experiences with low-income energy consumers' involvement in conservation programs? What are the key barriers to their involvement in these programs based on the Ontario experience and elsewhere?

Response:

Much has been written on the market barriers that prevent low-income households from participating in conservation programs. One summary of information was presented to the Ontario Energy Board in 2006 in the OEB's consultation on demand side management (DSM) programs for gas utilities. LIEN stated in part:

1. LOW-INCOME EFFICIENCY PROGRAMS ARE NEEDED IN ORDER TO PREVENT THE SYSTEMATIC EXCLUSION OF LOW-INCOME CUSTOMERS.

Making utility-funded energy efficiency programs accessible to low-income households does not "just happen." Indeed, without specific programs directed toward low-income customers, these programs tend to exclude low-income customers from participation. Low-income customers are systematically excluded because of market barriers that are unique to low-income households.

Market barrier issues are of particular importance to the low-income community. Low-income households inherently tend to be non-participants in utility-financed energy efficiency programs. Accordingly, even though the savings generated by energy efficiency measures are "system" benefits, and even though the low-income ratepayers are paying "their share" of the costs, these low-income ratepayers are systematically excluded from receiving "their share" of the benefits.

In addition to market barriers common to all residential ratepayers, low-income households have market barriers that are different from, and more extensive than, residential households in general. The result of these market barriers is to more severely restrict the accessibility of energy efficiency measures to low-income households than to residential households in general.

An identification of market barriers common to residential customers generally is set forth below in Table 1. An identification of markets barriers common to low-income residential customers in particular is set forth in Table 2.

Three illustrative "market barriers" are discussed in more detail below:

- Discount rates/payback periods;
- Liquidity; and
- Tenancy.

- **Discount Rates:** Low-income households tend to have extremely high implicit discount rates (also sometimes known as hurdle rates or internal rates of return). In a report for the Electric Power Research Institute (EPRI), Cambridge Systematics found that the implicit discount rate for low-income households ranged up to the 80 - 90 percent level, an implied payback period of roughly one year. For residential households in general, however, the hurdle rate for energy efficiency investments was 30 percent; that translates into a payback period of roughly three years. To the extent that an efficiency program strives to bring an energy efficiency investment only within the 30 percent range, that program, by implication, is inaccessible to all households that have a higher hurdle rate. One entire category of households to whom the program is inaccessible consists of low-income households.

- **Liquidity:** Low-income households tend to have extremely low liquidity. The payback period for any particular energy efficiency measure becomes irrelevant if the household does not have the investment capital with which to begin. The impact of this market barrier, for example, is often ignored in the reliance on appliance rebate programs. Such a program may pay the incremental cost of moving a customer from the purchase of a *less* energy efficient new water heater to the purchase of a *more* energy efficient new water heater. In such a program, if the less efficient water heater costs $600 and the more efficient system costs $800, it may well be cost-effective for the utility to pay the $200 difference to prompt the purchase of the more efficient system. This program, however, will, by definition, exclude households that are not in the market to purchase a new water heater with which to begin. It is axiomatic to note that not many low-income households recently spent $600 for a new water heater.

- **Tenancy:** Low-income households tend to live in rental dwellings. This finding has significance in two respects for the design of accessible energy efficiency programs. First, tenants have little or no incentive to improve their landlord's property. They do not receive any of the increased value of the property and, in fact, may face rent hikes as a result of the improvements. Second, low-income tenants tend to be more mobile. In the U.S., data demonstrates quite clearly that, compared to the roughly twelve percent of the total population that change residences each year, nearly one-quarter of the low-income population moves. As a result, even in those instances where a tenant may wish to invest in an energy efficiency measure, and assuming a financial ability (*e.g.*, sufficient liquidity) to do so, the payback period required to justify such an investment would need to match the household's tenure. A low-income household, in other words, will not invest in a measure with a two-year payback if that household tends to move to a different dwelling every 12 months.

There are serious impacts that arise from a failure to recognize and affirmatively compensate for the market barriers that make utility-funded energy efficiency programs inaccessible to low-income customers. Two impacts are of particular significance for the Ontario Energy Board's consideration.

- First, distributional inequities arise. Without compensating for these market barriers, a utility would have created an income transfer in the wrong direction. Low-income customers would be paying for the efficiency programs, but would be excluded from participating in those programs.

- Second, from a resource planning perspective, the full potential of energy efficiency measures would not be exhausted. If there are energy efficiency measures to be implemented, but which are not being implemented because the market and physical barriers that prevent their implementation have not been addressed, there remains some inefficiency on the utility's system.

The information and analysis presented above lead to the conclusion that the Ontario Energy Board should require the implementation of energy efficiency programs directed specifically toward low-income

customers. The Energy Board should require utility programs that will specifically make energy efficiency programs funded by natural gas utilities accessible to low-income customers.

A copy of the full statement presented on behalf of LIEN regarding gas DSM for low-income customers is attached to this response.

14. Which jurisdictions are you aware of that provide on-going bill assistance (which would go beyond emergency assistance)?

Response:

Presented below is a list of the 50 states plus the District of Columbia along with an indication of whether each jurisdiction provides on-going bill assistance which goes beyond emergency assistance. As the table indicates, 32 states (plus the District of Columbia) offer a low-income rate affordability program going beyond emergency assistance of one type or another. Different jurisdictions offer different degrees of rate affordability assistance.

Rate Assistance in the 50 United States (plus the District of Columbia)

	Rate Assistance	Nature of Assistance
Alabama	Yes	Customer charge waiver
Alaska	No	
Arizona	Yes	Rate discount
Arkansas	No	
California	Yes	Rate discount
Colorado	Yes	Percentage of income plan
Connecticut	Yes	Arrearage management—no rate affordability
Delaware	Yes	Energy assistance supplement
District of Columbia	Yes	Seasonal rate discount
Florida	No	
Georgia	Yes	Customer charge waiver
Hawaii	No	
Idaho	No	
Illinois	Yes	Percentage of income plan
Indiana	Yes	Tiered rate discount
Iowa	No	
Kansas	No	
Kentucky	Yes	KU/LGE bill credits
Louisiana	Yes	One utility waives customer charges
Maine	Yes	Percentage of income plan
Maryland	Yes	Energy assistance supplement
Massachusetts	Yes	Rate discount

Rate Assistance in the 50 United States (plus the District of Columbia)

	Rate Assistance	Nature of Assistance
Michigan	Yes	Energy assistance supplement
Minnesota	Yes	Rate discount
Mississippi	No	
Missouri	Yes	Arrearage management—no rate affordability
Montana	Yes	Rate discount
Nebraska	No	
Nevada	Yes	Percentage of income plan
New Hampshire	Yes	Tiered rate discount
New Jersey	Yes	Percentage of income plan
New Mexico	No	
New York	Yes	Rate discount
North Carolina	Yes	Limited rate discount
North Dakota	No	
Ohio	Yes	Percentage of income plan
Oklahoma	Yes	Rate differential—not all utilities
Oregon	Yes	Energy assistance supplement
Pennsylvania	Yes	Percentage of income plan
Rhode Island	Yes	Rate reduction/energy assistance match
South Carolina	No	
South Dakota	No	
Tennessee	No	
Texas	Yes	Rate discount
Utah	No	
Vermont	Yes	Rate discount
Virginia	No	
Washington	Yes	Energy assistance supplement
West Virginia	No	
Wisconsin	Yes	Energy assistance supplement
Wyoming	No	

15. Based on LIEN's research and experience, how can we overcome key barriers (e.g. incent landlords to support low-income consumers' involvement in conservation, how to address low-income housing)? How can we encourage low-income consumers to participate in conservation programs?

Response:

Removing the barriers to participation in Ontario's relatively new low-income conservation programs is a work-in-progress. LIEN meets regularly with the OPA and electricity and gas distributors to brainstorm and discuss best practices for increasing the participation rate in CDM and DSM programs (e.g. Union Gas and Enbridge Gas held a Joint Low Income Stakeholder meeting on September 30th to solicit feedback on increasing awareness about their respective weatherization programs and how to engage low-income households who have received a LEAP EFA or Winter Warmth grant in the retrofit programs; minutes from that meeting can be provided to the Ministry of Energy staff). Union Gas and Enbridge Gas are also consulting with stakeholders, including LIEN, in the design of their pilot DSM programs in the private rental market. LIEN suggests that the Ministry of Energy should contact the appropriate staff people in the OPA and at the two main natural gas distributors who are involved in the design and delivery of the low-income conservation offerings to collect more information about their findings in the field with respect to barriers. As well, the OEB posts the electricity LDCs' annual CDM reports on the Board web site and these reports contain comments on the challenges encountered in delivering HAP and suggestions for how to address those challenges going forward.

The OPA, in the development of their saveONenergy HOME ASSISTANCE PROGRAM (HAP) summarized the following lessons learned from experiences in Ontario:

• Low income participants are difficult to identify and reach (especially those in private housing); many do not self-identify and it is often difficult to find customers whose home and income qualify for the program; accordingly, multiple outreach channels are needed

• Partnerships with community, social service and other organizations trusted by low-income customers are key to successful outreach and program uptake

• Partnerships w/ social housing providers have helped to streamline processes and make delivery efficient
-e.g. Union Gas partnership w/ Victoria Park Home (Hamilton), Windsor Essex Homes, Cornwall Area and Housing, and etc.

• Offer a variety of measures to increase uptake and savings per home
-e.g. handheld and wall mounted shower heads

• Some homes required health and safety repairs prior to implementation of energy saving measures; links with other existing programs are critical

• Financial barriers to conservation are significant for many low income consumers (and property managers)
– Full funding for conservation measures is necessary to overcome this barrier

•Multiple offerings for low income consumers maximize reach and participation

•Difficult to manage expectations of potential participants (e.g. not all homes will receive all measures; depends on outcome of audits)

• Cost-effectiveness testing based on TRC greatly limits what can be done in a home; TRC not recommended for this sector as this test does not capture many non-energy benefits generated by low income programs (e.g. reduced arrears)

• Coordinated approach is needed to generate broad recognition, consumer demand, sector capability and consistent offering
– Minimize red tape and paperwork

• Many customers lack an understanding of the value/benefits of measures

• Split incentives between renters and private building owners pose a barrier to program participation for low-income renters

• For building owners/managers:
– Financial constraints
– Provide on-site sales and technical support
– Address the key question of "How much money can I save?"

16. **Does LIEN have any useful information about vulnerable, including low-income, consumers in Ontario that would be useful to us in our policy development activities?**

Response:

Information on vulnerable Ontario customers can be obtained from StatsCan. In addition to that data-based work, the reports listed below are commended as offering important insights into vulnerable customers in Ontario. The order of presentation below is not intended to convey any significance as to the relative importance of the work:

- Katie Dorman, et al. (Oct. 2013). Why Poverty is a Medical Problem: Rent, Groceries, Child Care. Ontario Medical Review.

- Institute for Research and Development on Inclusion and Society (2013). Looking into Poverty: Income Sources of Poor People with Disabilities in Canada.

- Ontario Ministry of Children and Youth Services (Dec. 2012). Ontario's Poverty Reduction Strategy: 2012 Annual Report.

- Ontario Common Front (August 2012). Falling Behind: Ontario's Backslide into Widening Inequality, Growing Poverty, and Cuts to Social Programs.

- Canada without Poverty (May 2012). Ontario Poverty Progress Profile.

- Metcalf Foundation (Feb. 2012). The "Working Poor" in the Toronto Region: Who They Are, Where They Live, and How Trends are Changing.
- Family Service Toronto (2012). Strengthening Families for Ontario's Future: 2012 Report Card on Child and Family Poverty in Ontario.
- Citizens for Public Justice (2012). Poverty Trends Scorecard: Canada: 2012.
- Joseph Rowntree Foundation (2011). Monitoring Poverty and Social Exclusion.
- Family Service Toronto (2011). Revisiting Family Security in Insecure Times: 2011 Report Card on Child and Family Poverty in Canada.
- Family Service Toronto (2011). Poverty Reduction in an Era of Uncertainty and Change: 2011 Report Card on Child and Family Poverty in Ontario.
- Ontario Finance Committee (Feb. 2011). Financial Insecurity Among Older Ontarians, CARP pre-budget submission to the Standing Committee on Finance and Economic Affairs.
- Mowat Center for Policy Innovation, School of Public Policy and Governance, University of Toronto (2011). Trading Places: Single Adults Replace Lone Parents as the New Face of Social Assistance in Canada.
- Best Start Resource Center (2010). I'm Still Hungry: Child and Family Poverty in Ontario.
- Canadian Center for Policy Alternatives (August 2010). The Problem of Poverty Post-Recession.
- Canadian Center for Policy Alternatives (June 2010). Ontario's Growing Gap: The Role of Race and Gender.
- Children's Aid Society of Toronto (Dec. 2008). Greater Trouble in Toronto: Child Poverty in the GTA.
- Ontario Association of Food Banks (Oct. 2008). The Cost of Poverty: An Analysis of the Economic Cost of Poverty in Ontario.
- Metcalf Foundation (Nov. 2007). Why is it so tough to get ahead: How our tangled social programs pathologize the transition to self-reliance.

- Canadian Mental Health Association—Ontario (Nov. 2007). Backgrounder: Poverty and Mental Illness.

- National Advisory Council on Aging, Government of Canada (2005). Aging in Poverty in Canada.

- CSJ Foundation for Research and Education (Nov. 2001). From Poverty Wages to a Living Wage.

- Canadian Women's Foundation (undated). Fact Sheet: Moving Women Out of Poverty.

Copies of any or all of the reports listed above can (and will) be provided in electronic format on a CD-ROM upon request.

17. **What are LIEN's perspectives on the benefits of funding of an electricity rate affordability program for low-income consumers through the rate base? Why does LIEN recommend the program be funded by ratepayers as opposed to taxpayers?**

Response:

LIEN supports funding a rate affordability program through utility rates for both substantive and administrative reasons. These reasons include:

- Rates provide a stable source of funding over time. A rate affordability program is difficult to ramp up and down in response to fluctuating appropriations. Intake and enrollment staff must be hired and trained, creating a specialized work force to administer the program. If an appropriation in one year is delayed, or foregone entirely, the expertise that is lost when staff is laid off cannot be immediately replaced. Instead, a new staff must be hired and trained. Program costs increase as these new "start-up" costs are again incurred.

  Quite aside from staff, however, a rate affordability program depends for information technology in the billing system of participating utilities. The amount of assistance to be delivered, the treatment of arrears, the impact on collections, the seemingly simple act of designating in the customer information system of who is a participant (and who is not) (so that a customer service representative can see on their "screen" whether someone is a program participant during customer contacts), cannot be easily (or inexpensively) changed from year to year.

- The effectiveness of rate affordability programs depends on a stable, long-term commitment to the rate assistance. The "message" in a rate affordability program is reasonably simple: "We (the utility) have done our part to make your bills affordable. Now it is incumbent upon you to make your payments. If you do not, you will go into the collection cycle." Legislatively-appropriated funds have historically been much

less stable than ratepayer-provided funds. Instead of clearly and consistently conveying the message above, therefore, there instead is often confusion over what program is being offered *this year*; what level of assistance is being provided this year; what the low-income ratepayer responsibilities are (and correspondingly, what the low-income ratepayer rights are) this year. Under a legislative appropriation, the program becomes an initiative that simply distributes money to the poor rather than becoming a collaborative effort to improve payment patterns by making bills more affordable.

- The program becomes nearly impossible to track for purposes of assessing costs and cost offsets. If the ratepayers of Whiteacre Utility supply $10 million to fund a rate affordability program, and that program generates $5 million in cost offsets, it is clear to whom those cost offsets should be credited (i.e., the ratepayers of Whiteacre Utility). If the legislature has provided $10 million to fund a rate affordability program, and that program generates $5 million in cost offsets, it is less clear, if it can be done at all, how to collect and re-use those cost offsets. Many of the cost offsets of a rate affordability program do not involve an absolute savings, but rather a redeployment resources.

- Under a legislative appropriation, the costs of a program are difficult, if not impossible, to track and reconcile on a year-by-year basis. Utilities providing ratepayer-funded affordability programs generally operate under a cost recovery mechanism using a reconcilable rate rider (much in the nature of a purchase gas adjustment clause, or fuel adjustment clause). To provide program revenues through a legislative appropriation does not allow for this periodic reconciliation of expenditures to revenues and a corresponding adjustment of the taxpayer contribution to the program.

- A legislative appropriation is virtually impossible to structure in a way that avoids inter-utility subsidies. Working on the principle that Whiteacre Utility ratepayers should pay for the rate affordability program of Whiteacre Utility, and that Blackacre Utility ratepayers should pay the costs associated with Blackacre's program, a taxpayer-funded program cuts that link between cost-causation and cost responsibility. Not only would one utility's ratepayers (in their capacity as taxpayers) fund the program of a different utility, but the customers of one fuel would fund the program of a different fuel.

Even setting aside the above observations, perhaps the most important objection that LIEN has to a program funded through legislative appropriations is that a program funded in such a manner LOOKS and FEELS like a social service program. LIEN believes that a ratepayer-funded program is not a social service program, but is instead a more efficient, and effective, manner of collecting bills.

A November 2012 proposal made to the Maryland Public Service Commission, presented jointly by the PSC staff and the Maryland Office of Peoples Counsel (OPC), observed:

> One corollary impact associated with the improved payment performance of low-income customers participating in a percentage of income plan is the increase in total revenue

from those program participants. Stated conceptually, it is better for a utility to collect 90% of a $70 bill ($70 x 0.90 = $63) than it is for that utility to collect 60% of a $100 bill ($100 x 0.60 = $60). Under a percentage of income plan, in other words, even though a portion of the bill is discounted, the extent to which payments increase is such that ***total revenue*** goes up.

No baseline data is available for Maryland. However, this impact has been found for both the Colorado and Indiana low-income programs.

In assessing the impact of improved customer payment performance on total revenue, the Colorado evaluation reported as follows:

> the PEAP program generated a revenue neutrality when PEAP participants were compared to other low-income customers, but not when compared to the residential population as a whole. * * *.
>
> The lesson learned from [this data] is that PEAP generates a sufficiently substantial improvement in payment coverage ratios relative to the low-income (LEAP) population to more than offset the discount provided. To the extent that the low-income customers have a prior history of non-payment, the revenue neutrality will be somewhat (but not substantially) greater. However, because the payment coverage ratios of the residential population as a whole are higher with which to begin, the revenue that is being "lost" to nonpayment in the absence of the discount is smaller, and the increase in payment coverage ratios is insufficiently large to offset the effects of the discount.[31]

The same results were found for Indiana's low-income programs. A 2007 evaluation of the Citizen Gas and Coke Utility low-income program found:[32]

> Customers that participated in the Citizens Gas USP made substantively greater payments than did that company's nonparticipant population. Over the months of January through March 2007, USP participants paid 79% of their current utility bill. While billed $273,627 during those winter months, the USP participants paid $215,897. In contrast, the Citizen Gas nonparticipants paid only 64% of their January through March billings. While billed $304,072, these customers paid $194,577. As can be seen, the USP was better than revenue neutral to Citizens Gas. While USP participants were billed 90% of what nonparticipants were billed, they paid 111% what nonparticipants paid.
>
> The revenue neutrality can be seen from a different perspective as well. Had USP nonparticipants paid at the same rate as USP participants did, they would have paid $240,216, nearly $46,000 more than they actually paid.[33]

[31] Colton (2012). Public Service Company of Colorado's (PSCo) Pilot Energy Assistance Program (PEAP) and Electric Assistance Program (EAP):*2011 Final Evaluation Report*, prepared for Public Service Company of Colorado.

[32] All dollar figures presented in this analysis, unless other explicitly noted to the contrary, are associated with the sample population and not the total population.

[33] Colton (2007). *An Outcome Evaluation of Indiana's Low-Income Rate Affordability Programs*, prepared for Citizens Gas and Coke Utility, Vectren Energy, and Northern Indiana Public Service Company.

> As in the Colorado program, in other words, in Indiana, the increased payment performance was more than sufficient to offset the billing discount. As a result of the low-income discount, total revenues to the utility actually increased.

The fact that a ratepayer-funded rate affordability program is a more effective means of collection is set forth in the Attachment to this question (from the Maryland PSC Staff/OPC joint rate affordability proposal).

When program funding is moved out of the province of ratepayers and into the province of taxpayers, the program begins to look like a way in which simply to deliver dollars of energy assistance to the poor, irrespective of the impact of such assistance on affordability, rather than being focused on being a tool to use to address the unaffordability of bills so that those bills can more readily be paid.

While LIEN would certainly not oppose a taxpayer-funded program, if and only if that were the only means of pursuing rate affordability assistance, there are such critical substantive and administrative problems presented by a reliance on legislative appropriations that LIEN does not ***recommend*** such an approach.

Appendix C:
PSCO Direct Testimony of David Wolaver
Before the
Public Utilities Commission of Colorado
In Support of Percentage of Income-Based Fixed Credit Program

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

*** * * * ***

IN THE MATTER OF THE APPLICATION OF	**)**	
PUBLIC SERVICE COMPANY OF COLORADO	**)**	
FOR APPROVAL OF ITS	**)**	**DOCKET NO. 12A-XXXEG**
ELECTRIC AND GAS AFFORDABILITY	**)**	
PROGRAMS AND FOR RELATED WAIVERS	**)**	
AND AUTHORIZATIONS.	**)**	

DIRECT TESTIMONY AND EXHIBITS OF DAVID A. WOLAVER

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

April 18, 2012

LIST OF EXHIBITS

Exhibit No. DAW-1	Example of Calculations of Benefits Provided to Customers
Exhibit No. DAW-2	Excerpt from Biennial DSM Plan
Exhibit No. DAW-3	Projected growth in low-income participants
Exhibit No. DAW-4	Actual 2011 Expenditures
Exhibit No. DAW-5	Hard Budget Cap
Exhibit No. DAW-6	DSM & Weatherization impacts
Exhibit No. DAW-7	Low-Income impacts on non-participants

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

*** * * * ***

IN THE MATTER OF THE APPLICATION OF	**)**	
PUBLIC SERVICE COMPANY OF COLORADO	**)**	
FOR APPROVAL OF ITS	**)**	**DOCKET NO. 12A-XXXEG**
ELECTRIC AND GAS AFFORDABILITY	**)**	
PROGRAMS AND FOR RELATED WAIVERS	**)**	
AND AUTHORIZATIONS.	**)**	

DIRECT TESTIMONY AND EXHIBITS OF DAVID A. WOLAVER

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is David A. Wolaver. My business address is 1800 Larimer, Suite 1400, Denver, Colorado, 80202.

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

A. I am employed by Xcel Energy Services Inc. as a Pricing Consultant in the Pricing and Planning Department. Xcel Energy Services Inc. is the service company subsidiary of Xcel Energy Inc.

Q. ON WHOSE BEHALF ARE YOU APPEARING IN THIS DOCKET?

A. I am appearing on behalf of Public Service Company of Colorado (Public Service or Company), an operating utility subsidiary of Xcel Energy Inc. (Xcel Energy).

Q. HAVE YOU PREPARED A STATEMENT OF YOUR EXPERIENCE AND QUALIFICATIONS?

A. Yes. That statement is included with my testimony as Attachment A.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my testimony is to provide analysis and documentation that supports the Company's efforts to comply with certain requirements that are contained in the Commission's recently-promulgated Rule Nos. 3412 and 4412, the Electric and Gas Low-Income Energy Assistance Rules (the "Rules"), respectively.

Q. PLEASE LIST THE REQUIREMENTS THAT YOU WILL DISCUSS IN YOUR DIRECT TESTIMONY.

A. I address the following requirements:

1) Demand Side Management ("DSM") and energy assistance program integration referenced at Rules 3412(c)(I)(A) and 4412(c)(I)(A).
2) Weatherization and energy assistance program integration referenced at Rules 3412(c)(I)(B) and 4412(c)(I)(B).
3) Program-specific needs assessments that identify the total number of low-income participants, the number of identified participant accounts, and the projected program enrollment referenced at Rules 3412(d)(II)(B)(ii) and 4412(d)(II)(B)(ii).
4) A program-specific "hard budget cap" for each year the program is in operation, including program administrative costs referenced at Rules 3412(d)(II)(C) and 4412(d)(II)(C).
5) The number of participants currently receiving energy assistance from the utility, the average amount of base consumption that occurs in low-income homes, and the potential impact of energy efficiency/DSM

upon average low-income consumption referenced at Rules 3412(d)(II)(D) and 4412(d)(II)(D).

6) All provisions referenced at Rules 3412(e)(I through III) and 4412(e)(I through III) that relate to recovery of low-income energy assistance costs.

7) All provisions referenced at Rules 3412(c)(III) and 4412(c)(III) that relate to the maximum rate impact on non-participants.

Q. ARE YOU SPONSORING ANY EXHIBITS AS PART OF YOUR DIRECT TESTIMONY?

A. Yes, I am sponsoring Exhibit Nos. DAW-1 through DAW-7.

II. ANALYSIS

Q. HAVE YOU INCLUDED AN EXHIBIT IN YOUR DIRECT TESTIMONY THAT PROVIDES EXAMPLES AS TO HOW LOW-INCOME ENERGY ASSISTANCE BENEFITS ARE CURRENTLY CALCULATED FOR PROGRAM PARTICIPANTS?

A. Yes, that information is contained in Exhibit No. DAW-1. Exhibit No. DAW-1 provides examples of customers that receive benefits under both the Percentage of Income Payment Plan ("PIPP") and Step Bill Discount program ("SBD") that Company witness Mr. Patrick Boland discusses at length in his Direct Testimony.

Q. WHAT BENEFIT DO THESE EXAMPLES PROVIDE RELATIVE TO YOUR REQUEST THAT THE EXISTING PILOT PROGRAMS BE GRANTED PERMANENT STATUS?

A. The examples included in Exhibit No. DAW-1 delineate the Company's existing protocol under the pilot programs and proposed protocols for the permanent programs for calculating benefits for qualified customers. I include this information in my testimony so that the Commission and other interested parties can get a better a feel for the level and range of benefits the programs provide.

III. PROGRAM REQUIREMENTS

Q. RULE NOS. 3412(c)(I)(A)(B)(C)(D) AND 4412(c)(I)(A)(B)(C)(D) LIST FOUR PROGRAM REQUIREMENTS FOR THE COMPANY'S PERMANENT LOW-INCOME ENERGY ASSISTANCE OFFERINGS. BEGINNING WITH (A), WILL THE PROPOSED PERMANENT LOW-INCOME ENERGY ASSISTANCE PROGRAMS CONTINUE TO BE INTEGRATED WITH THE COMPANY'S EXISTING ENERGY EFFICIENCY AND DSM PROGRAMS?

A. Yes. Currently, the Company's pilot low-income energy assistance programs are fully integrated with the Company's Low-income DSM programs through the Company's billing system ("CRS"). For example, customers that receive low-income energy assistance are coded in a manner in CRS that allows for easy identification. The Company's DSM personnel are then able to access this information to target the Company's low-income energy assistance program participants as potential low-income DSM participants. These same protocols will remain in place when the Company transitions to permanent low-income energy assistance programs.

Q. PLEASE DESCRIBE PUBLIC SERVICE'S DSM PROGRAMS THAT ARE TARGETED TO LOW-INCOME CUSTOMERS.

A. The Company offers four DSM programs that are specifically targeted to low-income customers – they are: Energy Savings Kit, Single-Family Weatherization, Non-Profit Energy Efficiency and Multi-Family Weatherization. The specific details associated with these programs are included in Exhibit No. DAW-2, which is an excerpt from the Company's recently-approved Biennial DSM Plan in Docket No. 11A-631EG.

Q. WHAT ARE THE ANNUAL BUDGETS FOR THESE LOW-INCOME DSM PROGRAMS?

A. The Company's 2012 DSM budget includes $6,509,042 of low-income DSM, increasing to $6,827,197 in 2013, as shown on page 3 of Exhibit No. DAW-2.

Q. IS IT YOUR EXPECTATION THAT THIS HIGH LEVEL OF INTEGRATION AND COOPERATION BETWEEN THE LOW-INCOME ENERGY ASSISTANCE AND DSM PROGRAMS WILL CONTINUE AFTER THE LOW-INCOME PROGRAMS TRANSITION TO PERMANENT STATUS?

A. Yes. I have seen no indication that there will be any decrease in the level of cooperation or integration.

Q. ARE THE EXISTING PILOT LOW-INCOME ENERGY ASSISTANCE PROGRAMS INTEGRATED WITH THE EXISTING WEATHERIZATION PROGRAMS OFFERED BY THE STATE OF COLORADO OR OTHER ENTITIES?

A. Yes, the Company's Low-Income DSM programs are designed such that funds recovered from Public Service customers for DSM support single family residential weatherization efforts managed by the Governor's Energy Office (GEO). In addition, the Company contracts with Energy Outreach Colorado (EOC) for services that EOC provides to Multi-Family and Non-Profit customers.

Q. IS IT YOUR EXPECTATION THAT THE COMPANY'S LOW-INCOME ENERGY ASSISTANCE AND DSM PROGRAMS WILL CONTINUE TO COORDINATE THEIR EFFORTS WITH THIRD-PARTY WEATHERIZATION EFFORTS AFTER THE LOW-INCOME PROGRAMS TRANSITION TO PERMANENT STATUS?

A. Yes.

Q. DO YOU DISCUSS THE TOPIC OF HOW THE COMPANY'S LOW-INCOME ENERGY ASSISTANCE PROGRAMS ARE INTEGRATED WITH LEAP AND OTHER EXISTING LOW-INCOME PROGRAMS, (SUBPART (C) UNDER (c) (I) OF THE RESPECTIVE RULES) IN YOUR DIRECT TESTIMONY?

A. No, I do not. Company witness Mr. Boland addresses that topic in his Direct Testimony.

Q. THE FINAL PROGRAM REQUIREMENT DISCUSSED IN THE RULES PERTAINS TO ARREARAGE CREDITS THAT ARE SUFFICIENT TO REDUCE THE PRE-EXISTING ARREARAGES TO $0.00 OVER TWENTY-FOUR (24) MONTHS. WILL THE COMPANY'S PROPOSED PERMANENT PROGRAMS COMPLY WITH THIS REQUIREMENT?

A. Yes. This requirement is included in the proposed Electric Assistance Program ("EAP") and Gas Assistance Program ("GAP") tariffs attached to the Company's Application.

IV. PROGRAM IMPLEMENTATION

Q. RULE NOS. 3412(d)(II)(B)(ii) AND 4412(d)(II)(B)(ii) REQUIRE A "NEEDS ASSESSMENT" BE INCLUDED AS PART OF THE COMPANY'S COMPLIANCE FILING. PLEASE DESCRIBE THE COMPANY'S APPROACH FOR DEVELOPING THE NEEDS ASSESSMENTS.

A. A proper needs assessment considers information drawn from the underlying participant population. Under a Data Sharing Agreement with Public Service, the Colorado Department of Human Services, Division of Low-Income Energy Assistance Program ("state LEAP office") is the party responsible for certifying customers' eligibility for the Company's low-income energy assistance programs. The state LEAP office provides the Company with a monthly report that identifies customers who are approved LEAP participants. LEAP's March 2012 report (which documents February 2012 information) indicates that there are 42,870 Public Service customers who are receiving LEAP assistance. This list represents the universe of customers who are eligible to receive benefits from Public Service's low-income energy assistance programs. The difference between the universe of LEAP participants (42,870) and participants in the pilot programs (12,237) equals the maximum number of new participants who could enroll in the permanent programs (30,633) – assuming 100% participation. From a strictly

computational perspective, this estimate of 30,633 potential program participants represents a preliminary high-level estimate.

Given that the pilot programs' combined enrollment is just shy of 10,000 participants, this preliminary needs assessment suggests that the number of program participants could increase by 300 percent. This is an instance where the Company's experience in administering low-income energy assistance programs in multiple jurisdictions demonstrates its value. Mr. Boland provides his assessment of potential growth in the level of customer participation in the Company's low-income programs in his Direct Testimony.

Q. WHAT IS MR. BOLAND'S ESTIMATE AS TO THE NUMBER OF ADDITIONAL CUSTOMERS THAT MAY ENROLL IN THE COMPANY'S LOW-INCOME ENERGY ASSISTANCE PROGRAMS OVER THE NEXT THREE YEARS?

A. Mr. Boland estimates that enrollment in the proposed permanent low-income energy assistance programs will increase from current levels by approximately 10% annually for the next three years. We estimate that enrollment in the low-income gas-only customer segment will increase by 245 customers for the 2012-13 heating season, 268 (a total increase of 513 from the current level) for the 2013-14 heating season, and 296 customers (an increase of 809 from the current level of 2,445) for the 2014-2015 heating season. Our estimate of the enrollment increases in the low-income electric-only customer segment is 68 customers for the 2012-13 heating season, 75

(a total increase of 143 from the current level) for the 2013-14 heating season, and 82 customers (an increase of 225 from the current level of 679) for the 2014-2015 heating season. Finally, our estimate of the enrollment increases in the low-income combination electric and gas customer segment is 652 customers for the 2012-13 heating season, 716 (a total increase of 1,368 from the current level) for the 2013-14 heating season, and 788 customers (an increase of 2,156 from the current level of 6,515) for the 2014-2015 heating season. Please see Exhibit No. DAW-3.

Q. RULES 3412(d)(II)(B)(ii) AND 4412(d)(II)(B)(ii) REQUIRE THAT "A HARD BUDGET CAP FOR EACH YEAR THE PLAN IS IN OPERATION, INCLUDING PROGRAM ADMINISTRATIVE COSTS" BE INCLUDED IN THE COMPANY'S COMPLIANCE FILING. DO YOU ADDRESS THIS REQUIREMENT IN YOUR TESTIMONY?

A. Yes. Please see Exhibit No. DAW-4 for a summary of the Company's historical 2011 low-income program costs. The 2011 data established a baseline of approximately $6.4 million of annual spending for the combined gas and electric components. We used this information to develop an average cost per participant in 2011. As mentioned above, we assumed customer participation would increase by 10% annually. Additionally, we assumed that administrative costs would not increase. Please note that while administrative costs in total are not expected to increase, we do propose to change the allocation of administrative costs between the gas and electric programs such that the electric program administrative costs will go up by the

same amount that gas program administrative costs decrease. Then we adjusted the disbursements per customer by the Company's price forecast of non-commodity related costs and commodity-related costs to adjust the average disbursement per participant. Given these assumptions, the hard budget caps for the next three years are $6,417,083 for 2012, $7,318,116 for 2013 and $8,264,494 for 2014, as shown in Exhibit No. DAW-5.

Q. DO YOU HAVE ANY CONCERNS AS TO THE POTENTIAL VARIANCES BETWEEN THE BUDGETED AND ACTUAL PROGRAM COSTS FOR THE TIME PERIOD IN QUESTION?

A. Yes. Budget assumptions for the low-income programs are fraught with uncertainty. At the macro level, there are issues such as unemployment, economic conditions, the market price of natural gas, etc. At the micro level, there are low-income program-specific issues that complicate budgeting, two of which I will mention. Company witness Mr. Roger Colton includes several recommendations in the PEAP/EAP Final Evaluation Report attached to his Direct Testimony that, if implemented, could increase the number of would-be participants in the permanent programs significantly. Additionally, there is some uncertainty as to the Federal government's commitment to funding LEAP and the corresponding level of that funding each year. A decrease in the amount of LEAP federal funding would likely lead to a smaller number of Public Service customers qualifying for LEAP and receiving benefits. This, in turn, would decrease the number of low-income energy assistance program participants in the Company's programs since the Rules require a customer to

be a LEAP benefit recipient to qualify. As a result, our forecast as to the total number of program participants could be subject to significant variance. This change in the number of program participants would have an effect on the total program costs.

Q. AS PART OF THE COMPANY'S LOW-INCOME ENERGY ASSISTANCE PROGRAM IMPLEMENTATION, IT MUST DOCUMENT (FOR PART (D) OF PROGRAM IMPLEMENTATION) THE NUMBER OF CURRENT PARTICIPANTS, THE AVERAGE CONSUMPTION OF PARTICIPANTS AND THE POTENTIAL IMPACT OF DSM ON LOW-INCOME CONSUMPTION. HAVE YOU COMPLETED THIS ANALYSIS?

A. Yes I have. That analysis is contained in Exhibit No. DAW-6.

V. COST RECOVERY

Q. DO THE RULES ADDRESS THE TOPIC OF COST RECOVERY OF LOW-INCOME ENERGY ASSISTANCE PROGRAM COSTS?

A. Yes. The Rules require electric and gas utilities to address three issues:

(I) How the program costs will be recovered.

(II) The bill impacts of the proposed cost recovery on the various participant classes and on participants within a class.

(III) An offset to the cost recovery mechanism consisting of any expense reductions attributable to the low-income energy assistance program.

These requirements are found in Rule 3412 (e) (I) through (IV) and Rule 4412 (e) (I through IV). I will address the first two topics in my testimony.

Company witness Mr. John Kundert will address the third topic in his Direct Testimony.

Q. HOW DOES THE COMPANY CURRENTLY ALLOCATE THE COSTS ASSOCIATED WITH ITS PILOT LOW-INCOME PROGRAMS BETWEEN CLASSES?

A. The Company allocates the individual program's costs to rate classes based on each specific class' percentage of the total department revenue requirement.

Q. HOW DOES THE COMPANY CURRENTLY RECOVER THOSE ALLOCATED COSTS FROM CUSTOMERS WITHIN THOSE CLASSES?

A. Public Service adjusts the monthly Service and Facilities ("S&F") charges for those classes.

Q. IS PUBLIC SERVICE PROPOSING ANY CHANGES TO ITS EXISTING ALLOCATION OR RECOVERY MECHANISMS IN THIS FILING?

A. Yes, our proposal for a permanent program contains a change from how we allocate program costs due to the new Rules. The Company's proposed Gas Affordability Program allocates low-income energy assistance costs only to rate classes receiving Sales service as required by the Rules. Under the pilot programs, those costs are recovered from customers receiving Sales *and* Transportation service. The Company is not proposing any changes to the allocation or cost recovery methods for its Electric Affordability Program.

Q. WHAT IS THE BASIS FOR PUBLIC SERVICE'S PROPOSED CHANGE TO ITS EXISTING ALLOCATION MECHANISM FOR THE GAS DEPARTMENT?

A. In Decision No. R11-0606, Recommended Decision of Administrative Law Judge Ken F. Kirkpatrick Adopting Rules, Docket No. 11R-110EG at paragraph 27, page 12, Judge Kirkpatrick relied on a noticing error in that rulemaking docket as the basis for excluding gas transportation customers from the allocation of the Gas department's low-income energy assistance costs. The Company's proposal here is consistent with that decision.

Q. ARE THERE BENEFITS TO RECOVERING LOW-INCOME ENERGY ASSISTANCE COSTS VIA THE S&F CHARGE?

A. Yes there are. Based on the results of the Company's pilot programs, and Mr. Colton's recommendations in the Final Report, it is clear that precisely estimating the level of low-income energy assistance that will be provided over time is problematic. This makes it very difficult to balance the cost recovery with the absolute dollar level of benefits provided.

In regulatory parlance, this creates the potential for a deferred balance wherein the Company is in either an over- or under-collected position. Recovering the low-income costs via the S&F charge ameliorates this problem in two ways. First, the recovery of low-income program costs is more predictable when it is based on customer count (S&F) than when it is based on consumption (Kwh or Dth). This makes the recovery half of the deferred equation less volatile. The second benefit to recovery of low-income

program costs via the S&F charge is the ease of adjusting recovery, as is demonstrated by the Company's filing on July 30, 2010 (Docket No. 10A-536G). In that filing, the Company proposed to reduce the gas S&F charge by the low-income energy assistance amount that was embedded in the S&F charge since the low-income balance was significantly over-recovered at the time. This proposal was approved by the Commission in an expeditious manner, which allowed for easy management of the deferred balance.

Q. CAN YOU SUMMARIZE THE COMPANY'S COST RECOVERY PROPOSAL IN THIS FILING?

A. Yes. Public Service is asking that the Commission allow it to continue to allocate low-income energy assistance costs to specific classes on the basis of each specific class' percentage of the total department revenue requirement. In addition, the Company asks that it be allowed to continue to recover those costs via an adjustment to the affected class' monthly S&F charge. Finally, Public Service requests that it be allowed to exclude Gas Transportation customers from being allocated Gas department low-income energy assistance program costs.

Q. HAVE YOU PROVIDED A CUSTOMER BILL IMPACT ANALYSIS FOR THE COMPANY'S ELECTRIC AND GAS DEPARTMENTS PER THE RULES?

A. Yes, that information is included in Exhibit No. DAW-7.

Q. WHAT IS THE EXTENT OF THE CHANGE IN THE CUSTOMER BILLS IN EXHIBIT NO. DAW-7.

A. Exhibit No. DAW-7 illustrates that the impact of the Company's proposed low-income assistance programs is $0.08/month for Public Service electric Residential customers and $0.15/month for Public Service gas Residential customers.

Q. WOULD A PUBLIC SERVICE RESIDENTIAL CUSTOMER WHO RECEIVES BOTH ELECTRIC AND GAS SERVICE FROM THE COMPANY PAY THE SUM OF THOSE TWO AMOUNTS ($0.23/MONTH) EFFECTIVELY?

A. Yes.

Q. HOW DOES THIS ESTIMATE COMPARE WITH THE AMOUNT A RESIDENTIAL CUSTOMER IS PAYING CURRENTLY?

A. It represents an increase of $0.11/month. The current electric component is set at $0.12/month. The existing gas component is set at $0.00/month.

Q. DID THE COMMISSION PROVIDE ANY GUIDANCE IN THE RULES AS TO THE ACCEPTABLE RATE IMPACTS OF A UTILITY'S PERMANENT LOW-INCOME PROGRAM ON NON-PARTICIPANTING CUSTOMERS?

A. Yes. The Commission set a limit of $0.315/month per customer as the maximum amount a utility could collect at the end of the permanent program phase-in period in Rule 3412 (c) (III) and Rule 4412 (c) (III). The Company's estimates fall well below the maximums. Table 1-1 summarizes this information (following page).

Q. IS THE COMPANY PROPOSING THAT THE COMMISSION APPROVE MODIFICATIONS TO EXISTING MONTHLY S&F CHARGES THAT

INCORPORATE THE NEW LOW-INCOME PROGRAM COST ESTIMATES IN THIS PROCEEDING?

A. No, we are not. Public Service is not proposing any rate changes as a result of this filing. The Company's proposal is that it will make separate filings from time to time to adjust its low-income cost recovery so that program costs and recoveries are aligned for its Electric and Gas departments, respectively. During the pilot program the Commission approved a similar filing in Docket No. 10A-536G that lowered the Gas department's S&F charges due to the existence of an over-recovered balance in the PEAP tracker. The Company anticipates making such a filing later this spring. The Company is also considering proposing changes in recovery of low-income related costs for its Electric department as part of a limited Phase II rate filing it may submit later this year.

Table 1-1
Comparison of Estimated Fixed Fee Cost Recovery Amounts for Permanent Low-Income Programs for the Residential Class

Description	Estimated Fee ($/month/ customer)	Maximum Allowable Fee ($/month/ customer)	Proposed Fee as a Percentage Maximum Fee
Electric Low-Income	$0.08	$0.315	25.4%
Gas Low-Income	$0.15	$0.315	47.6%
Combined Electric and Gas Programs	$0.23	$0.63	36.5%

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes it does.

Low-Income Program

A. Description

The Low-Income Program includes Public Service's energy efficiency and education products targeted at income-qualified customers. With the 2012/13 Plan, Public Service continues to make a substantial commitment to both low-income gas and electric energy efficiency. The Company recognizes that low-income products offer a unique opportunity to both substantially improve the efficiency with which customers use energy and to directly improve their quality of life. Energy efficiency products likely provide other non-energy related benefits to low-income customers in the form of health, safety, comfort, and other improvements. Reductions in low-income customers' utility bills can have a disproportionately beneficial effect on household income as compared to non-low-income customers because a larger percentage of a low-income customer's income is spent on energy.

With these factors in mind, Public Service will continue to offer the same four diverse products from 2011 intended to reach a large percent of the low-income community while leveraging resources already in place to serve this customer group. The Company continues to partner with Energy Outreach Colorado, Mile High Youth Corps and the Governor's Energy Office who actively work with this customer segment.

The Low-Income Program consists of the following four products:

- Energy Savings Kit
- Multi-Family Weatherization
- Non-Profit Weatherization
- Single-Family Weatherization

Low-Income Product Rankings

Product Ranking was done for all products through the same process and the final prioritization for the entire Public Service portfolio[14]. As a result, the rankings below will not show the entire list, only low-income products. Criteria used to rank the products included: market segments, customer classes, natural gas energy savings, electric energy savings, number of participants, participant rate (% of the entire customer class), and Total Resource Cost Test results.

Table 11: Low-Income Program Product Rankings

Low-Income Program	Product Ranking	Type of Product	Fuel Market Segments Served
Energy Savings Kit	5	Prescriptive	Electric/Gas
Single-Family Weatherization	23	Prescriptive	Electric/Gas
Non-Profit Energy Efficiency	30	Custom	Electric/Gas
Multi-Family Weatherization	31	Custom	Electric/Gas

[14] The entire DSM product ranking can be found in Appendix B of this Plan.

B. Overall Budgets & Goals

The Company developed budgets and goals for the Program based on historical experience (Multi-Family, Non-Profit, and Single-Family) and target participation levels (Energy Savings Kit). Participation rates were established in partnership with GEO, EOC, low-income agencies, and vendors to further refine the goals and budgets.

Budgets for the Low Income gas segment have decreased from 2011 due to a decreasing number of non participants to market the Energy Savings Kits to, and a decrease in expected Single Family Weatherization participation from the third party program implementer. Public Service relies on customers who request and qualify for energy assistance on their energy bills to determine Low Income eligibility and is rapidly exhausting this list of prospects to market these offerings to. The Company will be seeking new sources of information to expand its efforts into the Low Income segment. Budgets for the Low Income electric segment have increased from 2011 due to an increasing number of projects identified in the Multi-Family Weatherization and Non Profit Weatherization products.

Table 12a: 2012 Electric Low-Income Program Budgets and Goals

2012	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Low-Income Program					
Energy Savings Kit	10,000	$647,664	301	5,195,061	~~2.64~~ 2.67
Multi-Family Weatherization	12	$350,669	96	1,100,000	~~1.63~~ 1.64
Non-Profit Energy Efficiency	25	$572,599	282	1,003,630	~~1.82~~ 1.83
Single-Family Weatherization	~~2,545~~ 2,860	~~$1,204,255~~ $1,236,688	~~342~~ 384	~~3,872,250~~ 3,942,250	1.41
Low-Income Program Total	~~**12,582**~~ **12,897**	~~**$2,775,187**~~ **$2,807,620**	~~**1,021**~~ **1,063**	~~**11,170,941**~~ **11,240,941**	**1.74**

Table 12b: 2012 Gas Low-Income Program Budgets and Goals

2012	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Low-Income Program						
Energy Savings Kit	9,998	$466,944	16,476	35,285	$1,590,990	4.09
Multi-Family Weatherization	12	$438,503	6,788	15,480	$9,846	1.01
Non-Profit Energy Efficiency	25	$628,006	6,970	11,099	$3,314	1.00
Single-Family Weatherization	~~1,627~~ 1,830	~~$1,947,969~~ $2,167,969	~~28,034~~ 31,942	~~14,391~~ 14,526	~~$806,233~~ $928,276	1.23
Low-Income Program Total	~~**11,662**~~ **11,865**	~~**$3,481,422**~~ **$3,701,422**	~~**58,268**~~ **61,726**	~~**16,737**~~ **16,676**	~~**$2,410,383**~~ **$2,532,426**	~~**1.40**~~ **1.39**

Table 12c: 2013 Electric Low-Income Program Budgets and Goals

2013	Electric Participants	Electric Budget	Net Generator kW	Net Generator kWh	Electric MTRC Test Ratio
Low-Income Program					
Energy Savings Kit	8,250	$510,957	194	3,497,334	~~2.20~~ 2.22
Multi-Family Weatherization	12	$389,446	112	1,283,333	~~1.73~~ 1.74
Non-Profit Energy Efficiency	25	$930,248	506	1,800,234	~~1.96~~ 1.97
Single-Family Weatherization	~~2,545~~ 2,860	~~$1,222,045~~ $1,254,478	~~314~~ 356	~~3,575,259~~ 3,645,259	~~1.34~~ 1.35
Low-Income Program Total	~~10,832~~ **11,147**	~~$3,052,696~~ **$3,085,129**	~~1,021~~ **1,063**	~~10,156,160~~ **10,226,160**	~~**1.70**~~ **1.71**

Table 12d: 2013 Gas Low-Income Program Budgets and Goals

2013	Gas Participants	Gas Budget	Net Annual Dth Savings	Annual Dth/$M	Gas MTRC Test Net Benefits	Gas MTRC Test Ratio
Low-Income Program						
Energy Savings Kit	8,249	$494,467	13,593	27,490	$1,402,244	3.62
Multi-Family Weatherization	12	$439,248	6,788	15,454	$30,615	1.04
Non-Profit Energy Efficiency	25	$628,334	6,970	11,093	$28,765	1.02
Single-Family Weatherization	~~1,627~~ 1,830	~~$1,960,019~~ $2,180,019	~~28,034~~ 31,942	~~14,303~~ 14,446	~~$903,636~~ $1,039,271	~~1.25~~ 1.26
Low-Income Program Total	~~9,913~~ **10,116**	~~$3,522,068~~ **$3,742,068**	~~55,385~~ **58,843**	**15,725**	~~$2,365,260~~ **$2,500,895**	**1.39**

C. Market Analysis

The market potential study provided useful insight because it distinguished between single-family and multi-family dwellings, allowing for distinctions between these two customer types. However, likely the best information regarding the Low-Income Program comes from the entities that have historically served that market. As such, the Company relied heavily on information provided by GEO, EOC, and other agencies and non-profit organizations to design its products.

D. Marketing/Advertising/Promotion

The Low-Income Program aims to educate low-income customers on the importance of and value provided by energy efficiency. The Company will work with low-income providers, cities/counties and other community organizations to promote all available services. Marketing and promotion activities will occur primarily through partners with collateral material developed by Public Service. This tends to be the most effective way to target the low-income customers, as other targeting methods are limited. Xcel Energy's call center agents are also trained to provide useful information with which to direct potentially eligible customers to participate in the Program's products.

E. Program-Level Policies

Customers participating in the Energy Savings Kit and Single-Family Weatherization Products must purchase retail electricity or gas from Public Service on a residential tariff. Participants in the Multi-Family Weatherization Product must be a residential customer or own multi-family buildings whose rental units are a minimum 66% occupied by customers certified as low-income per product guidelines. Non-Profit Weatherization participants have business electric and gas accounts with Public Service since they are a business. Specific products within the Program may have different eligibility requirements depending on the services offered, funding partners or customers served.

F. Stakeholder Involvement

Public Service received significant input and assistance in originally developing and modifying products for the Low-Income Program and will rely heavily on stakeholders to deliver successful products. Perhaps more than any other Program, the Low-Income Program depends on outside expertise in the form of government agencies and non-profits to provide product benefits to customers. In this sense, Public Service is the facilitator that provides financial and energy efficiency resources to complement the services provided by state and local organizations.

The Company will continue to work with the GEO, EOC, vendors, outside consultants, Commission Staff, and local weatherization organizations to ensure that its Low-Income Program products are delivering promised benefits and producing effective results. These interactions will also guide mid-year performance adjustments that may be necessary to keep products on track.

G. Evaluation, Measurement and Verification

The specific product measurement and verification plans are included in the M&V section of the Indirect Products and Services in this Plan.

Products that will undergo comprehensive evaluations in 2012 and 2013 are noted in the E,M&V section of the Indirect Products and Services, as well as in the respective product description.

➢ Energy Savings Kit Product

A. Description

The Energy Savings Kit Product will provide a bundle of home energy efficiency measures in a kit that can be distributed to low-income customers through direct mail campaigns and partnerships. The kits offer electricity and natural gas saving measures, as well as customer education to help lower customer bills and improve the comfort and safety of their dwellings.

Income-qualified customers will receive an offer through the mail informing them of their eligibility to receive a free Energy Savings Kit, what the contents are, and how much they could save if they install all the measures provided. If the customer chooses to receive a kit, they will send the business reply card, postage pre-paid, to the third party implementation vendor. Customer will receive a kit within 6-8 weeks, or on the next mailing cycle.

The Energy Savings Kits will include the following electric and natural gas efficiency measures:

- High Efficiency Showerhead (1.5 gpm)
- Kitchen Faucet Aerator (1.5 gpm)
- Bathroom Faucet Aerator (1.0 gpm)
- Four (4) Compact Fluorescent Bulbs- 14 Watt (60 Watt Equivalent)
- Four (4) Compact Fluorescent Bulbs- 19 Watt (75 Watt Equivalent)

B. Goals, Participants & Budgets

Goals and Participants

The Company determined the number of kits to send out based on 2010 product performance and projections for possible participation in 2011. Participation for the 2012-2013 program years decreased due to the limited amount of income eligible customer data that The Company has access to. The kits in 2012-2013 will include two additional 19 Watt bulbs to maintain the same level of savings that were achieved in past years.

Energy savings goals for 2012-2013 included installation rates that occurred in the 2010 program.

Budgets

The Energy Savings Kit Product budgets for 2012-2013 are based on the number of participants and kits. The product budgets cover kit contents, education, production, distribution, and the fees from the third party implementation vendor.

C. Application Process

Customers who have applied for LIHEAP funding, any energy assistance funding (including county assistance and fuel fund assistance), or LEAP funding, or other state assistance programs and live in Public Service's territory will be sent an offer via mail to qualify for the product. The third-party implementation vendor will track customer participation so that customers do not receive more than one kit. This tracking information will also be provided to Public Service on a regular basis.

D. Marketing Objectives, Goals, & Strategy

The overall objective of the product is to increase and expand education among the low-income customers on the importance of energy efficiency and the value of taking action to improve efficiency in their homes. Public Service will work with state and local agencies to obtain customer mailing lists to reach more customers annually. Included in the Energy Savings Kits will be program information regarding the Single Family Weatherization Product, encouraging the customer to take action to participate in other offerings available to them.

E. Product-Specific Policies

In order to participate, customers must receive LIHEAP, LEAP, or any energy assistance funding (including county assistance and fuel fund assistance) or other state assistance programs. Public Service will explore in the future a method for allowing customers to self identify their income and allow customers slightly above the federal poverty level to participate. This would greatly expand the number of eligible customers and help individuals who are still struggling despite not meeting the income guidelines.

F. Stakeholder Involvement

The Company will continue to work with local and state agencies to determine additional kit content needs.

G. Rebate Levels

Public Service will fund 100% of the cost of the Energy Savings Kit. There will be no rebate provided to customers.

➢ Multi-Family Weatherization Product

A. Description

The Multi-Family Weatherization Product is designed to provide funding on a wide variety of equipment and process improvements for natural gas and electric efficiency measures to low-income multi-family buildings. While similar to the Single-Family Weatherization Product, this offering differs in that these homes have common areas, greater overall square footage, and more appliances and potential measures.

The Multi-Family Weatherization Product will be run in partnership with Energy Outreach Colorado (EOC). Public Service funds will supplement federal weatherization grants to produce incremental, cost-effective gas and electric savings. The EOC works jointly with the Governor's Energy Office (GEO) to identify and qualify multi-family units for the product. Details of measures, rebates, reporting processes, and measurement and verification procedures will be evaluated on a per project basis using a detailed engineering analysis.

B. Goals, Participants & Budgets

Goals and Participants
Participation for the Multi-Family Weatherization Product was created using the 2010 actual projects completed and through discussions with the EOC on anticipated product applicants. Participation can vary from building to building as many properties are master metered.

Budgets
Historical costs and participation information was tracked and analyzed to project 2012-2013 budgets. Furthermore, external resources and discussion with local stakeholders are used to ascertain expenditures and market equipment cost. Comparative spending analysis of past year activity is conducted but is not the determining annual factor, since other external variables like promotions, materials and staffing exist.

C. Application Process

To participate in the Multi-Family Weatherization Product, customers must apply through the EOC. Applications are reviewed by EOC and must have a comprehensive audit performed on the building prior to submitting applications. Low-income households must comprise at least 66% of the building's total households for the building to be eligible to apply. EOC will determine who has the greatest need for weatherization services. In some cases, if the need is very high, the application may be approved for buildings that are occupied by 50% low-income.

D. Marketing Objectives, Goals, & Strategy

The overall marketing objective is to increase and expand education among the low-income customers and building owners on the importance of energy efficiency. Public Service will also work to educate customers on the value of taking further actions to improve efficiency in their homes.

Public Service will work with the low-income providers to encourage promotion of all services available. Information will be posted on the Xcel Energy website directing customers to their local agencies. The Company may also partner with other low-income groups to further educate the customers and building owners.

E. Product-Specific Policies

In order to participate, customers must be the building owners of multi-family housing complexes with at least 66% of the rental units occupied by low-income customers whose income is below 80% of the local area median. Customers meeting the federal Department of Energy Weatherization Assistance Product funding guidelines, as determined by the GEO, local government, or their agencies, are automatically deemed income eligible.

F. Stakeholder Involvement

When designing the Multi-Family Weatherization Product, Public Service worked with external consultants to define which measures would ensure customer comfort while saving money on energy costs. In addition, Public Service will continue to evaluate historical projects with EOC to determine specific measure trends.

G. Rebate Levels

The Multi-Family Weatherization Product does not provide a rebate to customers, but rather provides project funding in the form of grants. The incentive amounts for the energy improvements can be found in the planning assumption section in this Plan.

Public Service will evaluate each project on a custom basis to determine rebate levels using a detailed engineering analysis. Engineers review the project information to determine the projected energy savings, benefit/cost ratio (i.e.TRC) and payback. Projects will be bundled in order to pass the total resource cost test for the program. Testing, engineering and project management fees may be included in the project costs.

➢ Non-Profit Weatherization Product

A. Description

The Non-Profit Weatherization Product is designed to provide funding on a wide variety of equipment and process improvements for natural gas and electric efficiency measures to qualified non-profit organizations within the Company's service territory. The product's focus is on helping organizations that serve low-income individuals, such as shelters, safe houses, and residential treatment centers for those who are on the brink of homelessness. Public Service will work with Energy Outreach Colorado (EOC) to support the Non-Profit Weatherization product. EOC utilizes funds through their existing NEEP offering (Non-Profit Energy Efficiency Program) targeting non-profits.

The Non-Profit Weatherization Product will be run in partnership with Energy Outreach Colorado (EOC). Public Service funds will supplement federal weatherization grants to produce incremental, cost-effective gas and electric savings. The EOC works to identify and qualify non-profit facilities for the product. Details of measures, rebates, reporting processes, and measurement and verification procedures will be evaluated on a per project basis using a detailed engineering analysis.

B. Goals, Participants & Budgets

Goals and Participants
Participation for the Non-Profit Weatherization Product was created using the 2010 actual projects completed and through discussions with the EOC on anticipated product applicants.

Budgets
Historical costs, donations and participation information was tracked and analyzed to project 2012-2013 budgets. Furthermore, external resources and discussion with local stakeholders are used to ascertain expenditures and market equipment cost. Comparative spending analysis of past year activity is conducted but is not the determining annual factor, since other external variables like promotions, materials and staffing exist. Public Service reviewed previous amounts spent to improve similar non-profit organizations in Colorado and based funding on overall improvements.

C. Application Process

Customers can learn about the Non-Profit Weatherization Product in a report that is submitted annually by the EOC to all low-income facilities. The EOC also reaches out to those customers who may not be aware of funding and educate them on the benefits of an energy efficient retrofit improvement. Customers who are interested in the Non-Profit Weatherization Product can apply online through the EOC website or through participating low-income providers. The online

application must also be accompanied by a third-party comprehensive audit and proof that the building is registered with the Secretary of State. A committee made up of industry leaders then determines the applicant's needs and how the joint EOC and Public Service funding can help.

D. Marketing Objectives, Goals, & Strategy

The overall marketing objective is to increase and expand education among the low-income customers and building owners on the importance of energy efficiency. Public Service will also work to educate customers on the value of taking further actions to improve efficiency at the facility.

The EOC markets the product through various channels, including communications through non-profit association literature, community resource center announcements, and local low-income foundations.

E. Product-Specific Policies

To receive funding, the following eligibility requirements must be met:

- Customers must receive electricity and/or natural gas from Public Service;
- Operate in a property they own and for which they pay energy bills or have a long-term lease that requires only non-profits to occupy the space with plans to be in current location for at least the next ten years; and
- The property to be upgraded must provide services to vulnerable populations including but not limited to: transitional housing, homeless shelters, affordable housing, domestic violence shelters and day shelters, organizations that provide services (substance abuse, health and mental health services, child care, education and/or emergency services) for special needs populations, including low-income families, the disabled, senior, and youth communities.

In addition, the following energy efficiency measures must be met:

- Be recommended by an independent energy auditor based on energy conservation calculations that are available for review; and
- Reduce the use of energy (natural gas or electricity or both) provided by Pubic Service to the facility.

In addition, participating low income agencies must be amenable to the following:

- Agree to the installation of an energy use monitoring and reporting system;
- Have a comprehensive energy audit by a qualified entity;
- Set target energy use goals for each facility; (1,048 kWh/yr; 330 Therms/yr);
- Consider installation of all qualifying efficiency measures;

- Engage appropriate contractors and manage the installation and completion of efficiency measures;
- Provide a summary project report at the completion of the installations;
- Provide all insurance and legal protections requested by Public Service; and
- Annually review the energy use of the retrofitted facility and formulate a plan for further improvement using available and appropriate assistance.

F. Stakeholder Involvement

When designing the Non-Profit Weatherization Product, Public Service worked with external consultants to define which measures would ensure customer comfort while saving money on energy costs. In addition, Public Service will continue to evaluate historical projects with EOC to determine specific measure trends.

G. Rebate Levels

The Non-Profit Weatherization Product does not provide a rebate to customers, but rather provides project funding in the form of grants. The incentive amounts for the energy improvements can be found in the planning assumption section in this Plan.

Public Service will evaluate each project on a custom basis to determine rebate levels using a detailed engineering analysis. Engineers review the project information to determine the projected energy savings, benefit/cost ratio (i.e. TRC) and payback. Projects will be bundled in order to pass the total resource cost test for the program. Testing, engineering and project management fees may be included in the project costs.

➢ Single-Family Weatherization Product

A. Description

The Single-Family Weatherization Product will offer natural gas and electric efficiency measures to low-income single-family households. Depending on need, Public Service may provide any of the following services:

Natural Gas Measures

- Furnace efficiency upgrades
- Wall insulation
- Attic insulation

Electric Measures

- Refrigerator replacements
- Compact fluorescent light bulbs (installment of 16 per home).

In addition to these measures, a major focus of this product will be customer education on ways to reduce energy use in the home. Low-income auditors will provide educational materials, historical energy usage information, and bill analysis to these customers during the weatherization process. Public Service will not claim any energy savings associated with the educational component of this product.

The Single-Family Weatherization Product is run in partnership with a third-party program implementer. The Company's funds will supplement federal weatherization grants to produce incremental, cost-effective gas and electric savings. The program implementer will develop annual contracts with the local weatherization agencies within the service territory. Details of measures, rebates, reporting processes, and measurement and verification procedures will be included and managed by the program implementer with the local contracts.

Settlement Terms

The Company agrees to add new cost effective measures to the Low Income Single Family Weatherization program to expand participation and savings. The specific measures currently under evaluation are high efficiency water heaters, storm windows, crawl space insulation, and attic insulation in manufactured homes. Such an expansion is expected to yield additional energy savings of approximately 0.07 GWh, and 3,458 Dth in both 2012 and 2013 and result in budget increases of $32,433 per year to the electric portfolio and $220,000 per year to the gas portfolio respectively.

B. Goals, Participants & Budgets

Goals and Participants

Goals and participation rates were established in partnership with the program implementer and the low-income agencies using historical participation in the 2010 Single Family Weatherization

Product as a guide, as well as recommendations from the program implementer on expected workflow.

Budgets
Budgets for the Single-Family Weatherization Product were developed based on the historical incremental cost of measures installed in homes.

C. Application Process

Public Service customers will be informed of the Single-Family Weatherization Product when they sign up for LIHEAP funding. In order to participate in the product, they must have applied for LIHEAP funding. Once it is determined that the customer meets the income guidelines and receives energy services from Public Service, they will be qualified by their local participating agency to receive weatherization services. Low-income agencies will actively seek out customers that qualify to participate in this product, and customers can inquire about it on their own as well. Information will be provided to new customers as they sign up for LIHEAP funding.

D. Marketing Objectives, Goals, & Strategy

The overall marketing objective of this product is to increase and expand education among the low-income customers on the importance of energy efficiency and the value of taking action to improve efficiency in their homes. Public Service will work with the low-income providers to encourage promotion of all services available. Information will be posted on Xcel Energy's website directing customers to their local agencies. The Company may also partner with other low-income groups.

E. Product-Specific Policies

In order to participate, customers must purchase retail electricity or gas from Public Service on a residential tariff and have a household income below 80% of the area median income. Customers meeting the DOE Weatherization Assistance Program funding guidelines, as determined by the program implementer, local government, or their agencies, are automatically considered income eligible.

F. Stakeholder Involvement

When designing the Single-Family Weatherization Product, Public Service worked with external consultants to define which measures would ensure that the customer is comfortable in their home and will also save money on their energy costs. The Governor's Energy Office (GEO) has contracted with low-income weatherization agencies to perform weatherization measures. These

contractors are funded through the GEO and other state funding and have agreed to weatherize homes following state regulations and guidelines.

G. Rebate Levels

Public Service will fund a pre-established amount for each low-income, single-family weatherization measure. The following table below provides the incremental cost of each measure. The measures that were considered replacement on burnout do not include a labor and equipment rental cost, as the measure would have to be replaced regardless of whether there is an efficiency upgrade or not.

PUBLIC SERVICE COMPANY OF COLORADO
Low-Income
Actual 2011 Expenditures

Exhibit No. DAW-4

	2011 January	February	March	April	May	June	July	August	September	October	November	December	2011 Total
PEAP													
Disbursements	$ 227,491	$ 199,872	$ 198,546	$ 206,740	$ 251,077	$ 235,827	$ 236,149	$ 344,294	$ 269,448	$ 367,119	$ 261,581	$ 251,619	$ 3,049,763
Administrative	$ 16,248	$ 15,828	$ 26,804	$ 12,628	$ 19,591	$ 20,294	$ 17,046	$ 21,236	$ 16,295	$ 20,337	$ 17,625	$ 58,786	$ 262,718
EAP													
Disbursements	$ 201,507	$ 179,564	$ 169,710	$ 193,480	$ 284,023	$ 242,816	$ 251,909	$ 325,850	$ 246,621	$ 353,239	$ 247,090	$ 259,631	$ 2,955,440
Administrative	$ 9,464	$ 5,990	$ 4,483	$ 11,004	$ 8,823	$ 7,305	$ 10,817	$ 6,510	$ 14,188	$ 8,285	$ 7,741	$ 10,159	$ 104,769
TOTAL													
Disbursements	$ 428,998	$ 379,436	$ 368,256	$ 400,220	$ 535,100	$ 478,643	$ 488,058	$ 670,144	$ 516,069	$ 720,358	$ 508,671	$ 511,250	$ 6,005,203
Administrative	$ 25,712	$ 21,818	$ 31,287	$ 23,632	$ 28,414	$ 27,599	$ 27,863	$ 27,746	$ 30,483	$ 28,622	$ 25,366	$ 68,945	$ 367,487
													$ 6,372,690

Percent of costs that are Admin 5.77%

CUSTOMERS	
Gas Only	2,445
Electric Only	679
Gas & Electric	6,515
Total	9,639

PEAP	
Disbursements/Customer	$ 340.38
Administrative/Customer	$ 29.32

EAP	
Disbursements/Customer	$ 410.82
Administrative/Customer	$ 14.56

TOTAL	
Disbursements/Customer	$ 623.01
Administrative/Customer	$ 38.13

Public Service Company of Colorado
Low-Income statistics
DSM & Weatherization impacts

Exhibit No. DAW-6

		Average Base Consumption in Low-Income Homes		Potential Impact of energy efficiency/DSM on Low-Income consumption			
	Pilot Program at Dec 31, 2011 Low-Income Customers	KWH Average Electric Consumption	THERMS Average Gas Consumption	KWH Savings per Month Energy Saving Kit	KWH Savings per Month Single Family Weatherization	THERMS Savings per Month Energy Saving Kit	THERMS Savings per Month Single Family Weatherization
Gas Only	2,445		57			1.4	14.5
Electric Only	679	620		43	115		
Gas & Electric	6,515	620	57	43	115	1.4	14.5
Total	9,639						

Note: Consumption figures are from the Company's billing system.
Energy Savings are derived from the Company's DSM plan, see DAW-2.

Public Service Company of Colorado
Low-Income impacts on non-participants
Costs recovered through fixed fee

Exhibit No. DAW-7

Impact on Residential customers per Month, amount included in S&F Charge

	Pilot Program Actual	Projected 2013
GAS	$ 0.17	$ 0.15
ELECTRIC	$ 0.12	$ 0.08

Progam's maximum cost impact per Month, per Commission Rule

	Phase I	Phase II	Phase III
GAS	$ 0.25	$ 0.28	$ 0.315
ELECTRIC	$ 0.25	$ 0.28	$ 0.315

Projected 2013 Annual Impacts on Customer Classes
Electric Customers

Residential	$ 1,207,500
Commercial	$ 183,750
SG	$ 1,173,000
PG	$ 235,500
TG	$ 110,250
	$ 2,910,000

Projected 2013 Annual Impacts on Customer Classes
Natural Gas Customers

Residential	$ 2,416,869
Commercial	$ 825,416
CLG	$ 130,709
IG	$ 7,406
	$ 3,380,400