

Evaluation of CAP and Other Duquesne Light Universal Service Programs

Prepared by: The RETEC Group, Inc.

59 Elm Street

New Haven, CT 06510

David Cross, Principal Evaluator and
Senior Project Manager

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Summary

Duquesne Light asked The RETEC Group Inc. (RETEC) to evaluate its Universal Service Programs and to focus on CAP. RETEC interviewed program staff, observed operations, analyzed account data and program documents, and surveyed participants during the summer of 2003. We analyzed detailed account histories for over 30,000 customers from 2000 through April 2003.

CAP is functioning according to plan and largely in conformance with guidelines from the PUC. Most amounts CAP customers are asked to pay are less than the maximum percents of income the PUC deems to be affordable. CARES, CAP, LIURP, and Hardship Funds are closely integrated, in part because the community-based social agencies administering CAP also manage CARES and take hardship applications. Duquesne requires a LIURP assessment *before* high use customers can obtain subsidies from CAP. Agency staff are committed to customers and to the program and are knowledgeable concerning energy issues and other sources of assistance. They appear to have excellent electronic connections with Duquesne data systems and smooth, frequent communications with the USP leadership team at Duquesne.

In 2002 Duquesne doubled its collections efforts for all residential customers, in and out of CAP. One result is service terminations occurring in 2002 and 2003 at twice their 2000-2001 level. Another result is increased revenue from payment-troubled customers. Thus both negative and positive incentives (carrots and sticks) increased for customers entering CAP in 2002. It is therefore difficult to discern the impacts that are due entirely to CAP.

CAP customers are, on average, paying their discounted bills in full, and are receiving credits that reduce their pre-program debt and their balance. On average, they make more frequent payments in CAP than they made before they joined the program. In each recent month, nearly 70% of the enrolled customers made a payment. Customers felt well treated in the application process. They understand the main benefits and obligations of the program. Some expected and would have liked a larger reduction in their bill, but they are managing to keep up.

In the months just before customers join CAP, their account performance typically declines, reflecting whatever circumstance brings them to CAP's door. Once they join CAP, average account performance improves. On average, CAP customers pay only \$20 per year less than they were paying eight to twelve months before joining CAP, resulting in a slight drop in average revenue. However, because the amount of their retail bills has decreased (due largely to a reduction from the expiration of CTC), they end up paying a slightly *higher* percentage of the retail bill. Actual shortfall (the amount of current bill not covered by customer payments and customer-garnered grants) hovers at around \$40 per year on average, not much higher than it was a year before CAP.

Because the participants are doing a slightly better job of covering the bill, the net cost to ratepayers is modest and comes from three sources: administrative costs, debt forgiveness, and "prolonged subsidies" for any customers who remain in the program for part of the year when their circumstances improve.

CAP has not resulted in an apparent decrease in collections activity. There has been an increase in the still small percentage of customers who have service terminated for nonpayment, consistent with a near doubling of residential terminations in 2002. CAP Households with children are terminated twice as often as those without children, and are half as likely to enjoy service without collections calls, letters, or visits.

Duquesne has in past years made several wise modifications to CAP, and is always seeking to improve the program. RETEC suggests that Duquesne consider movement in two directions. The first is to trim administrative expenses. The second is to fine tune the targeting of subsidies.

CAP Administrative expenses (over \$100 per year per participant) are high compared to the financial benefits delivered and compared to many other CAP programs. These expenses can be trimmed in two ways.

- Reduce the number of intake and especially reverification events that require a face-to-face interview at an agency or in a home. RETEC believes the face-to-face meeting can be waived for customers whose eligibility can easily be verified in other ways, *unless those clearly eligible customers appear to have high use or a history of terminations*. However, customers whose eligibility is in question should be required to apply and to recertify in person.
- Reduce the number of customers that receive “mother hen” monitoring and reminders from the social agencies. Most customers who do not pay can be effectively managed with standard collections activities and the protections already in place. They do not need another layer of reminders, warnings and protections. Agencies should concentrate their social work strengths on the most vulnerable households, including those that go more than a few days without electric service.

RETEC believes that many households below 150% of poverty do not need subsidies to pay their electric bill. Others need a subsidy (or a break from collections pressure) for only a period of several months¹. There is a mismatch between Duquesne’s administrative structure (ideally suited to deliver sometimes deep, long-term, flexible assistance to those who need it most) and its subsidy formula, which entitles all households below 150% to at least some discount, if they choose to apply for it. Duquesne should explore lower cost mechanisms to distribute modest subsidies, but not lose sight of affordability as a goal. RETEC suggests that Duquesne consider the following alternatives to fine tune the targeting of subsidies:

¹ RETEC is also evaluating Allegheny’s LIPURP Program. LIPURP uses a percent of income scale that results in a much steeper “sliding scale” and finds at least 40% of its clientele ineligible for subsidies. See the Appendix for a comparison of subsidies as calculated by the two programs. LIPURP asks many of the households that would receive a 10% or 20% discount from Duquesne to pay their full bill, *and these customers do manage to pay these amounts*. This leaves more dollars to help customers with greater needs, many of whom still struggle to pay their bills, suggesting the need for even deeper subsidies. RETEC believes there are shortcomings to both the percent of income approach (no conservation incentive, unfair to large families, no consideration of medical and housing expense variations) and the percent of income approach (makes everyone eligible for subsidy, no consideration of medical and housing expense variations).

- Provide flexibility to set recertification intervals from 6 to 24 months, depending upon the depth of subsidy needed and the likelihood that household financial circumstances will change.
- Limit the forgiveness credit (reducing preprogram arrears) to no more than \$40 per prompt payment credit. Some customers can pay off their balances on their own as their circumstances change.
- For LIHEAP-eligible electric heating customers, reduce the available shortfall-covering credit by the amount of the LIHEAP funds the customer could apply to the account in the plan period. If they do not use LIHEAP their balance will go up at the end of the plan, and provide a talking point at recertification time.
- Modify the discount calculation to so it takes into account net income, medical expenses and housing and day care expenses (up to prescribed limits). The formula should be tailored so that households above 110% of poverty will be judged ineligible for a discount if they lack abnormally high expenses in these categories. The formula could also be tailored to allow staff or computer determined discounts as deep as 50% for households with very high medical expenses.
- Reduce CAP discounts for residential electric heating customers. They now receive a 40% discount in rates compared to residential service customers, and a 30% discount from the rates they paid before CTC expired. For residential service customers that are de facto heating customers, increase their CAP discount by 20% more during winter months.

Answers to Key Evaluation Questions

Pennsylvania regulators and utilities have agreed upon the following key questions for evaluations of Universal Service Programs.

Question	More Information:
<p>1. Do participants meet the specific eligibility criteria for the programs that serve them? Participants meet the eligibility criteria for Duquesne's USP programs when they enter or are served. RETEC interviews show that some participants become ineligible during their plan year. Some who were unemployed when they join CAP obtain jobs and increase their incomes during their year in CAP, without informing the utility.</p> <p>Is the appropriate population being served? Yes. CAP is open to all customers with incomes below 150% of poverty level who verify circumstances and apply in a face-to-face interview (senior and disabled up to 200%). There is no waiting list, but some customers are referred many times without joining or before joining.</p>	Section 3.2.
<p>2. What is the customer distribution for each Universal Service Program Component by poverty guidelines; 0-50%, 51-100%, 101-150%, and 151-200%? Most participants have incomes below 100% of poverty. Distributions for specific programs are given in the report.</p>	Section 3.2
<p>3. Are there barriers to program participation? Customers need to schedule and attend a face-to-face interview, typically in a social agency office during working hours, or at home if they are home bound. RETEC believes this is an appropriate barrier, at least for customers for whom eligibility cannot otherwise be verified, but Saturday or evening hours might be helpful. Some interviewed customers reported that it was difficult for them to make an appointment during weekday working hours when the agencies are open. The state-wide residency requirement for LIURP keeps transient households and their housing stock out of that program.</p>	Section 2.2
<p>4. Generally, do participants' energy burdens comply with the CAP Policy Statement Regarding the percentage of household income spent on energy services? Most customers' burdens are near or below the thresholds suggested by the PUC. Exceptions are households with very low incomes and high or moderate bills, particularly the households with 1 or 2 members that are favored by the Percent of Income scale. To bring these customers payments in line with PUC percent of income guidelines would require long term subsidies over 50% of the bill.</p>	Section 3.2

<p>5. Identify barriers to program recertification. The existing barriers are modest and appropriate. Agencies request that many customers reverify eligibility in a face to face interview.</p>	Section 2.2
<p>6. What are CAP retention rates? Why do customers leave CAP?</p> <p>CAP retention rates are high. Two thirds of current participants are veterans with more than one year in the program. Duquesne no longer drops customers for failure to pay regularly, and terminated customers stay in the program if they pay their catch up and reconnect within two weeks.</p>	Section 3.3
<p>7. Is there an effective link between participation in CAP and participation in energy assistance programs (LIHEAP, hardship funds, and other grants)? The link is very effective with LIURP. Duquesne requires that high use customers receive a promptly scheduled LIURP visit <i>before</i> they enter the CAP program. Residential electric heating customers joining CAP have greatly increased their participation in LIHEAP.</p> <p>How effective are CAP control features at limiting program costs? Very effective. Duquesne submits an exceptions report that has relatively few recipients of subsidies in excess of the limits specified by the PUC. Customers pay a percentage of their average bill and the amount to pay is adjusted based on use, giving them a feedback on increases or decreases in use. Average bills appear to decline slightly the longer participants remain in the program.</p>	<p>Section 4</p> <p>Varied</p>
<p>8. How effective is the CAP and LIURP link? The link is very effective. Duquesne requires that high use customers receive a promptly scheduled LIURP visit <i>before</i> they enter the CAP program.</p>	<p>Section 2.2</p> <p>Section 4</p>
<p>9. Does CAP participation improve payment behavior (number of payments, percentage of bill paid, \$ amount paid)? CAP participation improves the number of payments made in a year, though many participants remain irregular payers. The average dollar amount paid decreases by about \$20 a year. The percent of bill paid increases slightly, due to a slight decrease in the average pre-discount retail bill.</p>	Section 3.4
<p>10. Does participation in Universal Service Programs reduce arrearages?</p> <p>Yes. Participants earn debt forgiveness with each on-time full payment, and any shortfall between the actual and discounted bill is covered annually or when customers leave the program. The result is substantial debt reduction.</p>	Section 3.3

<p>11. Does participation in Universal Service Programs decrease service terminations? There is no evidence that participation in USP programs reduces terminations. Terminations doubled from 2001 to 2002 as a result of separate Duquesne decisions. Termination increases revenue from the CAP customers involved.</p>	<p>Section 3.4 Appendix A</p>
<p>12. Does participation in Universal Service Programs decrease collection costs? Hardship grants typically prevent or forestall service termination for nonpayment. Otherwise, there is no evidence that USP has decreased collections costs. In 2002, Duquesne increased collections activity for all residential accounts including CAP.</p>	<p>Section 3.4 Appendix A</p>
<p>13. How can Universal Service Programs be more cost-effective and efficient? Cut administrative costs by having agencies provide “mother hen” follow-up services only for vulnerable customers for whom this attention provides apparent benefits. Continue exploring alternative and collaborative means of verification, to reduce the number of face to face interviews needed for joining and especially for recertification.</p> <p>Reduce subsidy costs by asking customers to make an initial CAP payment immediately upon joining, instead of waiting for a full cycle. Limit debt forgiveness credits to no more than \$40 per prompt payment. Develop mechanisms to deal with the many households whose circumstances are likely to change in less than a year.</p> <p>To fine-tune targeting of discounts, consider re-introducing an affordability factor so that discounts are adjusted based on a few critical expense factors, and not everyone with low income is found eligible for subsidies. Reduce discounts for residential electric heating customers who now enjoy a lower rate during winter months, and increase winter month discounts for residential service customers with high winter electric bills.</p>	<p>Section 5</p>

1. Introduction

1.1 Scope and Goals of Evaluation

Duquesne Light (Duquesne) asked the RETEC Group, Inc. (RETEC) to assess its operation of several mandated Universal Service Programs that assist low-income customers. This evaluation is focused primarily on Duquesne Light's Customer Assistance Program (CAP). The evaluation fulfills a PUC requirement that these programs be periodically reviewed by independent evaluators.

The purpose of this evaluation is to ensure that CAP and other Universal Service Programs are operating as the PUC's Bureau of Consumer Services (BCS) intends, are having the anticipated results, and are operating as efficiently as possible. To conduct this evaluation, the RETEC team reviewed Duquesne reports and interviewed program staff from Duquesne and collaborating social agencies. Evaluators conducted in-depth telephone surveys with over 50 relevant customers. RETEC analyzed account records for the approximately 25,000 customers who participated in CAP before May, 2003, 13,000 customers delinquent in 2002, and also received lists of all customers who in recent years received grants of any kind, or had service terminated for nonpayment.

Organization of Report

The remainder of this introduction briefly describes the Duquesne Light service area and its low-income households who are the clientele for the Universal Service Programs. It also describes the Universal Service Programs. The rest of the report is organized in several major sections:

Section Two. Evaluation of Program Operations

Section Three. Evaluation of Account History and Program Outcomes

Section Four. Assessing Other USP Programs

Section Five. Conclusions and Recommendations

1.2 Evaluation Context: The Duquesne Light Service Area

Residential customers, rates and usage levels

Duquesne serves over 525,000 residential customers in the greater Pittsburgh area (Allegheny and Beaver Counties). In the spring of 2003, residential service residential customers were charged about 8.8 cents per kilowatt-hour (kWh), plus a \$6.38 per month customer charge. Heating (all-electric) customers (about 5% of the residential customers) were charged lower rates per kWh, and very low rates for use over 500 kWh during heating season². These rates, shown in Figure 1.1, reflect a reduction of about 18% that occurred for residential service customers in spring of 2002, and for residential electric heating customers early in 2003 due to CTC expiration.

Figure 1.1 Current Duquesne Rates

Duquesne Rates as of February 2003 (after CTC expired)				
	Residential Service	Residential Electric Heating Customers Summer	Residential Electric Heating Customers Winter	
			first 500 kWh	Additional
Customer charge	\$6.38	\$6.38	\$6.38	0
Distribution per kWh	\$0.0302	\$0.0144	\$0.0144	\$0.0053
Transmission per kWh	\$0.0025	\$0.0021	\$0.0021	\$0.0021
Generation per kWh	\$0.0551	\$0.0499	\$0.0499	\$0.0167
Total charge per kWh	\$0.0878	\$0.0664	\$0.0664	\$0.0241
2002 average monthly use for all residential customers	597 kWh	1089 kWh		
RETEC- calculated cost of this average use at current rates.	\$57.40	\$59.52		

About 8% of the total charges are eventually paid by Duquesne as Pennsylvania taxes. The Gross Receipts tax alone accounts for almost 6% of residential bills.

RETEC's experience with other utilities suggest it will be useful to classify accounts according to their relative level of electric use. For the purpose of this evaluation, RETEC classified usage and bill amounts into four levels (low, moderate, high, and extreme) as shown in Figure 1.2.

² These lower rates for heating customers are consistent with recommendations RETEC made to PPL in 1998. RETEC concluded that PPL's more uniform pricing structure shifted a disproportionate share of utility fixed costs to high use customers, and that simply modifying this pricing structure to more accurately reflect marginal costs per kWh could mitigate about one third of that company's nonpayment problems. RETEC expects that Duquesne's pricing structure for heating customers resolves many affordability problems for those customers, even before a discount is offered them, and reduces their general need for a discount. While we have not analyzed the utility's cost structure, available information suggests the \$.024 per kWh price is below the company's marginal cost to provide this service, and therefore represents a general subsidy of heating customers by other customers.

Figure 1.2 Relative Usage Levels Defined by RETEC for Residential Customers

Use and Bill Thresholds Defined by RETEC for evaluation			
	General	Heat	All Bills
Monthly	kwh	kwh	
Low	450	650	\$35
Moderate	700	1200	\$65
High	1000	1600	\$95
Extreme	over 1000	over 1600	Over \$95

Poverty in the service area

RETEC analyzed the recently released Census Public Use Micro Sample to profile service area households with incomes below 150% of poverty (and therefore eligible for Universal Service Programs). About 19% of Duquesne's residential customers (100,000) have incomes placing them below 150% of the poverty level³. In 2000 (when the census information was gathered), of service area low-income households:

- 33% had members over 64; 29% had children; 39% had neither seniors nor children; 2% had both seniors and children present;
- 13% are owners with a mortgage, 23% are owners with no mortgage, and 64% are renters;
- 40% of the low-income households paid less than 40% of their income for housing costs; 32% paid more than 80% of their current income for housing costs, and 11% had or reported no income at the time;
- 60% live in multifamily buildings, and 39% live in single family buildings.

The Pennsylvania Department of Public Welfare shows over 46,000 households using food stamps in March 2003 in Allegheny and Beaver Counties. (Some of these households do not pay an electric bill, and some are served by other electric companies, so the number of Duquesne customers using food stamps is likely to be substantially lower.) Department figures show that in the last three years between 6% and 6.6% of Allegheny County persons are receiving food stamps. This suggests that the number of households in poverty has not substantially decreased since the census was conducted in 2002, and may have increased. Social workers interviewed by RETEC in the Pittsburgh area report that in 2003 there has been an increase in layoffs and a decrease in the number of single mothers with young children who can find work.

³ Ignoring low-income individuals living in group quarters, 22% of the households have incomes below 150%, but only 84% of these pay an electric bill, due to master metering of large apartment buildings such as senior housing apartments.

Terminations for non payment

Figures submitted in annual reports to the Public Utility Commission show a marked increase in terminations of service for nonpayment during 2002. The number of residential and low income customers disconnected and reconnected has nearly doubled from levels reported in 2000 and 2001, and continues at the higher rate in 2003. RETEC has found in evaluations conducted for both PPL and PECO Energy that many terminations occur at properties already vacant, but that for reconnecting customers terminations lead to an increase in payment both during the summer when the termination occurs and in the following winter season. Terminations at Duquesne appear to have the similar results.

RETEC therefore expects that this higher level of collections activity will have an independent effect upon payment behavior of low-income customers, making it difficult to accurately discern what portion of any apparent improvement is due to growth of CAP and what portion is due to more aggressive collections efforts. The concurrent growth of CAP and terminations is consistent with the concept that customers need both affordable payments and incentives to make them. After several years of seeing CAP programs as an alternative to collections efforts, the PUC now endorses the concept that collections efforts and affordability discounts are concurrent and complementary strategies to manage customers with payment problems.

1.3 Universal Service Programs

To complement its strong seasonal and procedural protections against termination for nonpayment, Pennsylvania has evolved and now mandates three different Universal Service Programs to help low-income customers obtain energy they can afford.

- Low Income Usage Reduction Programs (LIURP) provides weatherization and efficiency improvements designed to reduce the energy bills of low-income households with incomes below 200% of the federal poverty level. Duquesne Light's LIURP program offers improvements to low-income households with loads greater than 600 kWh per month or over 450 kWh per month for residential service customers living alone.
- CARES offers referral services to long-time good-paying customers who due to misfortunes suddenly find themselves no longer able to cover all their bills, and needing to negotiate an unfamiliar social services network.
- Customer Assistance Programs (CAPs) offer reduced rates or reduced payment amounts to customers with incomes below 150% of poverty who are unable to pay their bills in full, and may extend participation to seniors or disabled households with incomes below 200% of poverty. CAPs also offer forgiveness of past debt in exchange for regular payments of the reduced bill. CAP is Duquesne Light's Customer Assistance Program, and is the main topic of this evaluation.

Like many Northeastern utilities, Duquesne also supports a community-based hardship fund named Dollar Energy. While a hardship fund is a mandatory component of Duquesne's Universal Service Plan, the primary funding source is stockholder, employee and customer donations. Dollar Energy provides grants (no more than one per program year) to households with incomes

below 200% of poverty who face temporary financial problems that result in termination or threatened disconnection . Shareholder funds are used to match these grants.

Taken together, Pennsylvania's service protection regulations and its Universal Service Programs form an *energy assurance* system. The goal of this system is to ensure that low-income households will have affordable and uninterrupted access to energy utility service, without imposing undue costs upon all ratepayers. RETEC's role is to assess the benefits and costs of Duquesne's Universal Service Programs and to identify any ways that benefits can be delivered at lower overall costs, or ways that benefits can be increased without substantially increasing costs.

As shown in the table below, rate-based costs related to service for low-income customers have nearly doubled in the last year. Collections expenses jumped, as did planned write offs in CAP and other write offs. Costs related to service for low-income customers now amount to almost three dollars per month in a residential bill.

Figure 1.3 Transferred Costs of Service for Duquesne Light

Duquesne Costs Related to Serving Low-Income Households with Payment Problems or Payment Arrangments		
Costs Covered Through Rates	2001	2002
Collections Expenses (company estimate)	\$4,379,655	\$9,330,885
(RETEC assumes 40% of total for low income)		
Write-offs (company estimate of low-income portion)	\$1,871,082	\$5,105,080
CAP shortfall credits (included in write offs)	\$550,000	\$1,546,000
CAP debt forgiveness credits (also included)	\$1,640,000	\$2,108,000
CAP Administrative Costs	\$1,660,000	\$1,621,000
LIURP Program Costs	\$2,217,965	\$2,365,834
CARES Program Costs	\$100,000	\$100,000
Total Ratepayer Expenses	\$10,228,702	\$18,522,799
(excludes Hardship funds)		
Residential Customers	526,525	526,755
Cost per year per avg rate payer	\$19.43	\$35.16
Cost per month per avg rate payer	\$1.62	\$2.93
Assuming 25,000 low income customers with payment issues, cost per each of these customers	\$409.15	\$740.91
Other Costs, Not Covered Through Rates	2001	2002
Hardship Program Admin Costs (shareholders)	\$65,000	\$65,000
Ratepayer and Employee contributions	\$274,071	\$248,285
Shareholder matching grants	\$325,000	\$325,000

Source: Duquesne Light Universal Service Report to PA PUC

It may be that some of this apparent increase in cost is offset by a decline in accounts receivable. Certainly the CAP credits do have this result. Collections activity may also drive down accounts receivable. Because money can shift between accounts receivable and write offs as a result of

economic conditions and company programs, it is important to have both figures to understand long-term trends. Duquesne does not release figures on its total accounts receivable, so RETEC was unable to provide a more complete analysis of these costs.

1.4 CAP Program Description

The PUC has asked that this periodic review of Universal Service Programs be focused primarily on CAP. This focus is desired because CAP programs are large budget programs, fairly complex, relatively new, and still evolving. The other large budget program, LIURP has a longer track record as well as a separate evaluation protocol and evaluation resources. The pilot program of solar water heaters and photovoltaic systems also has a separate evaluation effort.

The discount offer

Duquesne's CAP offers eligible customers a discount based on their poverty level. The current discount is:

- 10% for customers with incomes between 100% and 150% of poverty (and 10% for senior/disabled households between 100%-200% of poverty);
- 20% for customers with incomes between 100% and 50%; and
- 40% for customers with incomes below 50% of poverty.

These percentages are applied to the customer's budget bill, which is adjusted every month as an average of the preceding 12 months usage⁴. Customers are asked to pay the discounted budget amount (plus five dollars per month if there is a balance on their account).

When a customer enrolls in CAP, an accounting bucket is created to cover the deficiency that results from the discount. Each month, the amount in this bucket is increased for the difference between the actual budget amount and the CAP billed amount. When a CAP customer receives a LIHEAP grant, the amount in the bucket is reduced by that amount. A credit from this bucket is applied at the end of the plan year, or if and when a customer leaves the program earlier. This mechanism reduces utility-provided subsidies by the amount of a LIHEAP grant⁵.

⁴ The advantage is some cost feedback to customers on their use. They will pay less if they conserve. The disadvantage is that customers do not have a fixed amount they can count on paying each month, however, the amount is likely to fluctuate only slightly over time, so they know about how much they will have to pay.

⁵ However, there is little financial incentive for the customer to take advantage of LIHEAP. RETEC suggests reducing the credits available by the amount of LIHEAP cash grant the customer is eligible for. Customers who did not obtain this grant would see their balance grow at the end of the plan year by the amount of the grant they did not obtain. This would be a good talking point as they enter their next year's plan. Since Duquesne has few heating customers (6% of CAP participants) this might involve more programming costs than it is worth.

Customers are never held responsible for paying the discount deficiency amount. They are held responsible for paying the CAP amount, in that their unpaid CAP amount will be asked of them to reconnect service, should they have it terminated for failure to pay on time. Thus there may be a “CAP Balance”- the amount owed on the CAP asked amount, as well as a total account balance from the pre-CAP period, and a current deficiency amount.

The debt forgiveness offer

For each on-time full payment they make, customers receive a credit that reduces their overall account balance. This credit is equal to 1/36 of their balance when they first made their CAP plan (this pre-program balance is called the “frozen arrears”). If they owe on their CAP obligations at time of recertification, they are asked to pay this amount before recertifying, and if unpaid it remains part of their CAP balance. Thus the frozen arrears or pre-CAP balance may be completely erased after the customer has made 36 on-time, full payments of the amount CAP asks them to pay. It is their “in CAP” balance that rises and falls as a result of their paying or not paying, and this “in CAP” balance is what they are responsible for if terminated or if they cancel service. (CAP customers who move within the service area carry their CAP arrangement with them.)

Other program rules

CAP Participants are also asked to:

- notify Duquesne or their CAP agency of any significant changes in financial situation;
- conserve energy, and accept energy education and conservation services if offered; and
- apply for energy grants to programs for which they are eligible.

RETEC believes these rules are not enforceable.

Enforcement and collection

Customers who do not make their payments are given several warnings by agencies administering CAP, then the agencies may place them directly into the collections process.

They remain in CAP and receive a CAP bill if they are not terminated, and automatically return to CAP if they are terminated and pay their catch up amount to reconnect within two weeks. Participants whose service is terminated for nonpayment must pay a reconnection fee, plus any unpaid portion of their CAP payment responsibility. Customers who reconnect after two weeks may be re-enrolled in CAP after completing another visit with a CAP case manager.

Customers who fail to recertify are removed from the program and are then handled by normal collections and payment arrangement procedures.

Eligibility

To participate in CAP, customers must have incomes at or below 150% of the poverty level income for a household of their size. Occasional exceptions are made for households between 150% and 200% with disabled or senior members and extensive un-reimbursed medical expenses. Customers with severe difficulties may be referred to the CARES program for more individual treatment. Figure 1.4 shows applicable poverty levels for households of different sizes. The gross income threshold for Food Stamp eligibility is around 127% of poverty level. RETEC concludes that most CAP participants would be eligible for consideration by the Food Stamp program if they passed the low assets requirement of that program.

Figure 1.4 2003 Poverty Level and Eligibility for Food Stamps and CAP

Size of Family Unit	Annual Gross Income			Monthly Gross Income		
	100% of Federal Poverty Level	Eligible for Food Stamps below:	150% of Federal Poverty Level	100% of Federal Poverty Level	Eligible for Food Stamps below:	150% of Federal Poverty Level
1	\$8,980	\$11,520	\$13,470	\$748	\$960	\$1,123
2	\$12,120	\$15,528	\$18,180	\$1,010	\$1,294	\$1,515
3	\$15,260	\$19,536	\$22,890	\$1,272	\$1,628	\$1,908
4	\$18,400	\$23,532	\$27,600	\$1,533	\$1,961	\$2,300
5	\$21,540	\$27,540	\$32,310	\$1,795	\$2,295	\$2,693
6	\$24,680	\$31,548	\$37,020	\$2,057	\$2,629	\$3,085
7	\$27,820	\$35,544	\$41,730	\$2,318	\$2,962	\$3,478
8	\$30,960	\$39,540	\$46,440	\$2,580	\$3,295	\$3,870

Recertification

Agency staff will ask participants to recertify in person if the household has not used energy grants visible on Duquesne Light computer screens, and/or if the household circumstances are likely to have changed within a year. For other customers, telephone conversations and possibly mailed copies may suffice. RETEC did not determine what percentage of annual recertifications involved an interview.

Recent program changes

In 2001 Duquesne dropped several requirements that had restricted participation. These included:

- A requirement for referral from Duquesne to the subcontracting agency. Agencies can now enroll walk-in customers or participants in their other programs.
- A requirement that customers have an overdue balance and/or bad payment history to qualify.
- A requirement that customer expenses for necessities exceed available income.

- CAP is now open to all comers who can demonstrate income eligibility.

2. Evaluation of Program Operations

2.1 Methodology of Process Evaluation

The process evaluation was conducted in spring and summer of 2003. RETEC visited both agencies administering the program and a satellite agency. The author sat in on several interviews and accompanied a LIURP energy educator on two home visits. Subsequent interviews were conducted with agency staff, and 53 Duquesne customers were interviewed by telephone (See Appendix section for interview results).

2.2 Program Administration

Administrative structure

Duquesne has a Manager and Supervisor of Universal Services Programs who oversees the work of several subcontractors who provide program services. CARES and CAP are administered by two area non-profit social service agencies, Holy Family, and Goodwill. These agencies have central and satellite offices, so there are ten different locations within the two county service area where customers may go for application interviews. CARES staff make home visits for homebound customers. The agencies work on a retainer basis (which they prefer to piecework rates), and hire designated staff who are entirely dedicated to CAP or CARES work. One CARES representative has been involved since the program began, and other positions appear to have low turnover. Each agency has a team leader, and these leaders meet monthly with Duquesne's USP supervisor and his manager to keep the program on track and improving. Communication appears smooth, with daily e-mail and telephone communication between these leaders and the USP supervisor and USP manager. Agencies have well-deserved pride in the CAP program and are committed to its success.

LIURP is subcontracted to a private for-profit firm that specializes in this work. It appears to be well organized and efficiently run.

Duquesne has a toll free number for Universal Service Programs, which rings at a Duquesne facility open 8 to 5 on weekdays, where there are five full time union call center employees and one senior call center employee who specialize in serving Universal Service customers, as well as additional cross-trained staff available as needed. Call center staff refer customers to agencies for face- to-face interviews, explain programs, and troubleshoot payment problems.

Agency staff understand CAP well and strive to educate and motivate the customers they admit to the program. They make referrals for budget counseling, and discuss with customers what other programs are available. Catholic Charities also takes applications for the Columbia Gas program, and can help customers apply to both programs. Goodwill takes applications for the Equitable Gas and Columbia Gas programs, so customers can enroll in both an electric and a gas CAP program with one visit to the agency.

Agencies have a direct modem line to Duquesne and are authorized to edit certain Duquesne data tables. The Duquesne help desk provides prompt support with any connection issues. Access to data systems appears smooth.

When RETEC visited in April, the agencies' first priority was to place into the CAP program all the households facing termination and applying for hardship grants. Agencies also do "follow up" work, reviewing daily lists of customers who are overdue or coming up on recertification, and sending warning letters to customers who are behind in payments. Agencies also promote use of grant funds during the months they are available.

Outreach and application process

The toll free number which is provided in literature, and referrals from the Duquesne Light call center account for most of the applications to CAP. Some applications come directly from the agencies administering the program. USP information is also available on the company website.

To join CAP customers must participate in an intake interview that typically lasts 25 to 40 minutes. Income details are noted, a paper application is completed, the program is explained, and referrals are made. Staff stress the need to make regular payments, the balance elimination feature, and the need to conserve energy. Customers eligible for LIURP services must arrange for a LIURP visit before joining the program. (Eligible customers include residential electric heating customers, and residential customers with use over 600 kWh per month, or over 450 kWh if living alone.) LIURP can replace energy inefficient appliances such as water beds, refrigerators and freezers, and can install high efficiency measures such as compact fluorescent lighting. More extensive weatherization improvements can be made for residential electric heating customers, or where payback parameters are met.

For households with abnormally high expenses, agencies have the latitude to lower the discount to the 40% level (pay 60% of bill) if they document their reasons, however, not all agency staff perceive that they have this flexibility. Even lower reductions are possible but require approval from the Duquesne program administrator. There is also flexibility to admit customers with incomes up to 200% of poverty with high medical expenses or if the customer is over 62. There appears to be some confusion among staff on this feature, since one staff person proposed that having such flexibility for people on oxygen would be a good improvement to make in the program.

The first CAP payment is typically not due until about six weeks after the intake interview, due to mechanics of the billing cycle.

RETEC analyzed records of 56,440 customers referred to CAP for appointments in last few years, either to join or recertify. Nearly 128,000 referrals for appointments were made; most customers were referred more than once. 23,438 customers joined CAP, and they account for 42,702 completed applications (some for recertification). Thus it appears that fewer than half the referred customers joined the program, and that no-shows are a significant problem for agencies.

Follow up

Customers who do not pay on time will be targeted by Duquesne for its automated outbound reminder calls. Also, each day agency staff “work” computer generated lists of customers who are due for recertification and/or who are behind in their payments. Staff send a “predefault” letter that tells customers they are behind, lists ways and places to pay, gives the agency phone number and informs the reader that “If you fail to pay the next letter you receive will be a termination notice.”

In fact, that termination notice will be generated only if the agency makes a referral to collections. This referral can place a customer in the pool of termination-eligible accounts, or can place a customer on a priority list for collections efforts. Thus agency staff in the “mother hen” role can both cajole customers into paying, and can also at their discretion protect customers with extenuating circumstances from collections activity. Customers end up in collections only if the agency approves. Not all customers referred to collections will receive a termination notice, because Duquesne randomly selects termination-eligible customers to pursue in each given day of the billing cycle. If a termination notice is issued, the customer remains in the CAP program unless they are terminated and fail to reconnect within 14 days. Customers reconnecting after 14 days may reapply to CAP and gain readmission with another agency interview.

Agencies feel that some customers benefit by having a single staff person who manages their case over time. They believe that many customers relate to the agency better than they will to the company.

CAP program costs

CAP cost \$350 per end-of-year participant in 2002. Administrative costs per participant decreased, due mostly to larger enrollment and a higher percentage of customers recertifying rather than joining for the first time. Discount credits per customer increased, because a higher percentage of CAP participants in 2002 were households with incomes below 50% of poverty who qualified for the maximum 40% discount. In 2000 only 14% of CAP participants had incomes this low. This percentage increased to 27% by the end of 2001 and to 29% by the end of 2002⁶. RETEC expects this trend reflects both the economic downturn, and some higher income customers who receive only a ten percent discount, or who have paid off their debt, leaving the program voluntarily. It may also reflect the change to “open admissions”, so that customers already receiving services from agencies may be enrolled in CAP without having to take a lot of initiative.

⁶ These percentages calculated from end –of-year customer numbers submitted to the PUC on the Universal Services Annual Report.

Figure 2.1 Recent Year CAP Program Costs

CAP Program Costs		
	2001	2002
CAP Administrative Costs	\$1,660,000	\$1,621,000
CAP shortfall credits (included in write offs)	\$550,000	\$1,546,000
CAP debt forgiveness credits (also included)	\$1,640,000	\$2,108,000
Total CAP Costs	\$3,850,000	\$5,275,000
End of year enrollment	11,547	15,075
Administrative cost per customer	\$143.76	\$107.53
Shortfall (discount) credits per customer	\$47.63	\$102.55
Debt forgiveness credits per customer	\$142.03	\$139.83
Total cost per end- of- year customer enrolled	\$333.42	\$349.92

The current administrative cost per customer appears high from compared to financial benefits delivered, and to other CAP programs. Given that low-income customers typically do not end up paying their full accounts receivable balance, and the unpaid portion is eventually written off, it could be argued that the net benefit to customers and net cost to ratepayers of the debt forgiveness is far less than \$140 per customer per year. Even if we give full weight to the \$140, the benefits delivered customers amount to \$242 per customer and it costs the company over \$100 to deliver these benefits. Many benefit-distributing programs try to keep administrative costs below 10% of their budget. CAP administration costs are 30% of the total. While the program no doubt delivers “indirect” and non-financial benefits to participants (referrals, counseling), and may deliver some offsetting savings to the utility, it is worth asking whether all or most of these benefits could be delivered at a much lower administrative cost.

CAPs were initially promoted as an alternative to “standard collections”. Utilities then expended considerable effort to “keep customers in the program” and out of collections procedures. The pilot programs demonstrated that this is a flawed concept. Subsidies complement collections pressures, but do not replace them. Customers need both affordable bills and incentives to pay them, and the threat of service disconnection is the most cost-effective incentive that companies can supply. Learning these lessons, some Pennsylvania utilities have largely stopped paying social agencies to provide “mother hen” follow-up services to prompt payment from subsidized customers. They have chosen instead to use the already existing and highly efficient collections systems they have in place. Columbia Gas and PECO have dropped the function of actively monitoring payment in favor of letting the collections department perform this function.

In 1995 Philadelphia Gas Works had per-customer variable cost of about \$40 for its program with 50,000 participants⁷. PGW required half hour intake interviews, but used its own customer contact center staff to conduct these interviews.

After a significant investment to reprogram its billing system, Columbia Gas recently operated a 9,500 customer program in Pennsylvania at an average cost of \$43.50 per participant per year.

⁷ Interview with Christina Coltro, PGW, April, 2002

Re-certification is often handled by mail and verification is automatic for LIHEAP users. An automatic reminder letter is the only follow-up effort to “keep people in the program”. Nonpayment is handled with standard collections procedures. Customers who are shut off must catch up their affordable co-payments to obtain reconnection, and they retain their subsidy when they reconnect⁸.

In recent years PECO has radically trimmed costs by using electronic welfare records, mail and telephone to enroll customers in its 80,000 customer program. PECO now delivers the subsidy as a reduced rate. It eliminated follow-up in favor of using standard collections procedures to motivate payment of the reduced amounts due from customers. It does not use agencies for intake. PECO spokespersons were reluctant to estimate a variable administrative cost per customer, but RETEC expects this cost to be less than \$40 per year.

By requiring face to face verification for only 2% of their participants, Allegheny Power has reduced its administrative cost to less than \$30 per customer, but RETEC believes a significant portion of participants are in that program are not eligible for the subsidies they may receive.

In 2002, both PECO and Columbia Gas are considering flexible re-certification periods, so that customers whose income is not likely to increase can re-certify every two or three years instead of annually.

The challenge of reducing administrative costs

The three utilities described above are not using social agencies for intake and follow up, or are paying them piecemeal for intake interviews. Duquesne and the CAP participants benefit from the current arrangement of dedicated staff and committed agencies working on a retainer basis. How to keep these benefits yet lower costs?

As Duquesne and its collaborators ponder this challenge, RETEC offers the following advice:

- Try to keep the retainer arrangement. It is working well, and probably delivers a better quality of service to the CAP clientele than Duquesne could deliver with its own union employees.
- Try to keep face-to-face verification, *at least for customers whose eligibility is questionable, or where usage is very high*. PPL agencies have found that 30% of customers who give unverified financial information by phone are found by agencies to be ineligible when they arrive for appointments. The need to make an agency appointment and keep it is often an appropriate barrier to participation by those who may not really need the program. On the other hand, there are many customers whose eligibility might quickly be confirmed if a way opened to share information electronically

⁸ Interview with Deborah Cochenour, Columbia Gas, April, 2002.

with the state Department of Public Welfare⁹. DPW clients receiving food stamps must verify income in a face to face interview twice a year. Information sharing between utilities and the Department might spare them having to make yet another agency visit.

- Retain the ability to provide ongoing “mother hen” services for particularly vulnerable households where this support proves helpful. In other words, provide a CARES type capacity that is ongoing. (CARES seems to focus primarily on a client’s initial need.) Some CAP customers need or pay better with ongoing mother hen attention. RETEC believes this is a small minority of customers. They could be flagged so that agencies could continue their gate-keeper role over collections, but only for flagged customers. Other customers who failed to pay would automatically be subject to collections activity.

Consider the following alternatives to lower administrative costs:

- Increase the number of customers who can be assumed eligible because they have recently verified eligibility with another program. In the 1990s PECO arranged to access county or state welfare computer tapes and gave an automatic discount to DPW clients. RETEC has discussed with the PA Department of Welfare the possibility of a state-wide program to share information electronically with utilities to confirm recent participation of utility-listed customers in DPW programs. The Department is receptive to this idea.
- Drop “mother hen” agency monitoring services for 80% of CAP customers. Radically shorten the lists that agency workers review each day, and the number of letters they send out. Customers who do not pay their CAP amount should remain in the program, but should be subject to collections pressures like any other customers. RETEC believes that nearly all customers are motivated to avoid termination and most would like to retire their balance. We believe that mother hen reminders do not add much power to these pre-existing motivations. Customers who find themselves in trouble can always call the agency or Universal Services for help and advice, and they do¹⁰.
- Consider a two-level program that gives a modest discount to anyone who can quickly be determined eligible. Deeper discounts could require more customer initiative and an appointment with an agency that is savvy about energy programs. This could solve a major dilemma facing Duquesne’s discount approach - how to efficiently distribute quite modest subsidies (a 10% discount is likely to amount to only \$50 to \$100 a year) to large numbers of people, with low expense¹¹.

⁹ Duquesne believes that the information currently available from DPW is only whether or not a customer uses any of their programs. This is not sufficient to calculate a specific discount rate.

¹⁰ Duquesne has already initiated an information systems initiative to screen customers out of this intensive follow up, and a trial run showed the algorithms that are planned would reduce the monitoring caseload by 70%.

¹¹ One way to do this would be to automatically extend the current residential electric heating customer rates to customers the company has reason to believe are low-income. For anyone with above average use, this would deliver at least as much benefit as the 10% discount. Duquesne cautions that this would involve both a rate case to approve altered tariffs and complex reprogramming of the billing system.

Based on comparison to other programs, RETEC believes that an administrative cost of \$30-\$50 per customer should be sufficient to handle call center functions and face-to-face intake interviews with most customers. If intake and recertification interviews occur for 50% of the customers enrolled, then a modest amount of mother hen attention should be possible without raising costs beyond \$60 per customer per year.

There is a relatively high fixed portion of the administrative costs because Duquesne call center employees assigned to USP are well paid union employees and cannot be laid off. Duquesne does have more control over the budgets for its collaborating agencies, and has managed to keep them level in recent years while increasing program size. However, to maintain directors and experienced staff at these agencies requires a certain level of funding. As more customers are added to the program, these fixed costs can be allocated over a larger denominator.

Given these high fixed costs, the *marginal* administrative cost of adding more customers to the program is likely to be below \$30, mostly for interviewing time. RETEC estimates that roughly 75% of the shortfall and debt forgiveness credits correspond to dollars that ratepayers would end up covering anyway (as eventual write offs). When we add these net credit costs to the marginal administrative cost, the net marginal cost to ratepayers of adding a customer to the current program is around \$100 per customer per year.

Other suggestions from the process evaluation

Few customers understand the patchwork of programs that can help them pay their energy bills, and the limited periods when these programs accept applications¹². At least one agency staff person we observed makes a point of writing on a take-home paper the dates when each grant program is open. Duquesne might supply a large refrigerator magnet with a simple table that shows the grant program name, the month(s) to apply, the non-financial eligibility criteria, and the Universal Services or HELP LINE phone number to call to get specifics on where and how to apply). When is the key question the refrigerator magnet can address. Customers can call to find out the rest.

Agencies are already doing “one stop shop” for applications for CAPs from various companies. Could Duquesne work with nearby utilities to develop a single CAP application form? Please add number of air conditioners to the appliance list in the application.

Staff notes there are no grant resources available during the summer, to help customers having temporary payment problems at that time of year.

Staff in Beaver county state that since Duquesne closed its walk-in office there, customers with bad credit history or no checking account are now forced to travel to Pittsburgh (which can take

¹² Only 15% of the customers whose history RETEC analyzed used Hardship funds more than once, (although they may have used funds at an earlier account number not known to us). This suggests most customers have not “learned” to “take advantage” of Dollar Energy each spring, but instead, that they use the program if it is open when they need assistance.

up more than a half day) to apply for service or make payments required to reconnect service once it is terminated. This is not strictly true. Customers can pay in cash at Western Union outlets, receive a payment verification code, and call or fax this code or receipt into the utility, where it will be accepted as proof of payment to avoid termination. It may be that the steps of this process are not well understood by customers and agency staff. There is also an NCO electronic payment option that allows customers to pay by phone or internet. This is well used and well liked by residential customers in general, however it is only available to customers with checking accounts or credit cards. (Of the payment troubled and CAP customers we interviewed, about half pay their bills in cash or with money orders. Nearly half pay bills with a checking account, only a quarter have credit cards, and only about 10% pay some of their bills by phone or computer).

The energy educator explains the electric bill to a CAP customer, using a normal bill, and informs them how their CAP bill will be different. We suggest he carry a CAP bill as well, so less is hypothetical. On one occasion, the energy educator went to a home where the high use was due almost entirely to the customer allowing a homeless friend to live in the un-insulated garage with a space heater the previous winter. Now that this arrangement is finished, there are not many opportunities to conserve electricity. A telephone conversation with potential LIURP customers might be used as the first step in a potentially two-step process. Some issues could be identified and resolved on the telephone call. If subsequent consumption remained high, then a visit could be scheduled.

Staff processing approaching recertifications now must manually look up the CAP amount and CAP balance for each customer listed on the recertification list screen. Including these fields in the recertification screen list would save staff time.

Add to "default warning" letter the fact that customers may pay at Western Union offices and provide a list of these offices on the back of the letter. Also provide the telephone number for electronic payment. Eliminate the word "arrearage" from all customer communications. Beyond utility staff and cooperating agencies, no one knows what it means. The warning letter currently tells customers that they will be defaulted from the program. This is no longer strictly true, and therefore the wording should be revised so the company does not make misleading statements.

Some staff mentioned desire for more "cross training" on the CAP programs available from the Gas companies.

It seems odd that customers owing a great deal of money and threatened with termination can apply for CAP, then be told their first payment will not be due for six weeks. RETEC suggests that if a CAP application forestalls an immediate termination threat, customers can be asked to make a first CAP payment immediately. This could be either \$50 or the estimated amount of their next payment based on their budget bill. For customers unable to make this payment within 20 days, this amount could be considered an overdue first payment and could be added to their "CAP balance".

Many customers pay nearly as much for phone service as they do for electricity. Push low-cost telephone plans.

Agencies and Duquesne staff would like to remove the “plus \$5” component of the customer’s payment obligation. RETEC was initially inclined to agree with this recommendation, and does not feel strongly about it one way or the other. We do think that customers should take responsibility for their balance, and note that taking away “plus \$5” will reduce income and increase subsidy costs to ratepayers.

There may be a need to clarify with all front line agency staff what flexibility they have to a) give a lower than formula discount to 40%, b) go lower than 40%, and c) extend a subsidy to someone with high medical bills and income between 150% and 200% of poverty level. RETEC heard not entirely consistent perceptions on these questions when staff were interviewed.

3. Evaluation of Program Impacts

3.1 Methodology of Impact Evaluation

RETEC received from Duquesne electronic records for several groups:

- All accounts in CAP since 1999, with detail on bills, account management, and income statements;
- All accounts terminated since 1999, with date of termination
- All LIHEAP, CRISIS, and Hardship grants received in the last three years, with the month the grant was received;
- A large random sample of residential customers overdue in January 2002, with details on bills, and a small sample of income statements.

RETEC summarized literally thousands of records to calculate meaningful evaluation variables. For example, individual payments were summed to payments made during a particular summer, winter, or year. Records on multiple financial statements were analyzed to determine the lowest and highest poverty level and the median poverty level. Financial statements were also matched to program join dates, and to periods of interest.

Finally, RETEC compiled a month by month history of bills, payments, grants, CAP credits, and the total accounts receivable balance for a random subset of CAP customers.

This data was used to address the two sets of questions posed for the impact evaluation:

- 1) Program participation, such as who participates, and (for CAP) how long do they use the program?
- 2) Program impacts, such as what changes in service quality and financial performance are observed as customers participate in or leave CAP

RETEC also analyzed company reports of program financial operations and residential write offs.

3.2 Who participates in USP programs?

Poverty levels for participants

Since the 1960s, the federal government has defined a threshold value for household income that is the poverty line. These threshold values are adjusted for household size and adjusted annually for inflation. Households with incomes below this threshold are counted as poor. Some states including Pennsylvania have found that households with slightly higher incomes also have difficulty obtaining food, housing, and utilities. They have therefore defined a broader class of households as "low-income" an adjective that typically describes households with income below 150% or 200% of the poverty level.

US Poverty Level in 2002 and 2003		
Number in household	Monthly Gross Income	
	2002	2003
1	\$739	\$748
2	\$995	\$1,010
3	\$1,252	\$1,272
4	\$1,509	\$1,533
5	\$1,765	\$1,795
6	\$2,029	\$2,057
7	\$2,279	\$2,318
8	\$2,535	\$2,580

Figure 3.1 Poverty Level of Program Participants

Poverty Level Shown in All Available Financial Statements

Poverty Level Shown in All Available Financial Statements*	CAP	Hardship Funds and in CAP	Hardship Funds not in CAP	LIURP
Below 50%	32%	28%	29%	15%
50%- 110%	49%	54%	40%	33%
110%- 150%	17%	17%	24%	16%
150%- 200%	1%	1%	2%	10%
200%- 250%	0%	0%	4%	2%
Over 250%	0%	0%	2%	1%
Other, unknown	0%	0%	0%	23%
Grand Total	100%	100%	100%	100%

CAP veterans may have 2 or 3 financial statements included in this tally, one for each time they joined or were recertified.

As expected, some users of Hardship Funds and of LIURP have incomes above the poverty levels allowed for CAP participation. A few exceptions are made that bring customers with incomes between 150% and 200% into CAP.

RETEC received records for a random sample of customers in arrears in January 2002, and also a list of customers who were referred to CAP in January and February 2003 but who had not joined by May 2003. Some of these customers subsequently entered the CAP program. Duquesne furnished income statements (not verified) for a subset of these customers, so that RETEC could assess any differences in income between those who did and did not join CAP. As shown in Figure 3.2, the non-joiners in both groups had higher poverty levels and higher incomes

and used food stamps less often. This supports the hypothesis that one reason referred or eligible customers fail to enroll in CAP is that they have less need of the program.

Figure 3.2 Comparisons for Joiners and Non Joiners

	Random Sample (2002)		Referred January 2003 and	
	joined cap	didn't join cap	joined cap	didn't join cap
Average Poverty Level	53%	111%	81%	103%
Household size	2.6	2.8	3.0	3.1
Avg. Food Stamp Income	\$65.06	\$42.58	\$42.40	\$33.30
Average income	\$621.39	\$1,313.83	\$1,031.19	\$1,311.13

Income sources

Combining wage, unemployment, and a portion of the “other” category (which includes customers whose unemployment benefits have run out), it appears that over 40% of USP participants rely primarily upon income from working. 31% of CAP customers and nearly 40% of CARES and hardship users have retirement or disability income.

Figure 3.3 Income Sources of Program Participants

Income Sources	LIURP	CAP	CARES	Hardship Fund
Employment	40.84%	35.87%	33.67%	37.68%
Public Assistance	12.24%	12.72%	13.67%	7.90%
Pension/Retirement	20.69%	27.94%	17.72%	19.58%
Unemployment Compensation	8.08%	5.59%	4.83%	4.54%
Disability	11.13%	3.04%	17.88%	19.65%
Other (includes Missing Data)	7.02%	14.83%	12.24%	10.66%
	100.00%	100.00%	100.00%	100.00%

Source is 2002 USP Report to PUC

Bills and subsidies

The graphs on the next pages show distribution of CAP bills and subsidies. Residential electric heating customers are shown with their actual historical bill (12 months ending in April 2003). They are also shown with the same usage of 12 months calculated with the heating rates that became effective in February as the CTC was eliminated. The current rates will reduce the bills considerably, and of course, the subsidies along with them.

Figure 3.4 Distribution of CAP Monthly Bills

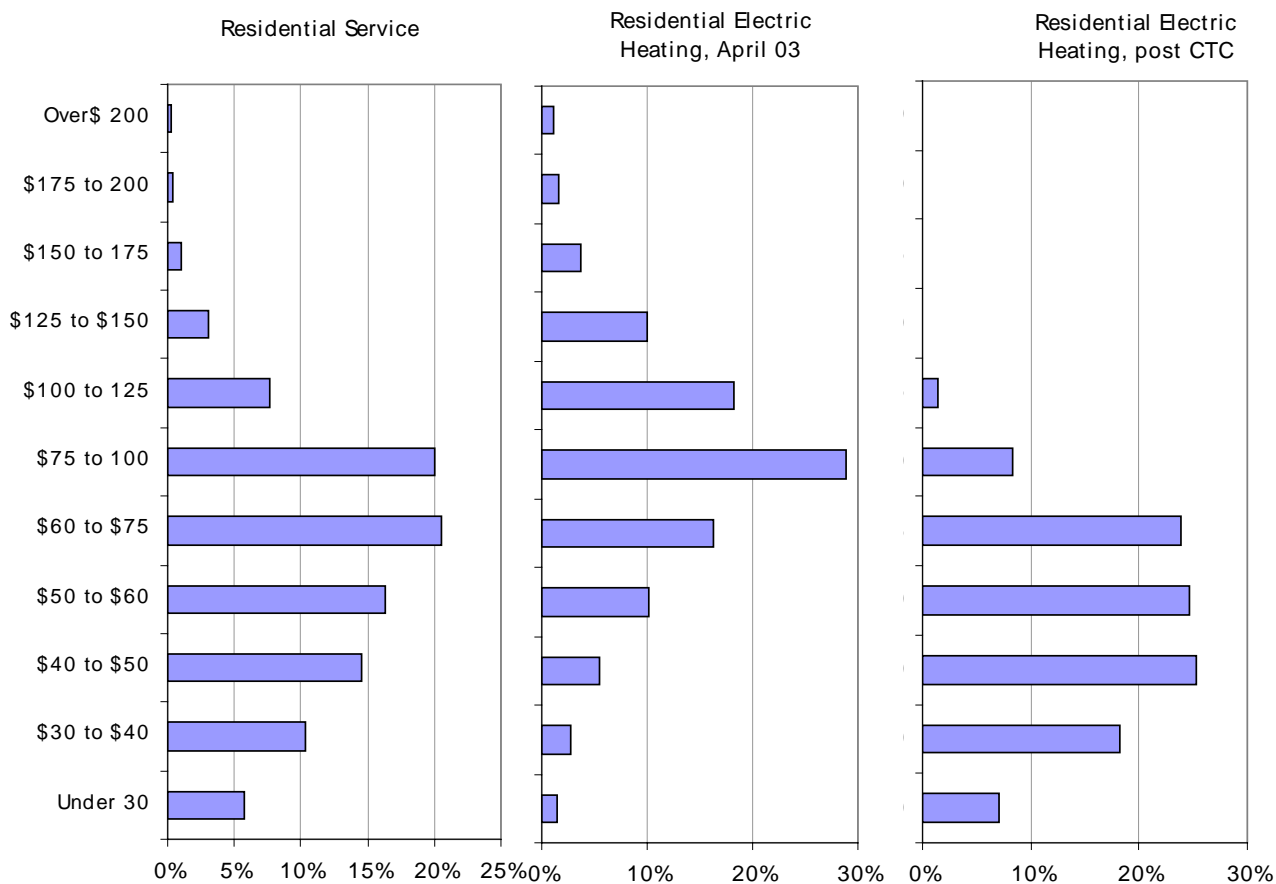
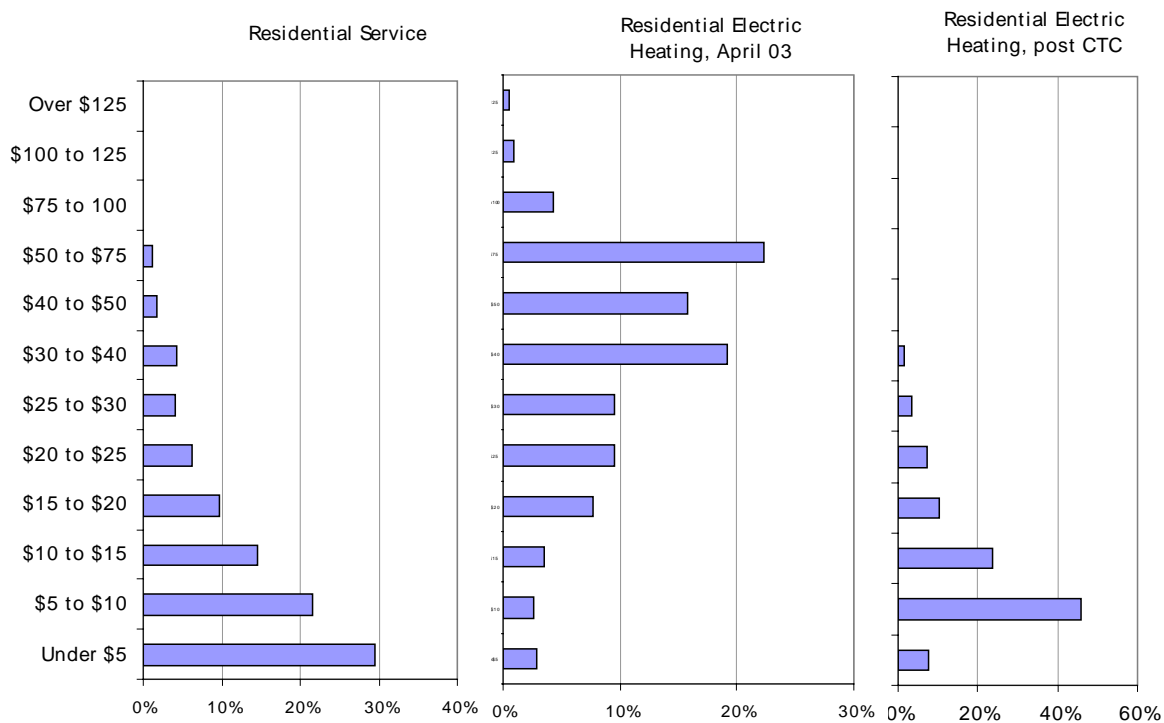


Figure 3.5 Distribution of Subsidies in CAP



Discounted bills and percent of income guidelines

Energy burden is the percent of household income required to pay energy bills. One apparent BCS goal for Customer Assistance Programs is to ensure that customers' energy burdens do not exceed specific percentages of household income deemed by BCS to be affordable. For non-heating electric customers, BCS has specified these recommended maximum burdens:

5% of income for households below 50% of poverty;

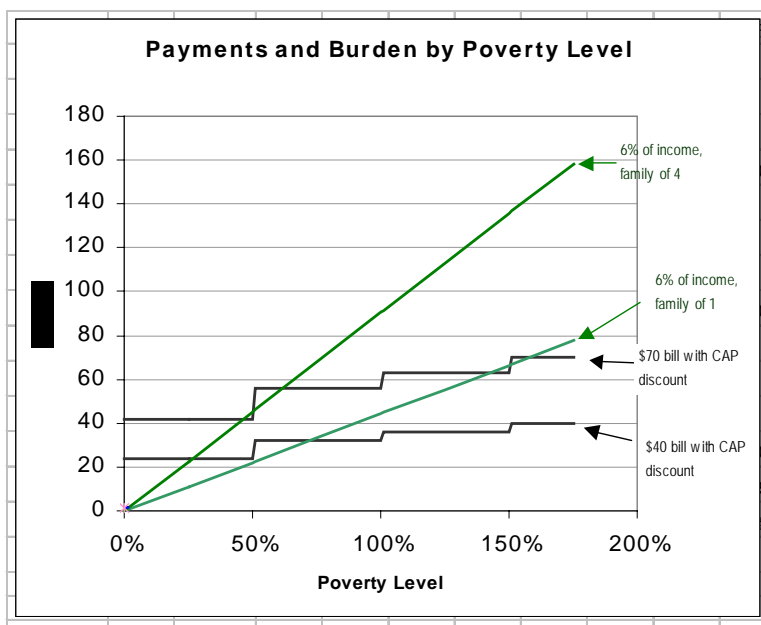
6% of income for households with incomes between 50% and 100% of poverty level, and

7% of income for households with incomes between 101 and 150% of poverty level.

The sloped lines on the graph below show the monthly payment amounts that correspond to 6% of income for single person households and households with four members at different poverty levels.

Figure 3.6 Comparing Scales

Given the formulas used by Duquesne to determine discounts, we can predict with a few calculations which households will have CAP payments over BCS "acceptable burden" threshold values: households with fewer members, with lower poverty levels, and higher bills. What the evaluation effort can tell us is how many customers fall into these categories, and what percentage of income they are asked to pay. (The table to right shows, for example, that a CAP discounted \$40 retail bill is above the acceptable burden line for any single person household with income below 75% of poverty level.)



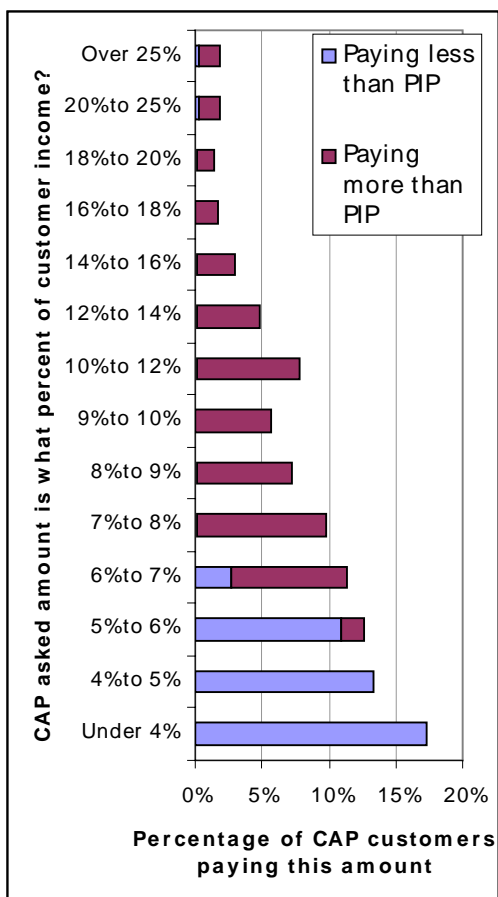
RETEC believes this graph illustrates some critical areas of divergence or inconsistency between two intuitively appealing definitions of affordability:

1. The two straight lines suggest that families should be able to pay a *percent of their income* for energy. Households with lower incomes should therefore pay less than households with higher incomes.
2. The two staircase lines suggest that families should pay a *percent of their energy bill*, with a larger discount for poorer families.

These definitions have something in common. All the lines have positive slope, suggesting that as households' incomes increase, they should pay more for their energy bill. However, there are these important differences:

- Holding poverty level constant, the *percent of income* concept leads to payment amounts that vary by family size but are the same across differences in energy use. Families pay more if they have more members, but they aren't penalized for using more energy.
- Holding poverty level constant, the *tiered discount concept* leads to payment amounts that vary with usage, but are the same across differences in household size. Families with higher use pay more, but aren't penalized for having more people in the home.
- The slope is steeper for the percent of income payment amount, especially for larger households. The slope is even steeper if those at a higher poverty level are asked to pay a higher *percentage* of their income for energy as well as a higher *dollar amount*.

Fig 3.7 CAP Payments as Percent of Income (Residential Service).



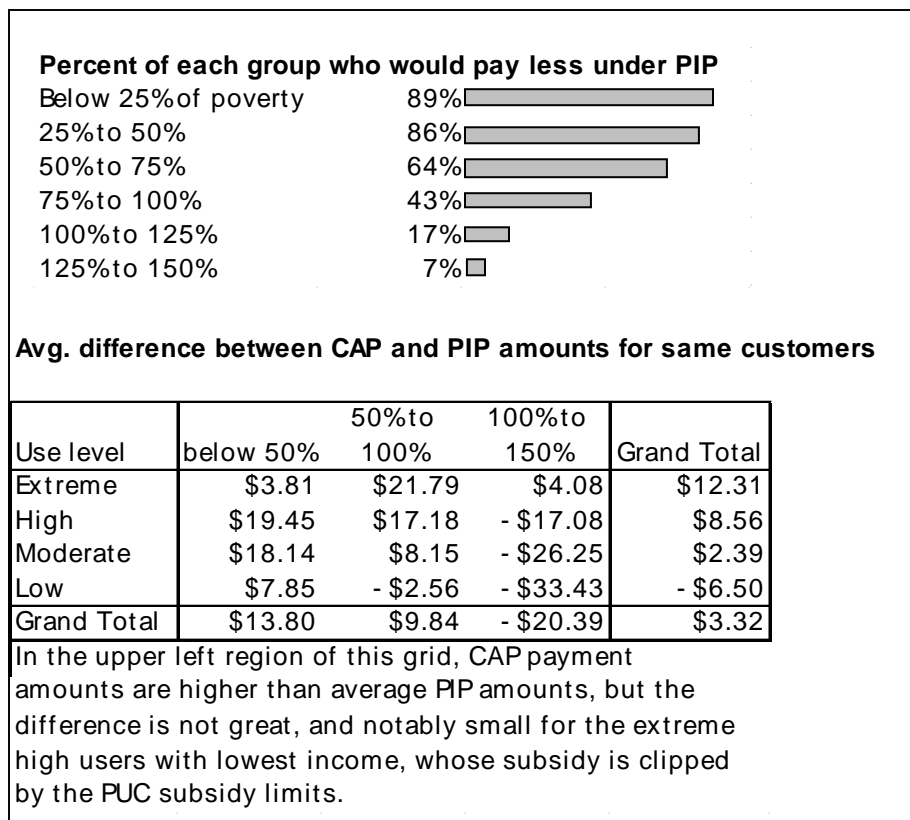
BCS has sanctioned both these concepts of affordability, by allowing CAP payment plans to be formulated in several alternative ways including both percent of income plans and rate discount plans. BCS has also advanced the concept that customers should at least cover the marginal cost of service and make a contribution to fixed costs¹³. As evaluators, we have found that it is useful to compare these different concepts of affordability and appropriate subsidy. If payments were determined as a percent of bill, what percent of income are households asked to pay?

RETEC calculated what CAP residential service customers would pay in a plan that followed the BCS energy burden guidelines, with the minimum payment and maximum subsidy requirements forcing some payments (for very low income, and high users) to rise above the recommended threshold. We then compared the PIP (Percent of Income Plan) payment amounts with the CAP amount shown in the record for CAP customers as of April 2003. For 54% of CAP customers, a PIP plan payment amount would be lower. This is especially true at the lowest levels of income. Due to minimum payments, and the limits on

¹³ RETEC has on several occasions recommended that "marginal cost plus appropriate contribution" be used to determine payment amounts instead of using either the percent of bill or percent of income approach.

total subsidy available (\$560 per year for residential service), some customers even in the PIP type plan end up with co-payments larger than their “burden” threshold. These are typically very poor households, and/or households with very high use.

Figure 3.8 Difference between CAP and PIP payment amounts (Residential Service).



On average, customers are paying \$3.32 more per month than they would if they paid their maximum PIP amount. The discrepancy is greatest for high and moderate users, and for low users with high incomes. The average increment is less than \$20 per month for those subgroups paying more in CAP. Thus while the percentage increment may seem large, the practical significance of these differences may be less.

If Duquesne were to give the poorest of its low income customers the depth of discount the PUC is recommending, it would sometimes end up subsidizing in excess of 70% of the bill. Both RETEC and Duquesne are reluctant to subsidize more than half a customer's bill. This can lead to customers choosing, or staying in housing situations that are energy inefficient or uneconomical.

The table on the following page gives a detailed breakdown of payment amounts and percent of poverty for CAP customers.

3.9 Detailed Analysis of CAP Payment Amounts

Number of Residential Service CAP Participants

kWh use	Poverty Level				
	Below 50%	50 - 100%	100 - 150%	150 - 200%	All Levels
extreme	506	878	500	26	1,910
high	849	1,410	831	52	3,142
moderate	1,237	1,933	1,066	76	4,312
low	868	1,419	669	43	2,999
All levels	3,460	5,640	3,066	197	12,363

Percent of Res. Service CAP Participants

kWh use	Poverty Level			
	Below 50%	50 - 100%	100 - 150%	All Levels
extreme	4%	7%	4%	15%
high	7%	11%	7%	25%
moderate	10%	16%	9%	35%
low	7%	11%	5%	24%
All levels	28%	46%	25%	100%

Average Bill for CAP Participants

kWh use	Poverty Level				
	Below 50%	50 - 100%	100 - 150%	150 - 200%	All Levels
extreme	\$121.41	\$119.48	\$120.05	\$118.11	\$120.12
high	\$79.84	\$79.53	\$79.62	\$80.25	\$79.65
moderate	\$57.29	\$56.98	\$57.10	\$55.85	\$57.08
low	\$36.06	\$35.90	\$35.63	\$34.14	\$35.86
All levels	\$66.87	\$67.04	\$68.78	\$65.77	\$67.41

Average Co-Pay for CAP Participants

kWh use	Poverty Level			
	Below 50%	50 - 100%	100 - 150%	All Levels
extreme	\$78.24	\$99.27	\$110.61	\$96.74
high	\$53.29	\$67.97	\$75.58	\$66.02
moderate	\$38.77	\$50.16	\$55.46	\$48.18
low	\$26.93	\$33.78	\$35.72	\$32.21
All levels	\$45.03	\$58.14	\$65.60	\$56.32

Avg. Subsidy for CAP Participants

kWh use	Poverty Level				
	Below 50%	50 - 100%	100 - 150%	150 - 200%	All Levels
extreme	\$42.02	\$19.30	\$8.04		\$22.30
high	\$26.02	\$11.52	\$4.15		\$13.49
moderate	\$18.65	\$6.86	\$1.80		\$9.02
low	\$9.95	\$2.84	\$0.55		\$4.40
All levels	\$21.63	\$8.95	\$3.18		\$11.08

Avg ratio, co-pay to monthly income

kWh use	Poverty Level			
	Below 50%	50 - 100%	100 - 150%	All Levels
extreme	18%	11%	7%	12%
high	14%	8%	5%	9%
moderate	11%	7%	4%	7%
low	10%	5%	3%	6%
All levels	12%	7%	5%	8%

Avg. Subsidy as percent of bill

kWh use	Poverty Level				
	Below 50%	50 - 100%	100 - 150%	150 - 200%	All Levels
extreme	35%	16%	7%		19%
high	32%	14%	5%		17%
moderate	32%	12%	3%		16%
low	27%	7%	2%		12%
All levels	31%	12%	4%		15%

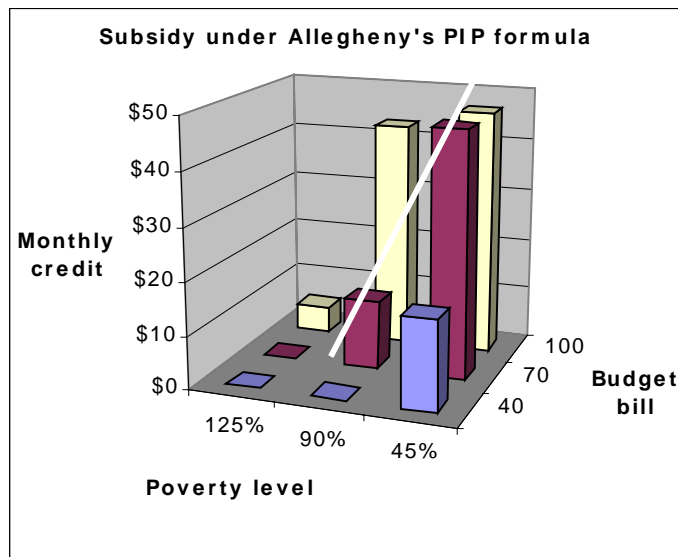
Avg co-pay as percent of historical bill

kWh use	Poverty Level			
	Below 50%	50 - 100%	100 - 150%	All Levels
extreme	65%	84%	93%	81%
high	67%	86%	95%	83%
moderate	68%	88%	97%	85%
low	77%	95%	102%	91%
All levels	69%	89%	97%	85%

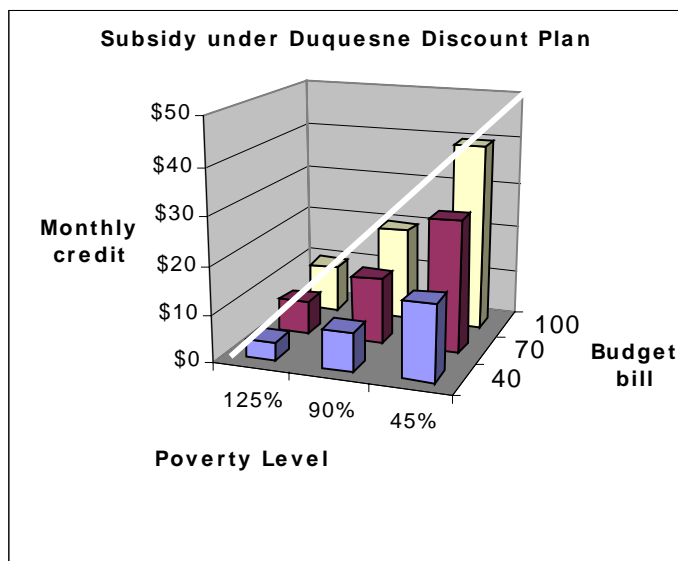
This detailed analysis clearly shows a sliding scale in place. The percentage of incomes customers are asked to pay follow the “natural” distribution, with poorer households paying a higher percentage of their income for necessities compared to households that have incomes at a higher poverty level. The difference in sliding scales can be seen if we compare CAP subsidies to those offered by Allegheny Energy in its PIP-based LIPURP program. It is clear the PIP scale has a deeper slope, shown by the white line in the figure that follows.

Figure 3.10 Comparing PIP to CAP Subsidies: A Difference in Slope

Subsidies determined for nine hypothetical customers, by two different subsidy formulas. Customers have bills of \$100, \$70, and \$40, and incomes at 125%, 90%, and 45% of poverty level.



80% of the total subsidy goes to 3 neediest customers (poorest, with highest bills). The largest monthly subsidy is \$46.67. 3 customers receive no subsidy. (Those with highest incomes and low or modest bills.) The slope of the sliding scale is steep. (Slope shown by white line.) PIP calculations are for family of 3. Smaller households typically receive larger subsidies.



60% of total subsidy goes to the 3 neediest customers (poorest, with highest bills). The largest monthly subsidy given is \$40. All customers receive some subsidy. (Even those with highest incomes and low or modest bills.) The slope of the sliding scale is less steep. (Slope shown by white line.)

The calculations for this comparison apply to Residential Service Customers, and are at the end of Appendix A. The fact that the Allegheny customers who receive no subsidy pay their bills, and the fact that Duquesne Customers in CAP with a 10% discount paying an extra \$5 are paying almost their full bill, usually with success suggests that a somewhat steeper scale may be in order for Duquesne that would not give subsidies to all customers between 100% and 150%, and would give somewhat greater subsidies to those with the lowest poverty levels.

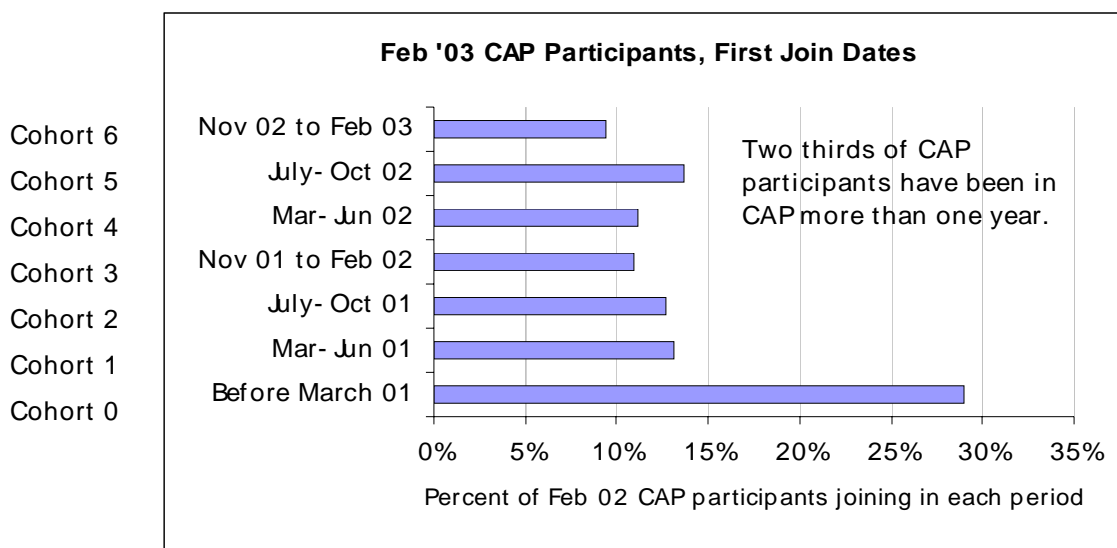
How long do customers stay in CAP?

Customers stay in CAP. Now that CAP no longer expels customers for irregular payments, most CAP participants enroll in CAP, stay in the program, and recertify or rejoin in the following year. Of active customers joining CAP before March 2001, 84% were in the program two or more years

later in February 2003, and 81% were in the program in April 2003, when all recertifications may have been completed for this group.

Given this longevity, it is not surprising that two thirds of current participants have been in CAP more than one year, despite strong enrollment of new customers in the program in recent years. Figure 3.11 shows the percent of February 2003 CAP participants by the period of their first enrollment. It also shows the groups RETEC has defined for its impact evaluation. We have called these groups “cohorts” because they share the experience of joining CAP at the same time.

Figure 3.11 Customers in CAP, and When They First Joined



To study the impacts of CAP, RETEC focused on changes in account behavior for cohorts 1-3. They joined CAP after changes were made to the program in 2001, and they have at least a year of post-join experience to analyze. Their first full year in CAP included the summer of 2002, when Duquesne increased its collections activities.

3.3 What happens to CAP Participants

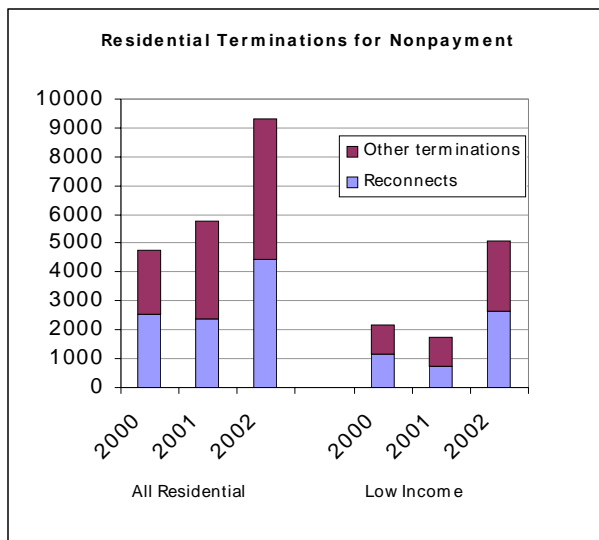


Figure 3.12 Increasing Terminations for Non Payment

In the period studied, Duquesne increased both CAP enrollments and collections activity. Thus customers entering CAP during this period faced both increased “carrots” for paying promptly (debt forgiveness from CAP) and heavier “sticks” for not paying. The combination of these incentives produced impressive financial results, as we shall see, but also resulted in a decline in service level as RETEC defines service quality.

RETEC defines service level as follows:

- Level 1 is service with no threat of disconnection during the period. (In this case, the period was 12 months after joining CAP, whether or not the customer remained in the program for the full 12 months. Most did.)
- Level 2 means customers receive collections letters and calls, but not field visits.
- Level 3 service means that customers have received one or more field visits during the period.
- Level 4 service has been interrupted by a termination for nonpayment.

For customers in cohorts 1 to 3 (joining in the year before March 2002), RETEC analyzed changes in service level. We compared up to 365 days of pre join account history to 365 days of post join history. Service level deteriorated for 42% of these customers, as Duquesne doubled its collections activity during their first April to October after joining. 16% of joining customers experienced an improvement in service level, and the other 42% stayed at the same service level.

Before joining in 2001, 78% of these Cohort 1, 2 or 3 joiners enjoyed level 1 or 2 service. In 2002, as Duquesne doubled its collection efforts, this number falls to 62%, while the percent of customers with a service termination for nonpayment jumps from nearly 2% in summer of 2001 to 9% in summer of 2002.

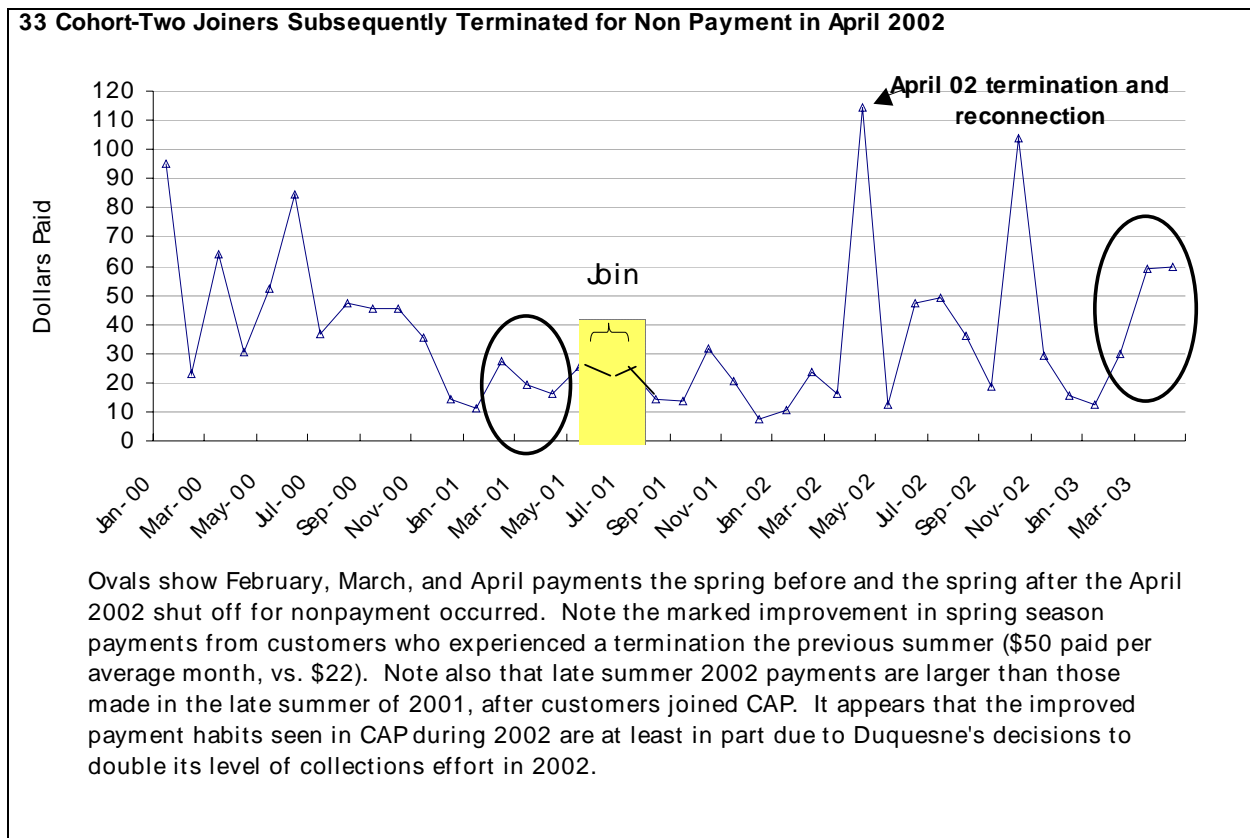
Figure 3.13 Change in Service Level

		Service Level in 2002 After Joining CAP				
		1	2	3	4	Total
Service level	1	8.4%	13.4%	3.4%	0.6%	25.8%
Level in 2001	2	7.3%	25.0%	15.9%	4.3%	52.4%
Before Joining	3	1.2%	6.3%	8.5%	4.1%	20.1%
	4	0.1%	0.4%	0.7%	0.3%	1.6%
Total		17.1%	45.0%	28.5%	9.3%	100.0%

As noted above, CAP customers whose service is terminated must pay up their CAP obligations to restore service, and remain in the program without need to re-verify income if they reconnect within 14 days. This forced catch-up of CAP co-pay obligations improves the financial performance for these accounts.

Figure 3.14 shows the effects of an April 2002 termination on customers who joined CAP in mid summer of 2001. As they approached and joined CAP in 2001, these previously irregular payers managed to avoid termination in that summer. RETEC expects the process of joining CAP gave these customers several months effective protection from collections pressure in 2001, starting with the 5 to 6 week delay of their first payment obligation after joining. It would take a while for their CAP balance to accumulate, and for the agency monitoring their account to send warnings, etc.

Figure 3.14 Impacts of Termination Upon Payment in CAP



In Figure 3.14 the 2002 payment amounts are much more impressive coincident with and following termination in April (a few of these customers were terminated again in November). Furthermore, the customers appear to have “learned a lesson”. Comparison of early spring payments (see ovals on the graph) shows they are entering the 2003 collections season making some anticipatory payments to prevent recurrence of their uncomfortable experience in 2002. Their less than stellar payments in the 8 months after they joined CAP suggests that at least for these customers, a subsidy is not enough incentive to prompt payment.

This example shows the value of having both carrots and sticks available. Depending on their circumstances, some customers can imagine paying off their debts and are motivated by that goal. For others, that goal may seem beyond reach at this time. They may not be able to buy level one service, but they will be strongly motivated to buy at least level 3 or level 2 service.

The example also suggests that in evaluating the impacts of USP programs, we must remember there is a larger story going on. We are in fact evaluating the combined impact of CAP availability and services, with the increased collections effort mounted by Duquesne. In short, we are evaluating “more carrots and more sticks.” RETEC concluded in its evaluation of PPL’s pilot program that the behavior of low income payment troubled customers is remarkably responsive to changes in incentives. Thus we would expect to see relatively good financial performance in 2002 for CAP accounts. Customers who would not or could not respond to the forgiveness offer would respond to termination or the threat of termination.

RETEC conducted a preliminary analysis to see which subgroups of CAP customers had lowest service levels. As expected, compared to households not terminated, the households that were terminated in CAP had higher balances, more shortfall, and less frequent payments coming into CAP. They are more likely to use food stamps, and on average pay less for cable TV and pay more for day care. They are headed by younger adults and have more children, which could explain why households with more members are more likely to be terminated.

Notably, the asked amount as percent of monthly income shows no significant difference among service levels¹⁴. Households with children were twice as likely to be terminated in 2002, and half as likely to enjoy level one service, compared to households without children¹⁵. See Figure 3.15 on the following page. RETEC also found that owners with mortgages were twice as likely to enjoy level one service and half as likely to be shut off as owners without mortgages or renters. Owners without mortgages are 13% of service area low-income customers, but only 7.7% of CAP customers. This suggests that not all mortgage-less low-income owners need assistance, but those that do need assistance need it badly.

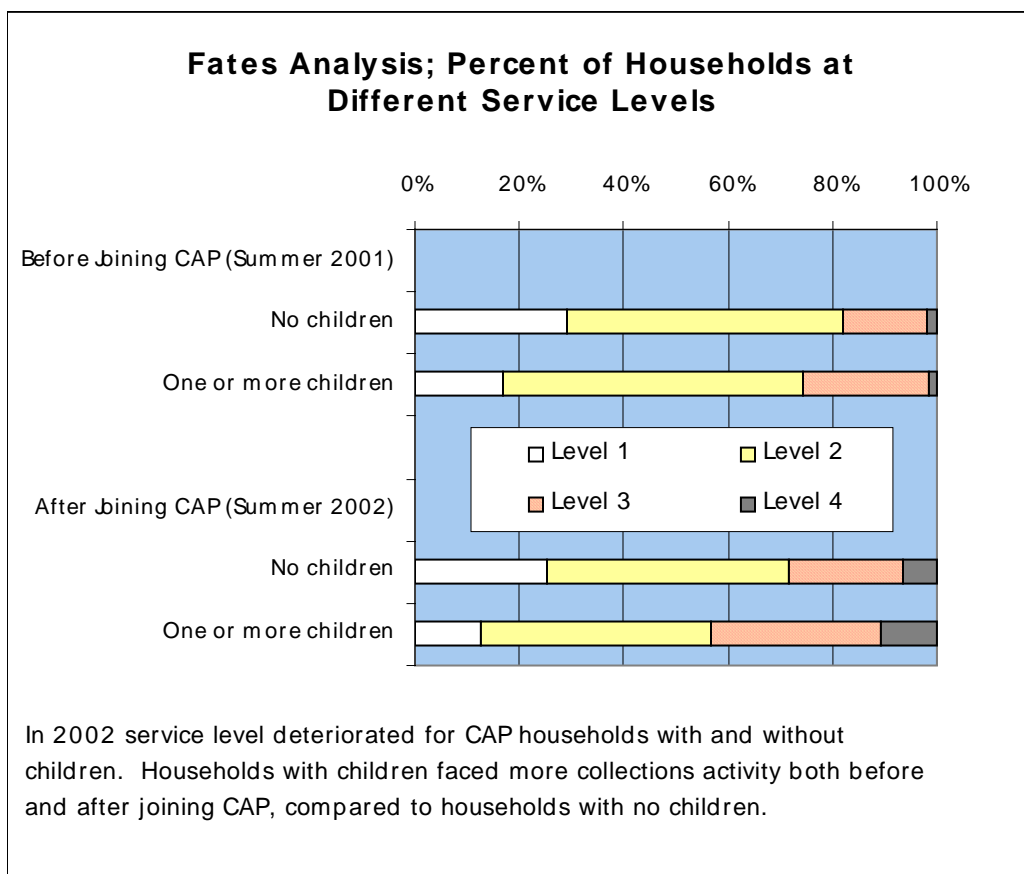
¹⁴ This confirms RETEC's findings in other service areas that asked payment as percent of income is a very poor indicator of which households will have trouble paying bills.

¹⁵ RETEC has found in regression analysis in datasets from other service areas that poverty level does not quite capture the full impact of children on the number of termination notices received. This suggests that the household size adjustment in poverty level calculations may not accurately reflect the costs of having children in the household. It is also true that households with children tend to have younger adults, and older adults tend to experience better service levels and fewer terminations.

Figure 3.15 Children and Service Level in 2001 and 2002

Service Level Before Join (up to a year)			
Level	No children	One or more children	Two or more children
1	29%	17%	15%
2	53%	57%	58%
3	16%	24%	25%
4	2%	2%	1%
	100%	100%	100%

Service Level After Join (year)			
Level	No children	One or more children	Two or more children
1	25%	12%	12%
2	46%	44%	43%
3	22%	32%	34%
4	7%	11%	11%
	100%	100%	100%



3.4 Account Financial Performance

Figure 3.16 Average Values for Full 12 Months in CAP

Average Values for CAP Accounts Active an Entire Year Ending February 2003

These 9,094 customers joined CAP before March 2002 and are in CAP as of April 2003.

(A few may have left the program and returned during the year studied.)

Average Values for Full 12 Months in CAP	CAP Full-Year Participants by Rate and Usage Level						All CAP Accounts
	Residential Customers			Residential Heating Customers			
	Low/ Mod	High	Extreme	Low/ Mod	High	Extreme	
kWh used full year (ending April)	Less than 700 kWh	700 to 1,000 kWh	Over 1,000 kWh	Less than 1,200 kWh	1,200 to 1,600 kWh	Over 1,600 kWh	
Customers in sample	4,932	2,249	1,381	316	104	112	9,094
12 Months bills	\$594.34	\$961.21	\$1,439.10	\$878.14	\$1,353.62	\$1,842.11	\$847.25
12 Months payment as percent of bill	\$509.01 86%	\$792.20 82%	\$1,102.60 77%	\$626.82 71%	\$826.76 61%	\$1,229.61 67%	\$685.77 81%
Budget amount asked as percent of bill	\$476.88 80%	\$723.76 75%	\$1,007.30 70%	\$603.15 69%	\$821.71 61%	\$1,122.18 61%	\$634.75 75%
Pct of budget paid	107%	109%	109%	104%	101%	110%	108%
LIHEAP Cash grants	\$15.62	\$20.06	\$23.69	\$15.79	\$39.71	\$30.98	\$18.42
LIHEAP Crisis grants	\$13.77	\$16.13	\$19.75	\$90.69	\$132.22	\$161.82	\$21.11
Agency grants	\$7.73	\$9.04	\$8.25	\$11.99	\$8.65	\$24.11	\$8.49
Total Revenue as percent of bill	\$546.13 92%	\$837.42 87%	\$1,154.28 80%	\$745.29 85%	\$1,007.35 74%	\$1,446.52 79%	\$733.79 87%
Shortfall as percent of bill	\$48.21 8%	\$123.78 13%	\$284.82 20%	\$132.85 15%	\$346.27 26%	\$395.60 21%	\$113.46 13%
CAP credits applied	\$127.36	\$197.17	\$244.18	\$123.83	\$157.74	\$256.87	\$164.18
CAP debt forgiveness	\$90.03	\$168.01	\$271.84	\$113.94	\$180.74	\$257.05	\$140.85
Net impact on balance	-169.18	-241.40	-231.20	-104.93	7.78	-118.33	-191.57

Payments actually received from CAP customers cover on average 81% of their retail bill and exceed the CAP budget amount they are asked to pay. Grant revenue is modest, probably because nonheat customers who use LIHEAP cash grants are likely to send those to their primary heating vendor, and customers paying fairly regularly in CAP will not receive shut off notices, and will therefore not be eligible for CRISIS or hardship grants.

Figure 3.16 shows the financial results for over 9,000 CAP customers for the 12 month period ending in February 2003. This period includes the summer of 2002 when Duquesne doubled its collections efforts. It would only begin to reflect the reduction in heating rates that began in February 2003 due to the expiration of CTC (stranded cost reconciliation). RETEC calculates that residential electric heating customers will receive a 40% discount, compared to residential service customers, when the lower rates are in place for 12 months. The "arrival" of this discount is confirmed by these comparisons:

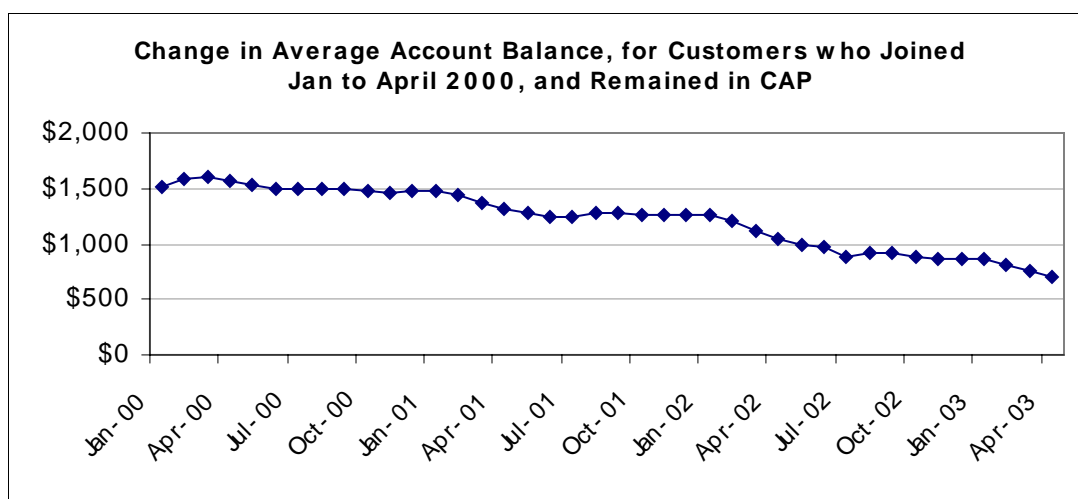
- \$1174 = Heating CAP customers, actual bill for 12 months through Feb 03.

- \$740 = Heating CAP customers, actual bill for 12 months through April 03
- \$636 = Heating CAP customers, actual use for 12 months through April 03, calculated at new rates.

Reduction in account balances

CAP is designed to reduce and eventually eliminate the account balance customers bring into the program. The table of financial performance shows a net reduction of the balance occurring on an annual basis. Steady participation in CAP eventually reduces the total balance on the account, as shown below.

Figure 3.17 Reduction in Account Balance Over Time



Of the longtime CAP customers depicted in this figure, 5% have seen a reduction of over \$3,000 in their balance. For 13% the reduction was over \$1,500, and for 42% over \$500. 47% had a reduction of less than \$500, and 10% have an increase in their accounts receivable balance.

3.4 Changes Observed in Account Behavior

Month by month financial analysis

RETEC analyzed financial performance over a 39 month period for CAP customers who joined CAPs over a year ago. Details are shown in the Appendix. Line graphs show how financial variables and service quality vary by month as customers approach CAP (typically in declining circumstances), join CAP, and continue forward into the tougher collections climate of 2002.

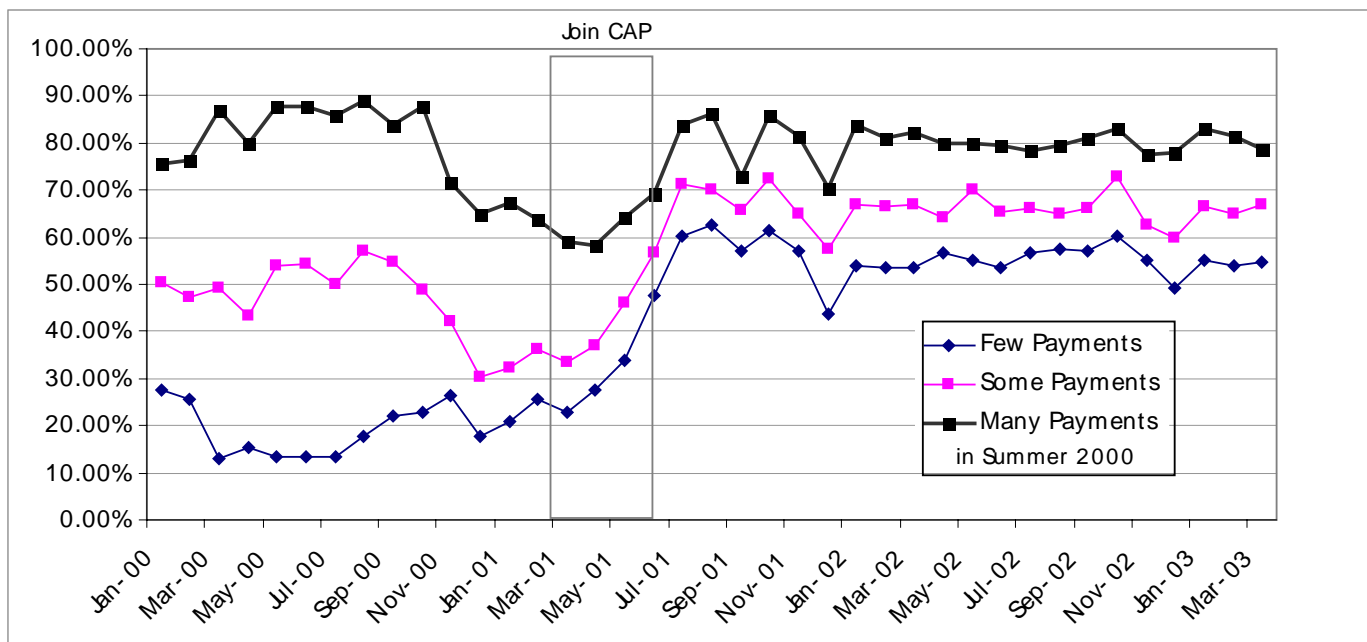
One major change is an increase in payment frequency. Customers go from paying on average in 60% of the months to paying in 70% of months. Customers with the poorest pre-program payment habits show the most improvement, as shown in Figure 3.18.

Figure 3.18 Payment Behavior Over Time

Effect of Joining CAP on Payment Frequency for Three Groups of Customers

Cohort 1 joining CAP March- June, 2001

(Subgroups making more than 5 payments March- Nov 2000, 3- 5, or less than 3 payments in same period.)



Some of this effect may be due to natural "reversion to the mean" as abnormal circumstances in summer of 2000 faded in their impact on customer behavior. Poor payers have the most room for improvement and show the greatest improvement. However, poor payers remain less likely to pay regularly compared to other groups.

This increase in payment frequency is accomplished with only a roughly \$20 per year average decrease in total amount paid. This is more than offset by a tiny increase in grants received, and a decline in the total amount of the retail bill (due at least in part to CTC expiration). As a result, CAP participants on average cover a discernibly higher percentage of their retail bill with personal payments than they did in the 18 months before joining. Thus the program is essentially revenue neutral. These results appear consistent across discount/poverty levels.

CAP customers pay a much higher percent of the amount they are asked to pay. RETEC calculated the "asked to pay amount" as the CAP asked amount for months when customers were in CAP, and the full budget bill amount when they were not in CAP. One fear for the CAP program was that customers used to paying 50% of their retail bill would become comfortably paying 50% of a reduced bill, and revenue would drop. This has not occurred in Duquesne's CAP.

RETEC conducted an analysis of monthly account behavior for all customers joining CAP between March of 01 and February of 02. We subdivided this group into three cohorts:

- Cohort 1 joined between March 01 and the end of June 01
- Cohort 2 joined July through October 01

- Cohort 3 joined November 01 to February 02.

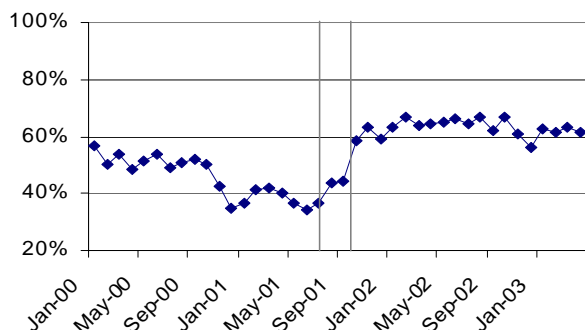
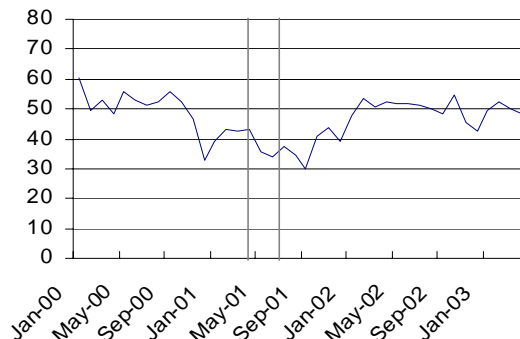
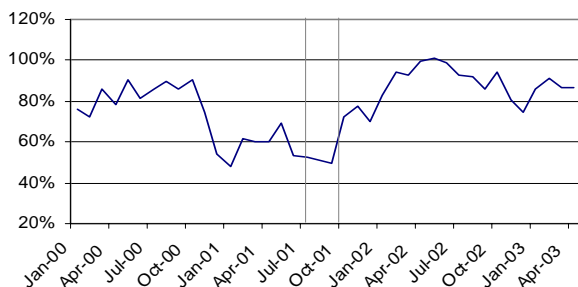
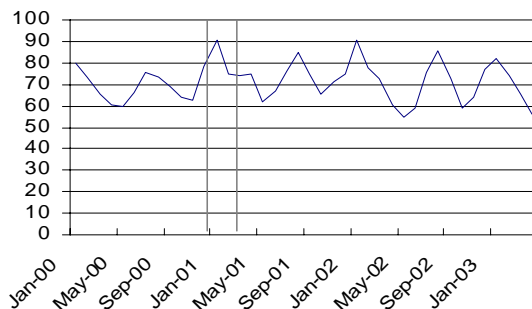
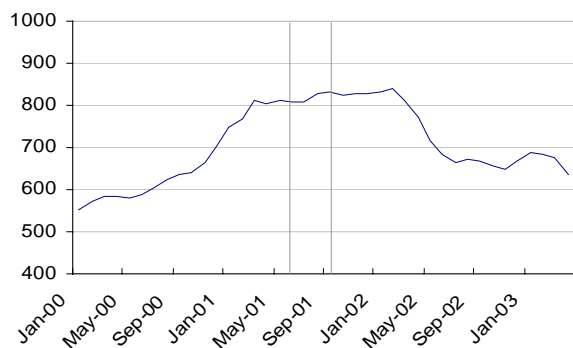
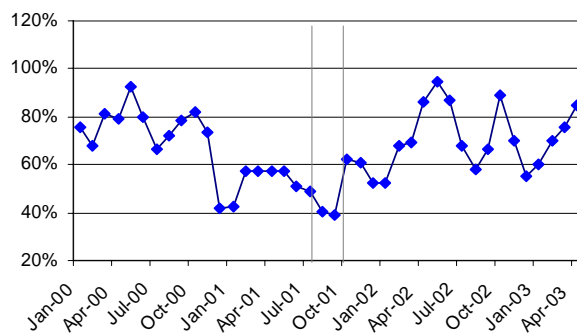
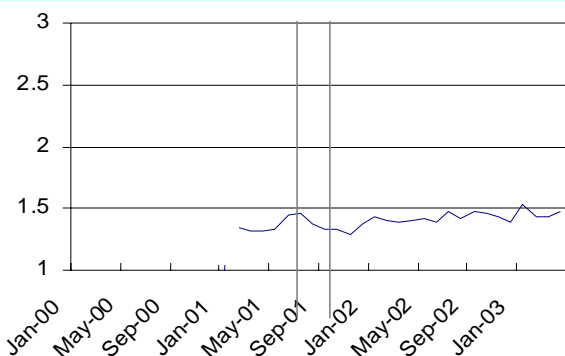
We further subdivided each of these cohorts according to the poverty level that would determine how much discount they received in CAP. This gave us nine different groups of CAP customers, for whom we graphed changes in several variables. Detailed results may be found in Appendix A. The page that follows shows all seven defined indicators, for one of these nine groups. Note the increase in payment frequency and the increase in the percent of asked amount paid.

Additional Pre Post Analysis

Because there is no control group, the only available comparisons are to customers who joined later, or same customers comparisons over long periods when household circumstances no doubt change. To facilitate this comparison, the Appendix shows the financial performance for all CAP customers joining the program in recent years, broken down into four- month periods, as well as the full year period described above. The analysis and comparison of these period averages confirms the story told by the line graphs shown on the next page and in Appendix A. RETEC completed a similar period summary showing all collections activity. These indicators show that CAP has not resulted in a net decrease in collections activity. Terminations have actually increased from 0 to 1 per hundred accounts to 2 to 5 per hundred accounts, depending on the cohort.

Figure 3.19 Account Performance by Month

Month by Month Values for Cohort Two Customers, Who Joined CAP July 2001 to October 2001
Subgroup shown has incomes between 50% and 100% of Poverty Level

Percent of Group Making a Payment Each Month**Average Amount Paid Each Month****Average Percent of Asked Amount Paid****Average Bill****Average Account Receivable Balance****Average Percent of Bill Paid****Average Service Level (Defined by RETEC)**

As these customers join CAP

- Their payments become more frequent
- The average amount paid declines only slightly
- They pay a higher percentage of the amount the utility asks them to pay (though this amount is lower in CAP).
- Their average bill decreases slightly, due at least in part to expiration of CTC.
- Their average balance rises gradually, then declines
- They pay a slightly higher percentage of their bill.
- Their average service level (collections involvement) improves initially, then declines again (reflecting more interactions with collections).

4. Other Universal Service Programs

How Many Customers Have Participated in Universal Service Programs Recently?

While CAP is the largest of Duquesne's programs, it is linked to other programs that are complementary. In 2002 the CARES program served 9,718 customers in some capacity, from over 19,000 referrals. CARES representatives work for the same agencies that administer CAP, and can help their customers enter CAP as well as access other sources of assistance. LIURP, Duquesne's energy education and conservation program, completed 3,560 base load interventions in 2002, as well as 3 jobs for customers with electric water heaters and 14 jobs for residential electric heating customers. The company received 2,646 hardship grants in 2002 from Dollar Energy, matching them with shareholder funds.

LIURP

LIURP is the low-income usage reduction program. These programs have been in place for over a decade, and were started as a response to the energy crisis of the 1970s. LIURP serves over 3,000 households per year, 99% of them non-heating residential service customers who can receive energy education, compact fluorescent bulbs, replacements for waterbeds and inefficient refrigerators or freezers, and energy-reducing weatherization. To receive a LIURP visit customers must average over 600kWh per month or 450 kWh if living alone.

Duquesne made available to RETEC copies of the LIURP results file it sends to state evaluators for that program. RETEC conducted a preliminary analysis of these LIURP numbers, and found that base load and water heat jobs may not be cost-effective investments for ratepayer dollars. RETEC recommends that Duquesne study this issue further as it prepares a program needs assessment for submittal in February 2004.

LIHEAP

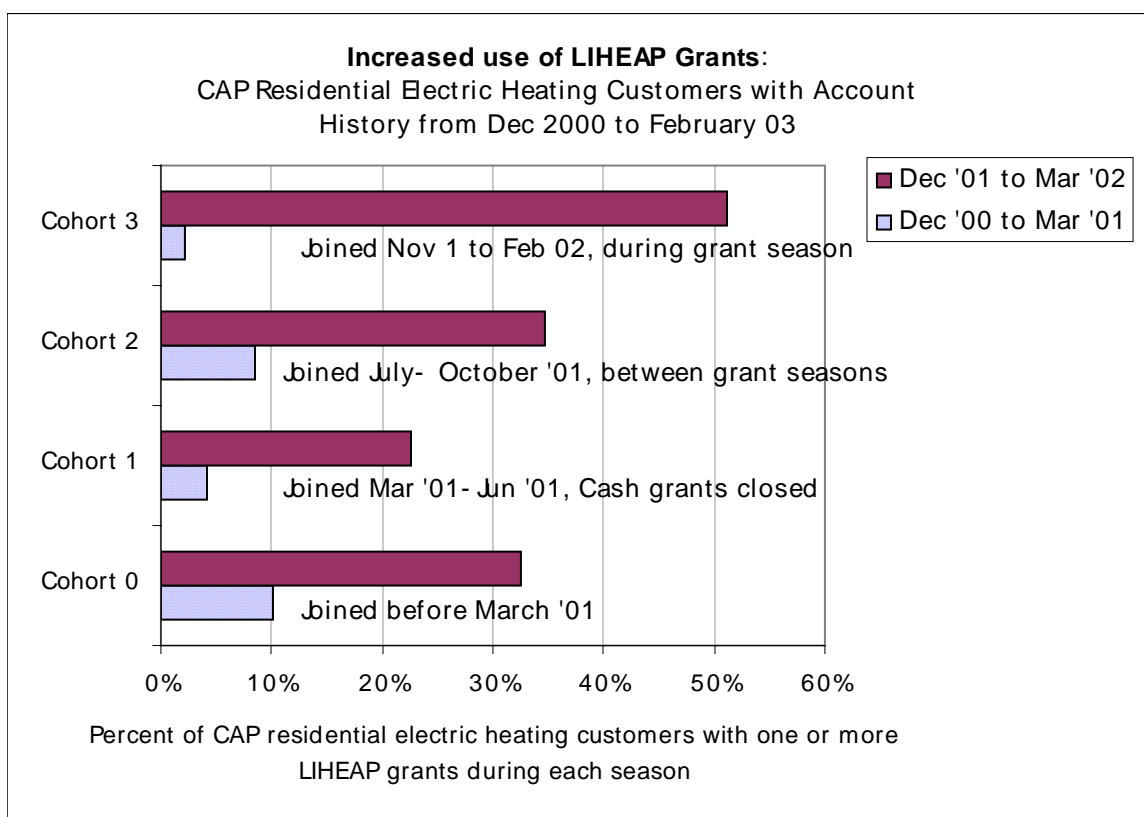
Under CAP rules, LIHEAP cash grants do not count as a payment (as they do for non-CAP customers) so CAP customers have little incentive to obtain these grants. They reduce the expense of shortfall credits for the company, but provide no advantage to the customers. RETEC suggests counting the LIHEAP cash grant towards at least one customer CAP budget payment, and reducing shortfall credits by the additional remaining amount that the customer would likely receive. This could be explained to customers as a way for them to cover their December payment, given that December is the month when customers most want to not pay their utility bill.

Despite this lack of clear financial incentives, it appears that as customers join CAP, they substantially increase their use of LIHEAP cash grants. The increase is particularly dramatic for those joining during grant season (cohort 3). Thus CAP appears to be doing a fairly effective job

of prompting its customers to use LIHEAP. (RETEC has observed far less impressive increases in most other programs we have evaluated.)

There is room to improve the participation rate for LIHEAP cash grants. Figure 4.2 shows participation rates for different cohorts, summarizing results of an analysis that includes only customers who were active during both the grant seasons compared, and who were in CAP in February 2003. Thus the vast majority of each of these groups was eligible to receive LIHEAP cash grants in each of the periods shown. RETEC is concerned that a majority of the long-time participants in cohort zero are not bothering to use LIHEAP. Is CAP taking care of their needs too well? Like any non-use of LIHEAP by CAP customers, their non-use of LIHEAP cash benefits increases ratepayer subsidies that would otherwise be funded with tax dollars.

Figure 4.2 LIHEAP Participation by Residential Electric Heating Customers in CAP



Dollar Energy

Dollar Energy is Duquesne's hardship fund. Hardship funds are the component of Universal Service designed to support customers with temporary or emergency payment problems.

One question raised concerning hardship funds is to what extent the same customers use these funds year after year. Of all residential customers who received an electric Hardship grant in the last 3 years, 85% show only one grant. 12% have two grants, and 3% have more than two grants. (Since we have multiple account registrations only for customers in CAP at both account

numbers, these percentages probably slightly undercount the number of repeat users in the total population, but are accurate for long-time CAP accounts.) RETEC concludes that customers may apply to the hardship fund if they face a crisis when it is open, but that few customers use it year after year.

Another question concerning hardship funds is whether the funding is adequate in relation to customers' needs for short-term assistance. Dollar Energy funds are limited and therefore are available only during certain months in spring and fall. Customers who face a crisis when the fund is closed have few alternatives except to join the year-round CAP program.

Linking Mechanisms

RETEC received from Duquesne the date of all grants and terminations from 2000 to early 2003, and a list of all LIURP jobs in 2000 and 2001. From this data we were able to analyze overlaps in participation. We did so for a random sample of over 17,000 customers who owed money to Duquesne in January 2002. 27% of these customers were in CAP or joined CAP by February 2003. It appears that CAP is an effective gateway to LIURP, since most LIURP jobs noted in the random sample were preceded by a CAP plan. This reflects the practice of delaying admission of high use customers into CAP until they have had a weatherization/education visit from LIURP.

Figure 4.1 Participation in more than one program

Table of Sequential Participation

<i>Before:</i>	CAP	Hardship	Crisis	LIHEAP	LIURP
CAP		900	346	669	882
Hardship	902		145	272	347
Crisis	347	50		134	171
LIHEAP	613	89	155		320
LIURP	20	94	16	28	

Interpretation: In 20 cases, use of LIURP preceeded a customer joining CAP; In 882 cases, CAP membership date preceeded or equaled a customer's use of LIURP.

Are short-term needs being met efficiently?

RETEC perceives there is a mismatch between the needs of many low-income customers for assistance over periods of 2 to 8 months, and the current division of available assistance into two buckets, a Hardship Fund bucket for one-time grants available only in spring, and a CAP bucket for a year-long discount available year round. These two buckets of funds correspond to two images that are frequently held of low-income customers- those suddenly made poor by a crisis, and the fixed-income poor. Our evaluation shows that there is a third group of intermittently or temporarily poor households whose ability to pay can fluctuate often and/or dramatically. Given a commitment to subsidize energy for those who cannot afford it, we believe it would be prudent and cost-effective to make some funds available for assistance for periods shorter than a year, and *to have these short-term assistance funds available year round.*

At this time, RETEC believes that some customers with temporary income dips who might need assistance for shorter periods, are enrolled in CAP for an entire year of subsidies. They become ineligible during the year and do not recertify, but they collect more subsidy than they need. The control group in RETEC's evaluation of the PPL pilot OnTrack program demonstrated a "bounce back" effect that OnTrack negated. People approach the program when they are having difficulty, but many customers with difficulties start to bounce back after a period of a few months. The bounce back effect in the comparison, non-joining customers meant they paid PPL more than the OnTrack joiners paid over the course of an entire year¹⁶. The customers who least need the discounts because their situation improves, are the most likely ones to make their payments regularly and obtain the balance-reducing prompt payment credits.

One alternative to better meet temporary need is to give agencies flexibility to enroll customers in CAP for periods shorter than one year. They could adjust the recertification interval to be 6 to 24 months. They could assess with applying customers for how long a period the customer feels they need assistance. (This mechanism could also be used to adjust subsidy amounts, giving someone a generous six month subsidy to give them time to find a more affordable living situation, at which point their subsidy could be radically decreased.)

Another alternative is to shift some funding from CAP to CARES. When a previously-good-paying, low-income customer is referred to the agency, the agency ought to have the option of offering a one-time grant instead of, or in addition to enrolling the customer in CAP.

A third alternative is a hybrid approach that offers two levels of assistance. CAP could continue to offer the standard discount. For those who need more assistance and/or shorter-term assistance, agencies could dispense "budget booster" grants that would apply a fixed credit amount to bills for a period of 3-6 months. To obtain these grants customers would have to convince agencies of their immediate need. Agencies could at this point do an individual cash flow analysis and could have the option of requiring budget counseling as a condition of receiving the "budget booster". They would probably exercise these options if customers were already receiving or qualifying for the standard CAP discount. Agencies could enroll someone in CAP for 6-18 months, and also give them an automatically expiring booster grant lasting 3-6 months to get them past their immediate crisis.

¹⁶ See Comparison to Other Groups and Strategies section of the 1998 ThermoRetec evaluation.

5. Recommendations

Duquesne's CAP program is functioning smoothly and is given high marks by stakeholders. There are costs to making changes in a program that has well-established computer algorithms and well-established understandings and expectations for staff and participants. While RETEC can point out some directions for change and some options to consider, Duquesne should try to make evolutionary changes that will deliver the most improvement with the least disruption to established routines and understandings.

We believe there are two directions for change that Duquesne should consider. The first is to reduce administrative expenses. We have discussed approaches to lower expenses at the end of Section Two of this report. This section focuses mainly on the second direction for change, namely, fine-tuning the allocation of subsidies.

RETEC Planning Assumptions

Some low-income customers need utility subsidies some of the time, some need them all the time, and some need them none of the time. Many low-income households can afford to pay their full electric bill, *particularly in Western Pennsylvania where electric rates are not very high.* (Duquesne's residential rates are now lower due to CTC expiration.) Duquesne has about 100,000 low-income customers, many of whom have been paying their full bill amount regularly. Allegheny Energy uses a percent of income scale to determine co-payments in their CAP program. Their formula determines that 50% of the low-income customers making a payment agreement need only a tiny subsidy (10% of customers) or none at all (40% of customers). RETEC believes the percent of income scale is biased against larger households and against households with children, but the important point is that the Allegheny customers with minimal subsidies are paying their full bill successfully. RETEC believes CAP subsidies should not be an entitlement, but are designed to assist low-income customers who for financial reasons have difficulty paying their bill. *Issue for Duquesne: CAP entitles all low-income households to a discount. This may drive up administration costs and preclude giving deeper subsidies to those who need them most.*

Some of the customers who need subsidies need them for less than a full year. Some unemployment is seasonal or short-term. Some financial crises are temporary. *Issue for Duquesne: CAP entitles all low-income households to a full year discount. In summer, there are few resources available, other than CAP, to help customers through crisis periods.*

RETEC believes is not appropriate for utility customers to subsidize more than 50% of a utility bill *long term.* This encourages poor choices in housing. However there is a need for customers in crisis to be able to underpay even a discounted bill for several months, while long-term solutions are being worked out. *Issue for Duquesne: How to allow underpayment of CAP amount during periods of crisis, and what to do with the unpaid portion?*

Comparing Three Approaches for Targeting Subsidies to Low Income Customers

PUC	Duquesne	RETEC
What are CAPS? CAPS are alternatives to traditional collection methods that can decrease utility costs while helping customers who cannot afford their full bill.	CAPS are explicit subsidy programs that complement traditional collection methods, help low income customers afford and pay their bills.	CAPS are explicit subsidies that complement traditional collection methods, increase costs, and help some customers more than others, depending on payment formulas and program design.
Who is eligible? Customers with low incomes, with financial need and/ or trouble paying.	All customers with low incomes.	All customers with low incomes and financial need.
How to determine co-payment, discount, or subsidy? Payments plans can be based on: Percent of income (PIP) Percent of bill (based on PIP) Rate discount	Rate discount based on poverty level: 100%- 150% 10%(seniors to 200%) 50%to 100% 20%discount Below 50% 40%discount	Rate discount or fixed credit taking into account: amount of bill (use x rate) income and family size key expenses
Use annual gross income to determine eligibility (150%of poverty), and to determine benefits.	Use annual gross income to determine eligibility (150%of poverty), and to determine benefits.	Use Net income, possibly adding food stamps, to determine eligibility and benefits.
Customers at higher poverty levels should be able to pay a higher percentage of their income for energy	No formula calculation of what customers can afford; some exceptions are made for high medical bills.	PUC PIP scale unfair to larger families. Take key expenses into account: housing, medical, child support and day care.
Who gets a subsidy? Percent of income plans imply many customers able to pay full bill amount.	All participants receive at least some discount.	Not everyone below 150%of poverty needs a subsidy. Many can afford to pay their full bill.
Customers should pay at least: \$12, \$18, \$30 per month Maximum subsidy amount: \$560,\$840,\$1,400 per year	Does not alter calculations of discount based on minimum payment amounts or maximum subsidy. Informs PUC of exceptions.	Long- term, customers should pay at least \$25 per month and at least 50%of their bill. If customers cover 50% allow subsidies up to \$2,000 per year to help high- use customers.
How to match subsidies to needs of households whose circumstances change? Determine subsidies for a year, with flexibility to change during year if circumstances change.	Determine subsidies for a year, with flexibility to change during year if circumstances change.	Set recertification interval flexibly from 6 to 24 months, based on likelihood that income will change.
No provision for short- term assistance other than hardship funds at certain times of year.	No provision for short- term assistance other than hardship funds at certain times of year.	For periods of 2- 6 months, permit customers in crisis to pay less than their normal co- payment amount, either by providing short- term "budget booster" credits for several months, or by letting their "off collections" balance grow.

Many low-income customers can pay more on an irregular basis than they can pay with perfect regularity. However, they can be asked to “catch up” amounts for which they are responsible, as Duquesne does when CAP customers are disconnected for nonpayment. Duquesne is wise to not require prompt regular payments as a condition for receiving a discount or lowered payment amount. *Possibility for Duquesne: Apply the shortfall credit to the account at recertification time only if and when customers “catch up” on their obligation. (This may not be worth the complexity it introduces, but there are many customers who are highly motivated to pay off their balance.)*

What Happened to Affordability?

RETEC believes that many households below 150% of poverty do not need subsidies to pay their electric bill, and others need a subsidy (or a break from collections pressure) for only a period of several months. Duquesne’s CAP entitles all households below 150% of poverty to at least a 10% year-long discount, if they choose to apply for it. There is a policy issue here. Are CAPs affordability programs, trying to target help to customers who need the most assistance paying their bills? Or are they entitlement programs? Entitlement programs will result in shallow, broad discounts- (small discounts for many households), dispensed via very simple administrative mechanisms that cannot provide deep or flexible assistance to those who need it most. California and West Virginia have gone this route.

With its collaborating agencies Duquesne has an administrative structure ideally suited to deliver deep and flexible assistance to customers who need it most. But the subsidy formula Duquesne uses makes a potentially large number of households eligible for small subsidy amounts. This is a mismatch. The requirement of a face-to-face interview will discourage some with less need from applying, but the savings are offset by the cost of the interviews that are done.

While CAPs started out as affordability programs, Pennsylvania utilities have dropped the detailed expense calculations they used to perform to assess the cash flow of individual houses. Instead they have relied on simpler percent of income formulas, discount formulas, or a uniform discount. These formulas take no expenses into account other than family size. RETEC believes there may be a middle ground, and suggests modifying the benefit or discount calculation to take a few expense variables into account. (The Food Stamp program has been doing this for years.) A successful formula will target the most assistance to customers with the highest bills and least ability to pay, and will determine that some low-income customers (with low expenses, modest bills, substantial assets, etc) will not be eligible for assistance.

Utilities should beware of the slippery slope toward entitlements. PGW has found that its “senior discount” has become a financial burden. Duquesne has 100,000 low-income households, most of whom are paying their bill in full, all of whom are eligible for CAP discounts under the current formula if they hear about CAP and take the time to apply. Duquesne’s only defense against their participation is the stigma of asking for help and the interview requirement, which imposes substantial time costs on both the applicant and agency involved.

A Four Level Approach to Affordability

RETEC suggests the affordability challenge can best be tackled at four levels simultaneously.

At the first level is company policies that apply to all customers, but that benefit low income customers. One example is the ability to schedule bill due dates at a customized time of the month to coincide with social security checks. This hurts no one, helps low-income households, and no one need apply or verify anything. Third party notification on the account is another example. Duquesne's residential electric heating rate is another good example. Many electric heat customers have low incomes. The rate helps high users the most, precisely the group most disadvantaged when the most utility fixed costs are loaded into per-kWh prices.

At the second level are broad programs that provide a modest level of one-size-fits-all discount, with an inexpensive administrative mechanism and easy access for customers. California's LIRA fits the bill.

At the third level are programs that provide sliding scale discounts or subsidies, include some deeper subsidies for particularly needy households, and require more administrative time, more calculation and verification. Most CAPs are level three programs.

At the fourth level are intensive support programs like CARES, programs designed to help people who need more assistance than a mere subsidy provides. They need special support, education, or referral, and possibly monitoring over time.

Duquesne already has many level one programs. A possible addition would be a "pay-forward" program that would allow any party to deposit, on behalf of any customer, an amount stipulating how much of that money should be applied to each future bill, and whether or not that credit should be conditional on the customer having made a payment the previous month. This pay-forward account could be used by agencies to subsidize future bills for any period they deemed appropriate. This would be one way of addressing the current summer season gap in the energy assurance system's ability to provide short-term (several month) assistance. Another level one initiative (benefiting everyone but poor people especially) would be to remove the PA Gross Receipts Tax from residential bills.

For a level two program, one eventual possibility is automatically extending the residential electric heating rate to any customer for whom participation in welfare, state-supplied medical insurance, or food stamps can be verified, with or without an appointment. This rate supplies a 20% discount on base use and a very deep discount on high winter use. (This extension would require a rate case.) An alternative would be to offer a 10% automatic discount to any customer using LIHEAP or otherwise known to be low-income, without doing a detailed calculation.

Here is one scenario RETEC finds promising. Alone, or as part of a Pennsylvania-wide utility-state partnership, verify with Department of Public Welfare computer systems that customers are clients of DPW. Whomever shares the names probably needs client permission to do so. Applicants for social services could check off a box giving DPW permission to share their name

and address with utilities, and the form might even have a place for an account number. Or applicants at utilities could give the utility permission to verify their participation at DPW. LIHEAP transactions are handled electronically, so this seems an entirely feasible scenario. Costs could be shared, and the total state cost of verification would be reduced by eliminating redundancy. (A first step would be to revise the statewide LIHEAP application to always include a line for the electric company account number, so that electric companies could be notified when LIHEAP is sent to a gas or oil company. However, LIHEAP does not require face to face verification.) Or families with food stamp cards could swipe them at a payment center connected to the utility, thus controlling the release of their own information.

In this scenario, any customer with state health insurance or food stamps qualifies for a level two program, a low-income rate or discount that they are automatically given for a year since their last DPW verification date. This rate automatically reverts to normal rate if DPW verification expires. Utilities could structure this rate to provide a modest discount at low use levels and a higher discount to high users. Dollars charged on this low-income rate could be exempted from Gross Receipts tax, and the rate could be lowered accordingly.

If these customers feel they need an additional discount or subsidy, they can, like other low income customers who are not DPW clients, apply to a level three selective subsidy program that will most likely require an in person interview and verification of income, household occupants, and a few key expenses. The subsidy formula will take these expenses into account, will provide assistance where it is needed most, but will not necessarily provide a deeper subsidy to everyone.

In this scenario, DPW clients get the low-income rate without an interview and without an additional verification activity. Other low-income households can be put on the rate, if they use LIHEAP or verify their income in a separate step (whatever the utility requires). Either group can access deeper subsidies if they take the trouble to apply for them in person, and if they are determined to be eligible. In the process they can receive budget and energy counseling and referrals. The deeper assistance might take the form of short-term “pay forward” grants that would deliver an additional subsidy for several months to match lowered customer payments during those months. These grants would automatically expire at the end of their term, without the need for additional communication between customers and agencies.

In CARES, Duquesne already has a level four program. If some customers require continued monitoring and assistance, the agencies that administer CAP could provide this. Instead of their spending so much effort trying to help customers avoid service disconnections, RETEC suggests focusing resources on the customers who actually get disconnected, especially those who remain without service for more than two or three days.

Recommendations for Pennsylvania

These recommendations are broadly applicable, at least to all electric company CAPs, possibly to all CAPs. Some require changes by the PUC, other state departments, or the legislature. Others could be implemented by Duquesne on its own.

Eliminate regressive taxes on impoverished customers

The Legislature could exempt bills charged to CAP participants or low-income customers from the PA Gross Receipts tax and reduce the “starting point” rate for CAP calculations accordingly. This will deliver a 6% discount “off the top.” Utilities may be double taxed if they pay gross receipts taxes on “ghost” revenue that was billed to CAP participants but never received, then paid for in revenue billed other customers.

Use net instead of gross income to calculate eligibility and subsidies/co-payments

The current practice is unfair to working households, who have taxes and other job related expenses to pay. The nation-wide Food Stamp program immediately reduces any earned income by 20% before making calculations of benefit amounts. CAPs should do likewise. This initiative is recommended to all utilities and to the Bureau of Consumer Services.

Force cable TV companies to offer a low-cost, minimum service package, or a 50% discount on their basic package

This initiative could be championed and perhaps implemented by the PUC. Many customers are paying more for Cable TV than for their subsidized electric bill. The cable industry keeps the cost of their basic package relatively high. The PUC should require that cable companies offer, at least to low-income households, a lower cost more limited package of channels than is now available, OR offer low-income customers a 50% reduction on the cost of the most basic package.

Modify or drop Percent of Income formulas to calculate co-payments/subsidies

There is no empirical research supporting the notion that customers can afford to pay escalating percents of their income for energy. In fact, as families increase income, they pay a *lower* percent of their income for energy. Empirical research shows that the bill as percent of income is a poor predictor of bill payment behavior, and that percent of income calculations are unfair to large families *unless there is an adjustment for family size*. The PUC should drop Percent of Income altogether or add a family size adjustment.

Coordinate verification of eligibility

Statewide, have customers applying for Energy Assistance write on the LIHEAP application their electric company and account number as well as their main heating supplier. (This would require a revision to the application form.) The state can then electronically notify both LIHEAP-receiving fuel sources AND the electric companies when a customer has been found eligible for Energy Assistance. Electric utilities so notified might provide a \$10 credit to participating customers to create incentives for this registration process. There could even be a check off box for applicants to fill in if they want this benefit.

Consider electronic file sharing with the Department of Public Welfare (DPW) to identify food stamp and Medicaid recipients. Customers applying for CAP can be told this will happen, and/or sign a waiver permitting it. PECO arranged such a file transfer in the mid 1990s to reduce verification costs. RETEC has discussed with DPW representatives the possibility of a state-wide program of electronic file sharing to coordinate verification for CAP program energy benefits. The DPW is receptive. DPW verifies financial conditions with their food stamp recipients every six months, and has an aggressive fraud detection unit at work. Given economic constraints, Pennsylvania cannot afford inefficient verification systems. Utilities dispensing modest subsidies of a few hundred dollars a year cannot afford to mount a large verification effort, but welfare subsidies ten to twenty times as large support a major effort at verification and fraud prevention. It makes sense for utilities to match computer files to verify continued eligibility for their CAP customers.

Consider a “short form” CAP referral/application that could be filled out on a postage-paid folded post card, by DPW caseworkers whenever their clients are not already in CAP and are found eligible for food stamps, welfare, or Medicaid. The VNA (Visiting Nurses Association) might use this form as well.

Drop the year-long residency requirement for LIURP

Statewide, drop the requirement for one-year residency to receive LIURP treatment. LIURP has probably reached a high percent of the stable occupants in the high use market. Transient customers and the structures that house them are a large part of the nonpayment/high use problem; the one-year residency rule excludes customers and structures that arguably most need LIURP. Evaluators can deal with some cases where the same customer has not been in a structure for a full year, or can exclude those cases, or make the building itself the focus of their evaluation, instead of the customer household.

Conduct longitudinal studies of low-income households

This initiative could be coordinated by the PUC or by several utilities working together in Western Pennsylvania. Work with a local school of social work to conduct confidential in-home interviews over a period of 5 to 10 years with 20-30 low-income different households currently enrolled in CAPs or having difficulty paying their bills. The goal would be to document the ups and downs of these households, their moves and changes and spending habits, and their interactions with utilities and social agencies.

Recommendations for Duquesne

Reconsider the long-run advisability of a program that offers discounts to all households with incomes below 150%. If Duquesne chooses to continue this policy, consider creating a simple level-two program that offers a modest discount (10%?) and a prompt payment credit of no more than \$15 or \$20 per month for the customers with a balance. This will “match” the customer’s \$5 payment toward the balance. The level-two program should not require complex calculations, or interviews for customers who already use LIHEAP or Department of Welfare Programs. In the long run, consider extending the residential electric heating rate, instead of the 10% discount, to customers who are believed to have low incomes and who do not refuse the rate.

For customers who continue to have payment problems and/or request additional assistance, fine-tune the current CAP program as follows:

- Give agencies the flexibility to set recertification intervals from 6 to 24 months, depending upon the depth of subsidy needed and the likelihood that household financial circumstances will change. In cases where the crisis appears to be short-term, ask customers approaching CAP how long they think they will need help.
- Limit the forgiveness credit (reducing preprogram arrears) to no more than \$40 per prompt payment credit. Some customers can pay off their balances on their own as their circumstances change.
- For LIHEAP-eligible residential electric heating customers, reduce the available shortfall-covering credit by the amount of the LIHEAP funds the customer could apply to the account in the plan period. If they do not use LIHEAP their balance will go up at the end of the plan, and provide a talking point at recertification time.
- Modify the discount calculation to so it takes into account net income, medical expenses and housing and day care expenses (up to prescribed limits). The formula should be tailored so that households above 110% of poverty will be judged ineligible for a discount if they lack abnormally high expenses in these categories. The formula could also be tailored to allow staff or computer determined discounts as deep as 50% for households with very high medical expenses. Several illustrative examples are given in the Appendix, and might be refined with more analysis of financial factors that affect payment.
- Reduce or eliminate CAP discounts for residential electric heating customers. They now receive a 40% discount in rates compared to residential service customers, and a 30% discount from their rate before CTC expired. For residential service customers that are de facto heating customers, increase their CAP discount by 20 percentage points during winter months.
- Set customer minimum payments at \$25 or (if higher) 50% of their bill. Set the maximum long-term formula-determined discount at 50% of the bill.

- Develop a mechanism to allow customers in crisis who communicate with an agency to underpay their CAP co-payment for several months. One option is setting up funds for “budget booster” grants that would go into a special pay-forward bucket and be credited to the account to match customer’s (lower) payments made during the term of the booster grant. Or simply flag the account for agency review, to protect it from collections activity for a certain period, and then transfer an appropriate portion of the unpaid CAP bill to the “off collections” balance or frozen arrears.