

IDENTIFYING SAVINGS ARISING
FROM
LOW-INCOME PROGRAMS

PREPARED BY:

Roger D. Colton
Fisher, Sheehan & Colton
Public Finance and General Economics
34 Warwick Road
Belmont, MA 02178
617-484-0597

July 1994

Certain improvements in the treatment of low-income households will result in cost savings to the utility engaging in such efforts.¹¹ Different people view these savings differently. According to the *Public Utilities Fortnightly* article first positing such savings:

There is no question but that this inability to pay is a *social* problem. There is also no question, however, but that this inability to pay represents a *utility* problem. For these households, regardless of the number of disconnect notices that are sent, regardless of the number of times service is disconnected, regardless of the type of payment plan that is offered, there will be insufficient household funds to pay. A utility can recognize this conclusion, and seek to collect what it can while minimizing its collection expenses, or a utility can deny the conclusion and devote its time and energy and attention to what will prove to be fruitless, and expensive, collection endeavors.¹²

Similarly, the Pennsylvania Public Utility Commission's Bureau of Consumer Services noted the costs of payment problems that are already "embedded in existing rates."¹³ The Vermont Public Service Department noted that there are

two harsh realities for the utility industry. First, charging a rate and collecting a rate are two separate actions. Simply because a utility charges a particular rate does not mean that the utility will ever collect that money from a low-income household. Second, even when a utility does collect the total bill from a low-income household, the utility often spends considerable sums in the very act of collection."¹⁴

And the *Final Report of the Blue Ribbon Commission on Energy Policy for Maine's Low-Income Citizens* said:

Other Maine households and businesses also suffer from the effects of unmet energy needs of low-income citizens. Electric utilities carry large uncollectible expenses* * *which are paid for by all ratepayers as a cost of business.* * *Collection costs and working capital on unpaid

¹¹ These might involve discount rate, targeted low-income DSM programs, direct vendoring programs (with forgiveness of excess bills over direct vendor payments), or arrearage forgiveness programs.

¹² Colton. "A Cost-Based Response to Low-Income Energy Problems." *Public Utilities Fortnightly* (March 1, 1991).

¹³ Bureau of Consumer Services, Pennsylvania Public Utility Commission, *Final Report on the Investigation into the Control of Uncollectible Accounts* (Feb. 1992).

¹⁴ Brief and Argument, Vermont Department of Public Service, *In Re. Investigation into Low-Income Programs*, Docket No. 5308 (Jan. 1991).

bills impose costs on energy vendors, utilities, and all consumers."¹⁵¹

The purpose of the discussion below is not to assess whether the savings arising from certain low-income programs are sufficient to offset the costs of those programs. Nor is the purpose of this discussion to definitively articulate the magnitude of the savings involved. Instead, this discussion is simply to create a taxonomy of the types of savings that should be evaluated. This discussion will examine all savings other than working capital. Working capital is discussed in the document titled: *Low-Income Programs and Their Impact on Reducing Utility Working Capital Allowances*.

CREDIT AND COLLECTION EXPENSES

Credit and collection activity is defined to include the following five types of actions by a utility: (1) a shutoff notice; (2) personal contact (via telephone); (3) personal contact (via a premise visit); (4) the disconnection of service; and (5) the reconnection of service. Two observations should be made about this list. First, since virtually every utility reports that each service disconnection is quickly followed by a service reconnection (generally within hours, not even days), both the disconnection *and* the reconnection should be considered part of the credit and collection process. Second, since the negotiation of payment plans is treated separately, this activity is not included in the list of credit and collection activities.

The best way to determine the credit and collection expenses associated with non-payment is to calculate the cost of each step of the process, to determine the extent to which each step is experienced on the utility system, and then to calculate the total cost. Hence, in testimony before the Pennsylvania PUC regarding Columbia Gas Company, the following calculation was made. The total cost to Columbia to disconnect and reconnect households as a collection device was found to be \$65.71. The derivation of that cost is set forth below:

¹⁵¹ Ward S. (1990), *Ready for Winter?: Final Report of the Blue Ribbon Commission on Energy Policy for Maine's Low-Income Citizens*, at 32, Augusta: State of Maine Executive Department.

COLLECTION ACTIVITY	COST ^{1a)}
SHUTOFF NOTICE	\$ 0.75
TELEPHONE CONTACT	\$ 1.28
PREMISE VISIT	\$ 18.09
DISCONNECTION	\$ 21.92
RECONNECTION	\$ 43.84
TOTAL: ^{1b)}	\$ 65.71
<p>NOTE: ^{1a)} Provided by the utility in response to discovery.</p> <p>^{1b)} Does not include personal contact (either telephone or premise visit).</p>	

A choice was made to not include personal contacts in the base calculation. While telephone contacts represent roughly 80 - 90 percent of the total personal contacts each month, the premise visits cost Columbia more in aggregate dollars. Thus, for example, while Columbia made 158 premise visits and 1,534 telephone contacts in December 1989, it spent \$2,858 on premise visits and only \$1,964 on telephone contacts. Suffice it to say that the Pennsylvania PUC requires utilities to make personal contact with households prior to the disconnection of service. In instances where premise visits are used by Columbia Gas in complying with that requirement, total cost of collection would be $\$65.71 + \$18.09 = \$83.80$. Where telephone contact is made, the total cost is $\$65.71 + \$1.28 = \$66.99$.

A total cost of Columbia Gas credit and collection activities was then calculated. The *total* 1989 expenditures by Columbia on the credit and collection activities outlined above were \$486,881 while the total 1988 expenditures were \$434,505. Columbia Gas reports to BCS its total number of shutoff notices, premise visits, telephone contacts, and the like. This total cost is thus the per unit cost (as set forth above) multiplied times the number of each action reported to BCS.

A "reality check," both on the analyst's calculation of credit and collection savings as well as on any utility's self-reporting of credit and collection savings, is to compare the results of the calculations made above to the utility's regulatory reporting of credit and collection expenses. These expenses, of course, are in the "900" accounts. Thus, for example, the following accounts have credit and collection expenses in them:

ACCOUNT NUMBER	EXPENSES INCLUDED
901	Supervision (major only): including the cost of labor and expenses incurred in the general direction and supervision of customer accounting and collecting activities. Does <i>not</i> include the direct supervision of a specific activity found in a different account (<i>e.g.</i> , "collection expenses" are found in account 903).
903	Cost of labor and materials "incurred in work on customer applications, contracts, orders, credit investigations, billing and accounting, collections and complaints. Includes all work on service disconnections, as well as "receiving, refunding or applying customer deposits and maintaining customer deposit* * *records." Also includes collecting revenues, "extending unpaid balances," "preparing, mailing, or delivering delinquent notices," final meter readings, and "disconnecting and reconnecting services because of nonpayment of bills." ⁽⁶⁾
904	Uncollectible accounts. Includes "amounts sufficient to provide for losses from uncollectible utility revenues. Concurrent credits must be made to the accumulated provision for uncollectible accounts.

These expenses will be reported on an annual basis in an electric utility's FERC Form 1. Gas utilities file the same information in their FERC Form 2. There should not be a significant mismatch between the calculations described above and the expenses recorded in these 900 accounts. The 900 accounts, of course, will contain expenses for *all* customer classes. It should be possible, however, at least qualitatively, to gain a notion of the extent to which these expenses are residential by an examination of the extent of credit and collection activity directed toward other customer classes (*e.g.*, industrial, commercial).

BAD DEBT

Bad debt will not represent a substantial part of the savings attributable to low-income programs. Under the best of circumstances, utilities run bad debt ratios of 0.25 percent to 0.5 percent. Under the worst of circumstances, utilities run bad debt ratios of 3.0 to 4.0 percent.

Moreover, it is difficult to determine a solid number for the expenses to be avoided through

⁽⁶⁾ Note that this account does *not* include expenses for disconnecting and reconnecting service for any reason other than "nonpayment of bills." Thus, this account does not include the expenses associated with disconnection of service for seasonal homes, for a change of homes by a residential customer, or similar purposes.

bad debt. The New York Public Service Commission noted that one problem with the use of uncollectibles is that "the point at which an account is classified as uncollectible is somewhat arbitrary."¹⁷⁾ The ratio, in other words, is highly dependent upon management decisions rather than upon the energy needs of a company's low-income households. One company may write-off a debt as uncollectible when it is 120 days old, while a different utility may not write-off a debt as uncollectible for twelve months (365 days). Even if quantifiable and significant, it would be difficult, therefore, to isolate whether the existence of savings (or lack thereof) is attributable to the low-income rate or to some company policy.

DEPOSIT MAINTENANCE

Reducing the inability-to-pay of low-income households presumably should reduce the need to collect and maintain deposits from those households as well. The collection of a cash deposit is one means to gain protection against the potential loss of revenue through bad debt. The deposit serves the function of security to protect against the risk of default.

To require deposits from customers, however, is not without cost to remaining ratepayers. The costs are of two types: (1) out-of-pocket expenses; and (2) interest expense. The collection of deposits involves out-of-pocket expenses to a utility. When a utility collects a deposit, it must undertake to do several things. It must obtain credit information from some source. Frequently that source will be a "consumer reporting agency." In such instances, the utility must take particular actions to ensure compliance with the terms of the federal Fair Credit Reporting Act, a statute that imposes certain obligations on the users, as well as the distributors, of "consumer credit reports." Second, the utility must service its deposits. In particular, it must keep track of the deposits in such a manner that they can and will be refunded at the appropriate times.

A second *genre* of expense is the interest to paid on utility deposits. The common law, as well as state regulations, virtually universally hold that customers are entitled to interest on their deposits. While an argument might be made that even should a utility *pay* interest to the customer, it is at the same time avoiding the interest to be paid on capital not needed to be raised in the market (as customer contributed capital displaces investor-supplied capital). This argument is misplaced. A utility would only reduce its cost of capital through this displacement process in the event that its marginal cost of capital is greater than the interest it pays the customer. Since the marginal cost of capital is likely going to be short term borrowing --perhaps something as simple as commercial paper-- the odds are remote that the utility will benefit by a swap of customer deposits for short-term debt.

REGULATORY EXPENSES

Regulatory expense savings should occur in three different arenas. First, the extent to which

¹⁷⁾ Sawyer D. and Teumim P., (1990), *Gas and Power Utility Uncollectibles and Collection Activity*, at 1, Albany: Consumer Services Division, New York Sate Public Service Commission.

rate cases are devoted to issues generated by inability-to-pay should be reduced. Whether that rate case litigation involves bad debt calculations, rate discount proposals, cost allocations or some other related issue, the time and effort devoted to such issues should be reduced.

Second, regulatory rulemaking attention to inability-to-pay problems should be reduced. Issues that may finally be set by the way side include the appropriate winter shutoff protections, the types of appropriate deferred payment arrangements, notice requirements, and the like.

Finally, regulatory attention to individual complaints should be reduced. Complaints might involve allegations that a particular followed inappropriate procedures in effecting the disconnection of service. They might involve allegations that a utility refused to enter into a "reasonable" payment plan. It should be noted, however, that complaints asserting that bills are "in error" because they are "too high" may simply be an indirect way of asserting an inability-to-pay.

PAYMENT PLAN NEGOTIATION

One major expense that should be avoided through the implementation of certain low-income programs is the negotiation of payment plans. Again, Columbia Gas provided data on the cost of each individual payment plan negotiation:

EXPENSE ITEM	COST
HOURLY RATE (customer service representative)	\$15.49
OVERHEAD (hourly rate x 39.589%)	\$ 6.13
HOURLY SUB-TOTAL:	\$21.62
TIME TO NEGOTIATE PLAN	.50 hours
SUB-TOTAL	\$10.81
CLERICAL TIME	\$ 3.83
TOTAL COST	\$14.64

The advantage of making low-income bills affordable is that they eliminate an entire series of payment plan negotiations for the utility. Rarely does a utility negotiate a single payment plan for a low-income customer. Indeed, the reasoning of the Pennsylvania Commission in September, 1990, was sound when it directed Columbia Gas of Pennsylvania to implement a pilot low-income rate, stating:

* * *for the poorest households with income considerably below the

poverty line, existing initiatives do not enable these customers to pay their bills in full and to keep their service.* * *Consequently, to address realistically these customers' problem and to stop repeating a wasteful cycle of consecutive, unrealistic payment agreements that cannot be kept, despite the best of intentions, followed by service termination, then restoration, and then more unrealistic agreements, we believe that new approaches like* * *the OCA's proposed EAP program should be tried.^{18\}

In general, NCLC's report for the Pennsylvania Office of Consumer Advocate, which examined the control of uncollectible accounts in that state, found that "Payment plans in Pennsylvania are simply not working."^{9\} In the *Equitable Gas* decision approving that company's low-income program,^{10\} the Pennsylvania Public Utility Commission found that "arrearages associated with the prospective EAP participants range between \$9 million and \$10 million. Those EAP-eligible customers who currently have payment arrangements either negotiated by BCS or the Company pay on average little more than 50 percent of the presubscribed amount." Moreover, other Pennsylvania utilities experienced similar failure rates as follows:^{11\}

^{18\} *Pennsylvania Public Utilities Commission vs. Columbia Gas Company of Pennsylvania*, Docket R-891468, Decision and Order (September 1990).

^{9\} Roger Colton, *Controlling Uncollectible Accounts in Pennsylvania*, at 69 (Dec. 1990).

^{10\} *Pennsylvania Public Utility Commission v. Equitable Gas*, Docket No. R-901595, Decision and Order, at 71 (November 21, 1990).

^{11\} *Controlling Uncollectible Accounts*, *supra* note **Error! Bookmark not defined.**, at 71.

COMPANY	SUCCESS RATE (%) 1987	SUCCESS RATE (%) 1988	SUCCESS RATE (%) 1989
UGI	33.3%	32.9%	36.6%
PECO^{12\}	11.4%	11.5%	28.3%
MET EDISON^{13\}	31.5%	63.9%	61.3%
PENELEC	29.3%	26.3%	25.9%

More recently, Connecticut Light and Power Company reported that more than 70 percent of the payment plans it negotiates with its "hardship" customers fail. Philadelphia Water reports that its payment plan failure rate is more than 70 percent as well.

In sum, therefore, to address the inability-to-pay of a single low-income customer will generate multiple savings from the avoidance of payment plan negotiations. Most payment plans fail. However, most utilities also negotiate repeated payment plans with low-income consumers. While each avoided payment plan may save the utility \$15 or more, each low-income consumer whose payment problems are alleviated may avoid the need for several negotiated payment plans.

CREDIT AGENCY FEES

One expense associated with low-income inability to pay problems involves the fees paid by the utility to collection agencies to chase unpaid bills. Columbia Gas, for example, was found to have paid an average commission fee of 33.5 percent to each collection agency it used during the years 1987 through 1989. (OCA-II-51). While the use of these agencies was singularly ineffective (collecting less than 20 percent of the average referred bill for the three years in question), given the 33.5 percent commission, it is clear that Columbia Gas was *willing* to make a substantial investment in these agency collection efforts as indicated by the number and size of accounts referred to the agencies:

^{12\} PECO reported that it "does not identify the individual customers who successfully maintain payment arrangements. However, we do track the overall success rate of special payment arrangements." IRR-APP-B-G.3

^{13\} Metropolitan Edison does not separately track the success rate of Budget Plus customers from Current Plus customers. Moreover, its use of the Budget Plus process is quite limited, involving 615 accounts in 1987, 360 accounts in 1988, and 430 accounts in 1989.

YEAR	1987	1988	1989
ACCOUNTS (###)	8,924	8,758	10,239
DOLLARS PER ACCOUNT	\$387	\$428	\$445

If households can be kept on the system by making their bills more affordable, the utility should be able to eliminate some portion of these accounts for which it uses a collection agency.

LOST TIME VALUE IN ARREARS

One "expense" associated with the low-income payment plans arises from the fact that a dollar collected today is worth more than a dollar collected tomorrow. As a result of payment plans, in other words, a utility loses the time value of the arrears subject to these plans. To recognize the dollars that might end up in arrears, and pass those dollars through in rates *immediately*, therefore, will save the company (and thus its ratepayers) that lost time value in funds.

The loss may manifest itself in one of two ways. In the event that the utility must borrow money to fill its short-term capital needs, the loss shows up as a working capital expense. In contrast, even when a company need *not* borrow money to provide the revenue (the payment of which is deferred through a payment plan), the loss shows up as an opportunity cost. If the money *had* been collected rather than deferred through the deferred payment plan, the prudent utility manager would have invested that revenue and obtained a rate of return on it.

It is important to note that the lost time value discussed in this section is the lost time value that arises only from the date of the payment plan. It does not incorporate the lost time value from the time the bill was first rendered to the time the customer enters into the payment plan. That time period can be substantial. It is not unusual for low-income households to enter into payment plans in April, for example, to address arrears that have been building for four or five months.

The major task in determining the lost time value of funds subject to payment plans is to accurately set the discount rate. Through application of an appropriate discount rate, a public utility can determine what immediate payment will represent the functional equivalent of a stream of payments over the life of a deferred payment plan. A great deal of confusion exists over the choice of the appropriate discount rate to use in determining the "present value" of a stream of payments. A discount rate is required so as to allow the numerical computation to find out if the immediate payment equals at least the value of the stream of deferred payments. The basic question, therefore, is: of all the discount rates available, which one is the proper one?

The easiest answer is that the appropriate rate must reduce the future stream of deferred payments to the value of the discounted current rates. There is a cornucopia of possible discount rate

approaches, however, and the argument over which rate is "best" can become quite involved. It is important to remember nevertheless that the workload of the discount rate is still limited simply to ensuring that the utility gets the functional equivalent to what it would have received through a stream of future payment plan payments.

Two major factors go into making a determination of what the value of a future stream of payments is. The first determination involves the loss of time value associated with receipt of future payments. The second determination involves how to assess the risk of the future stream of payments. The determination of an appropriate discount rate, therefore, can be divided into two parts: first, to determine whether the payment stream provides sufficient value over capital recoupment to offset the loss of the time value of money; and second, to determine if the stream of payments is sufficiently large to offset the risk to the repayment.¹⁴⁾

The prime lending rate and one of the various treasury bill rates¹⁵⁾ comprise the most often discussed direct surrogates for a discount rate. The prime rate is the lowest rate offered by commercial banks to their best corporate customers, and is widely considered to be reasonably fluid with respect to current economic forces. The treasury bill rates have much the same attributes as the prime rate. In Chapter 11 reorganization proceedings, courts adopting this standard have generally accepted either the weekly or quarterly auction rate of treasury bills as the appropriate surrogate. Treasury note, bill and bond rates taken as a group form a much more comprehensive standard than the prime rate.¹⁶⁾

Both the prime rate and the treasury bill rates are objectionable for discounting a utility deferred payment plan, however, for several quite good reasons. First, both the prime rate and the treasury bill rates are rates for short term borrowing. In contrast, utility deferred payment plans can last for several years. Second, while the prime rate is purported to be the *lowest* rate at which banks lend to their best corporate customers, in fact it is not.¹⁷⁾ Moreover, neither the prime rate nor the treasury bill rates involve risks analogous to those associated with the typical utility deferred payment plan. The treasury standard's weakness, in particular, is that all the rates involved are for securities with essentially zero risk of default, which is a clear bar to their use unless further adjusted.

¹⁴⁾ It is for these reasons that the discount factor is divided into two components: a risk free component and a risk premium.

¹⁵⁾ Treasury securities are all graded by maturity. Interest on debt offered by the United States differs on the basis of the term of the debt. Interest rates for various maturities are available within the broad categories of "bonds" with maturities of more than ten years; "notes" with maturities of more than one but less than ten years; and "bills" with maturities of one year or less. Moreover, because they are not considered subject to default, United States government bonds or bills are a universally accepted standard of a riskless rate of interest. For a description of these securities, see generally, U.S. General Accounting Office, "U.S. Treasury Securities: The Market's Structure, Risks and Regulations," GAO/GGD-86-80BR (August 1986).

¹⁶⁾ These rates also have the substantial advantages of being subject to the broadest and most vigorous of market forces and of being published daily in every major newspaper in the country.

¹⁷⁾ A Greenwich Research Study showed that nearly 70 percent of large corporations are offered below-prime loans. The staff of the Committee on Banking, Finance and Urban Affairs of the House of Representatives released a report concluding that "the once clear barometer of interest rates has become a murky, ill-defined term that rarely reflects the lowest rates available to corporate customers." Cox, *Bankers Desk Reference*, at 16 (1982).

Because of this, the choice of treasury securities as a standard still leaves the difficult problem of deriving a measure for judging the risk component of a plan. It is difficult to arrive at a firm analytical basis for quantifying this risk component. Problems of proof with establishing a risk premium are substantial. It is difficult, if not impossible, to obtain an objective measure of such subjective creditor characteristics as risk adversity and time preference.

In sum, a major problem inherent in starting with the market determination of either the prime rate or Treasury rates, and then adding a premium to account for the risk of a default on a utility deferred payment plan, is the difficulty of determining what the premium should be, and then providing a reasoned justification for the particular value chosen.

The utility's weighted cost of capital represents a second type of standard to use in making a determination of discount rates for determining the present value of a stream of payment plan payments. Use of the utility's weighted cost of capital would be easily ascertainable, having been established in its most recent rate case. The theory behind use of this figure is that it bases the discount factor on the cost to the utility of obtaining substitute funds for those whose payment is deferred through a payment plan. The underlying logic of this approach is that the cost to the utility of not getting paid immediately is the cost of acquiring substitute funds over the interim. This cost can be represented by the utility's cost of borrowing.

This logic might be appealing except for the fact that it only deals with compensating the utility for the time value of money and ignores all other relevant factors. In fact, use of a utility's weighted cost of capital has several fatal flaws. First, the touchstone of providing the present value of a claim to be paid in the future is responsiveness to current market conditions. There is no reason to suppose *a priori* that the utility's weighted cost of capital will in any way approximate those conditions. Indeed, given the blending of long-term and short-term debt with equity capital, as well as the blending of new and old debt issuance, the weighted cost of capital would approximate current market conditions only by sheer happenstance.

In addition to this fundamental weakness, a series of other equally valid objections exist. First, the rate at which a utility can borrow is determined by the credit characteristics of the loan and the utility. There is, for example, no reason that the risk involved with the utility, itself, will be the same as the risk involved with the payment plan. Indeed, there is every reason to believe that the risk involved with the payment plan will be much higher. Not only is the payment plan entered into with a household having confirmed payment problems, the payment plan is unsecured. Moreover, there is no reason to suppose that the term of repayment under a deferred payment agreement will be the same as, or even close to, the term of any utility company debt.

Despite its surface appeal, use of the utility's weighted cost of capital would be an inappropriate discount rate. The cost of capital bears no relation to providing compensation for the loss of time value plus providing a risk premium.

The most appropriate standard to use involves an inquiry into the rates of local lenders making a loan of the same type, duration and risk. This standard would be based on a series of local or regional rates collected from a cross-section of lenders. The agreement by a local utility to allow a customer to repay arrears through a deferred payment plan, in essence, is most akin to an unsecured consumer loan to a low-income household with acknowledged bill paying problems. Typical similar loans of this term and risk would perhaps be made by small loan finance companies. The appropriate discount factor to use is the interest rate imposed for consumer loans of similar size and duration. According to the standard reference book *The Cost of Personal Borrowing in the United States*, a small consumer loan of this nature would cost roughly 30 percent per year.

FORCED MOBILITY

One impact of an inability to pay utility bills is a "forced mobility" on the part of low-income households. Low-income households move for a variety of reasons. They may be running from an unpaid and unpayable bill. Perhaps more frequently, low-income households move in search of more affordable shelter. Each time one of the Company's low-income households moves, however, it imposes a cost on the Company. There is the cost of disconnecting of service at the old address (even when the disconnection is "voluntary"). There is also the cost of reconnection of service at the new address.

Low-income households, however, have finite and limited resources to devote to their household expenses. The "forced mobility" of low-income households thus redounds to the substantial detriment of the utility by diminishing the corpus of the low-income household's ability-to-pay. Rather than using household income to pay for necessary expenses such as current monthly utility bills (or Budget Plus payments), household income is instead diverted to paying moving expenses, rental deposits, telephone connection fees, bank fees on minimum balances and the other expenses associated with changing residences. To the extent that the residency of low-income households can be made more stable, the allocation of household income can be made more rational. Less will be wasted. Rather than diverting money from limited resources to the household's process of staying ahead of creditors, those limited resources can instead be made more available for paying month-to-month expenses.

There is ample basis to believe that this "forced mobility" happens in fact, and is not simply a theoretical problem. The forced mobility of households, for example, is a common theme of discussions with LIHEAP personnel and with Community Action Agency caseworkers who work with and counsel low-income households on their energy problems. Second, a 1984 study by the National Social Science and Law Center (NSSLIC) considered the mobility of low-income households. NSSLIC found that compared to the roughly twelve percent of the total population that changed residences each year, nearly one-quarter (23 percent) of the low-income population moved. Disproportionately represented in the "mover" households are recipients of public assistance, minorities, and female-headed households. The NSSLIC study examined Pennsylvania-specific data. Third, it is known that

households which have recently established service have poorer utility payment records than those who are more stable.

NCLC research confirm the existence of this phenomenon as well. A study by the National Consumer Law Center for the Maine Public Utilities Commission looked at the households for whom a disconnection of service was sought during the winter of 1986 - 1987. NCLC found that nearly 60 percent of the households initiating service on and after August 1st failed to make a payment of any sort toward their utilities bill. Nearly 40 percent of the households who obtained service after August 1st had their service disconnected that winter. According to NCLC: "it can be concluded that the households initiating service on or after August 1, 1986 represent a more serious shutoff risk than those households having a record of service." Fourth, Pennsylvania utilities file reports with the Bureau of Consumer Services each fall pursuant to Rule 56-100, which reports look at the extent to which households that have been disconnected within the previous twelve months remain without heating service. The Columbia Gas reports examined for purposes of assessing a low-income rate for that company indicate that from January 1, 1989 through November 30, 1989, 1,807 "heat related properties" had their service terminated for nonpayment. As of December 13, 1989, 897 of those "heat-related residential properties" had not been reconnected. In turn, 380 of those 897 (42 percent) were vacant premises, indicating the household had moved subsequent to the shutoff. Similar results were experienced in 1988. From January through November, 1988, 1,902 households had service disconnected for nonpayment. As of December 13, 1988, 1,041 of those households were not reconnected. In turn, 439 of those 1,041 (42 percent) represented vacant premises.

In addition to the household expenses associated with forced mobility, there are other reasons why this forced mobility contributes to an inability to pay as well. First, low-income households which are forced into a pattern of mobility have less likelihood of entering into successful Level Billing Plans, under which bills are paid in 12 equal monthly installments. Here again, in Maine, NCLC discovered how low-income mobility serves, itself, to perpetuate low-income energy problems. In its Maine report, NCLC quoted Central Maine Power Company (CMP) as saying:

We (CMP) support the intent to establish a predictable and manageable payment plan for customers. However, due to a number of factors, we find that the payment amounts that we determine with estimated figures for future use need adjustment several times during the term of the special payment arrangement. * * *After just a couple of months into summer payments, the levelized payment figure may be adjusted to accommodate actual as compared to estimated usage. This is especially true when the Company has limited usage history on which to base the estimate.

(emphasis added). NCLC agreed, noting that for the households with recently established service, "a utility may be hard-pressed to develop dwelling-specific, household-specific, estimates of future energy use* * *." As a result, the budgeting benefits, in particular, which should arise from such plans can not.

Second, one requirement for participation in many utility DSM programs is that households have twelve consecutive months of service at the same address. Accordingly, the forced mobility of low-income households tends to disqualify these households from receiving assistance to lower their energy bills through conservation.

DIVERSION OF REVENUE

Addressing inability-to-pay problems through certain low-income programs will slow down, if not eliminate, the diversion of revenue from these customers to payment of fees other than current bills.

Even where the cost of the disconnect/reconnect process is paid for through a fee imposed on the delinquent customer, a customer which is not permanently removed from the system, but which instead merely has her service disconnected and then subsequently reconnected, ends up necessarily owing *more* than the arrears underlying the disconnection in the first instance. At the time of reconnection, in other words, in addition to the arrears which led to the disconnection, the customer is responsible also for paying any disconnect and reconnect fee. Because of these additional payment obligations, when the customer is poor, a utility might recognize that everyone loses under such circumstances and decide to forego the disconnection in the first instance.

Table A sets out a hypothetical detailing the impacts of imposing a disconnect/reconnect fee on a low-income household. One distinguishing characteristic of a low-income household is the limited *corpus* available to pay month-to-month utility bills. In Table A, the low-income household has an arrears at the time of disconnection of \$75; the cost of disconnecting and reconnecting the account is \$60 and is fully recovered through a disconnect/reconnect fee. After the process of disconnecting and reconnecting the household in this Table, therefore, the total bill owed by the customer is \$135 (\$75 arrears plus \$60 disconnect/reconnect fee). The household is assumed to be capable of making only a partial payment. In the Table, the customer makes a payment of \$55, leaving a total arrears after the disconnection and reconnection of \$80.

TABLE A	
THE IMPACT OF DISCONNECT/RECONNECT FEES FOR LOW-INCOME PAYMENTS	
CUSTOMER ARREARS AT TIME OF DISCONNECT	\$ 75

COST OF DISCONNECT AND RECONNECT	\$ 60 ^{18\}
CUSTOMER BILL IN TOTAL AFTER DISCONNECT	\$135
CUSTOMER PAYMENT	\$ 55
CUSTOMER ARREARS AFTER PAYMENT	\$ 80

As can be seen, even when the disconnect/reconnect fee is "cost-based," charging such a fee does not necessarily serve the best interests of all customers. In Table A, the customer is \$60 worse off. She started by owing \$75 and now owes \$80, despite having exhausted her ability to make a \$55 payment to the utility. The utility is \$60 worse off. It started with the customer \$75 in debt and willing and able to make a \$55 payment; that would have left a \$20 arrears. Instead it has a customer \$80 in arrears (with no further ability to make payments). The remaining ratepayers are worse off. Instead of devoting its limited resources to paying the bill for consumption, the low-income household has devoted its \$55 in resources to paying the disconnect/reconnect fee, leaving the initial arrears plus the uncompensated cost of disconnection and reconnection to be passed on through rates.

As can be seen, even when the disconnect/reconnect fee is "cost-based," charging such a fee does not necessarily serve the best interests of all customers. In Table A, the customer is \$5 worse off. She started by owing \$75 and now owes \$80, despite having exhausted her ability to make payments to the utility. The utility is \$60 worse off. It started with the customer \$75 in debt and willing and able to make a \$55 payment; that would have left a \$20 arrears. Instead it has a customer \$80 in arrears (with no further ability to make payments). The remaining ratepayers are worse off. Instead of devoting its limited resources to paying the bill for consumption, the low-income household has devoted its \$55 in resources to paying the disconnect/reconnect fee, leaving the initial arrears plus the uncompensated cost of disconnection and reconnection to be passed on through rates.

In sum, even in those instances where the customer makes full payment of the outstanding arrears after a service disconnection, the utility cannot be found *ipso facto* to have benefitted from the disconnect/reconnect process. So long as the late paying household has a limited *corpus*, if some part of the household's ability-to-pay is diverted to paying disconnect/reconnect fees, there is that much less left to pay current bills.

A similar analysis would apply to late payment charges. Like reconnect fees, the imposition of late payment charges would only serve to push households further into debt, thus diverting scarce household resources away from current payments to these extrinsic payments. Accordingly, it would not redound to the benefit of all remaining households. One cannot simply add new charges on to a household that has an inability to pay current bills with the expectation that these new charges will be

^{18\} Assume that entire cost of disconnection/reconnection is compensated through some type of fee.

paid in full.

SUMMARY

The implementation of low-income programs should generate substantial expense savings and substantial enhanced revenues to the utility. These impacts are discussed above. A summary list is presented here:

1. **Credit and collection savings:** A utility should be able to avoid expenses associated with negotiating deferred payment plans; sending shutoff notices; making personal contact; disconnecting and reconnecting service; post-disconnection collection activity; and the like.
2. **Bad debt:** As low-income customers increase their ability to pay by having energy bills made more affordable, a utility should experience a decrease in bad debt.
3. **Time value:** As a utility recognizes and recovers the unaffordable portion of bills more quickly, it will no longer experience the loss in time value of arrears.
4. **Regulatory expenses:** As households have monthly energy bills become more affordable, the strain on the regulatory system will be lessened, with attendant cost savings.
5. **Diverted revenue (reconnect fees):** As a utility moves away from the disconnection/reconnection process as a collection technique, there will be less revenue diverted from paying current monthly bills to paying reconnect fees.
6. **Diverted revenue (forced mobility):** As households have monthly energy bills become more affordable, their residency will become more stabilized and less revenue will be diverted from paying current monthly bills to paying mobility costs.
7. **Repeated payment plans:** Low-income programs will avoid the constant frustration of collection purposes. It will break the disconnect/reconnect cycle; it will break the constant cycle of negotiating unaffordable payment plans, abandoning such plans upon nonpayment, and negotiating yet another unaffordable plan.
8. **Targeted conservation:** Low-income households tend to live in bad housing stock. This results in those households wasting energy, which not only makes it more likely that these households will be unable to pay their utility bills, but is

contrary to public policy from the energy and natural resource perspective as well. Utilities have a difficult time identifying their low-income customers, however. Moreover, a majority of low-income residents are tenants, which makes it extremely unlikely that they can or will install conservation and/or weatherization measures on their own. There is thus an acute need to fashion programs that will facilitate the targeting of low-income conservation and weatherization assistance.