Impact Assessment of the FirstEnergy Pennsylvania Universal Service Programs

Metropolitan Edison

Pennsylvania Electric Company

Penn Power

An Independent Analysis of Universal Service Programs

Prepared by:

H. Gil Peach, Ph.D.,
Anne West, B.S.
Howard Reichmuth, PE
Ryan Miller, M.Sc.
Ayala Cnann, M.Sc.
Marcia Lehman

H. Gil Peach & Associates/Scan America®

October 29, 2004

SCAN AMERICA® VISION STATEMENT

To be a world leader in developing truthful measurement and useful results; to support development of efficient, ethical, and effective practices, sustained economically, to advance human development.

SCAN AMERICA® GOALS STATEMENT

- Excellence in the integration of knowledge, method, and practice
- Improvement and learning at all levels
- Contextually sound measurement, analysis, and reporting
- Anticipate and meet the needs of our clients
- Awareness of human relevance and of the ethical core of research
- To go further, to find better ways

SCAN AMERICA® MISSION STATEMENT

With extensive experience in North America, Europe, and Asia, together we can provide the full range of management, planning, and evaluation services – wherever and whenever there is a need.

SCAN AMERICA® WEBSITE **WWW.SCANAMERICA.NET**

SCAN AMERICA®

H. GIL PEACH & ASSOCIATES LLC
16232 NW Oak Hills Drive
Beaverton, Oregon 97006-5242, USA
Telephone: (503) 645-0716 EIN: 93-1323715
Fax: (800) 204-3803 DUNS: 60-279-2954

H. Gil Peach, Ph.D.
hgilpeach@scanamerica.net

SCANADA CONSULTANTS LTD.
1446 Birchwood Drive
Mississauga, Ontario L5J 1T2, Canada
Telephone: (905) 403-9835

C. Eric Bonnyman, M.Sc.
scanada@sypatico.net

ÅF-ENERGI & MILJÖ AB
Division Head, Energy & Environment
Box 8133
SE-104 20 Stockholm, Sweden
Telephone: +46-8 657 13 89

Agneta Persson, M.Sc.
agneta.persson@enel.af.se

Suggested Citation:

Peach, H. Gil, Anne West, Howard Reichmuth, Ryan Miller, Ayala Cnaan and Marcia Lehman. *Impact Assessment of the FirstEnergy Pennsylvania Universal Service Programs*. Beaverton, Oregon: H. Gil Peach & Associates, 2004, Monograph 102004-1.

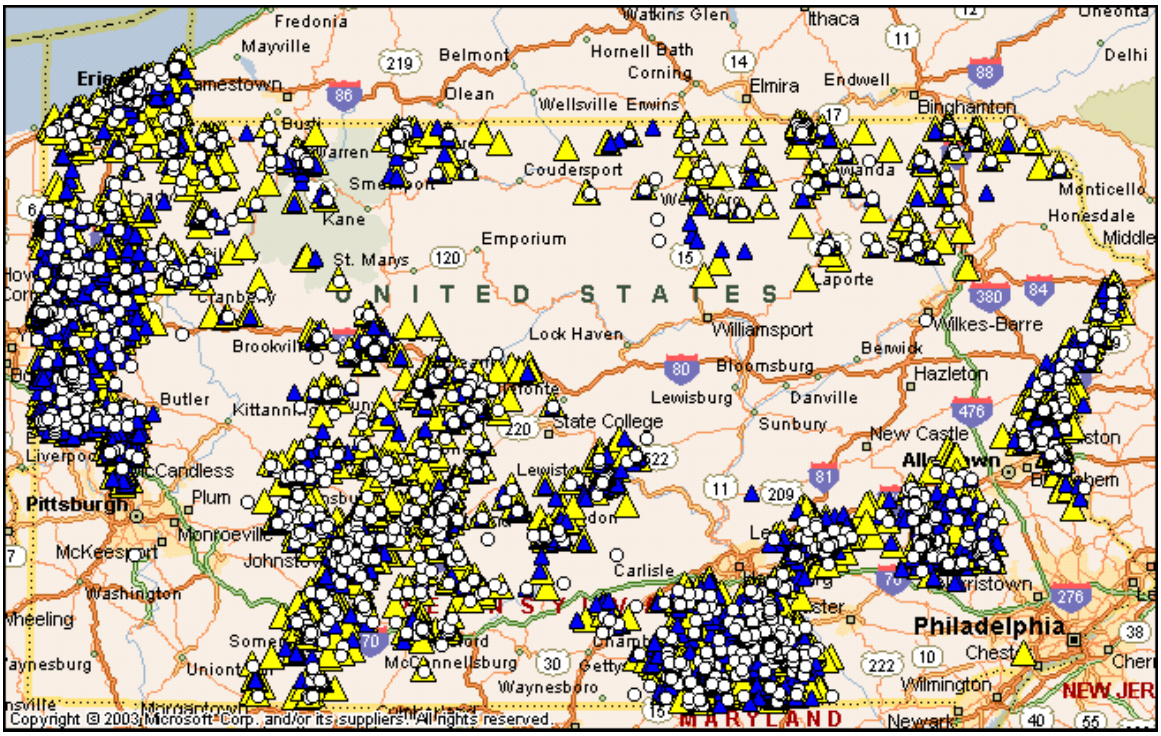
IMPACT ASSESSMENT OF THE FIRSTENERGY PENNSYLVANIA UNIVERSAL SERVICE PROGRAMS

Metropolitan Edison

Pennsylvania Electric Company

Penn Power

MAP OF POVERTY
IN FIRSTENERGY PENNSYLVANIA SERVICE TERRITORIES



Key to Poverty Map			
0	--	50%	White dots O
51	--	100%	Larger yellow triangles Δ
101	--	150%	Blue triangles Δ

For the FirstEnergy companies in Pennsylvania, poverty levels are shown across the service territories. In this picture, although they cannot all be seen, yellow triangles form a carpet under the overlap of the blue and white.

FOREWORD

Impact evaluations in Pennsylvania are commissioned by the utility and conducted in accordance with direction from the utility and policy guidance and standards set forth by the Pennsylvania Public Utility Commission, Bureau of Consumer Services (BCS).

The guidelines for both the Universal Service programs and the evaluation are provided in the Pennsylvania Code, secretarial letters from the Commission, and BCS documents as well as in the state's restructuring legislation.

In accord with direction by the Commission, evaluation guidelines are developed in collaboration of BCS with the Electricity Distribution Companies (EDCs) and the Natural Gas Distribution Companies (NGDCs).

Evaluations are carried out periodically, according to a schedule set by the Commission, to help utility management insure the programs are effectively and efficiently meeting human needs, meet utility goals and objectives, and fulfill the goals for Pennsylvania Universal Service Programs.

The goals of Pennsylvania Universal Service Programs are:

- To protect consumers' health and safety by helping low-income customers maintain affordable utility service.
- To provide for affordable utility service by making available payment assistance to low-income customers.
- To help low-income customers conserve energy and reduce residential utility bills.
- To ensure utilities operate universal service and energy conservation programs in a cost-effective and efficient manner.

In insuring that the FirstEnergy Universal Service Programs are continuing to meet the goals of Universal Service, this evaluation develops information to answer a set of standard questions for Universal Service Programs.[1]

The evaluation of the Low Income Usage Reduction Program (LIURP) is not included under the terms of reference for this evaluation. Under the terms of reference, the portions of the Universal Service Program goals that form the focus of the evaluation are limited.

[1] This helps ensure that evaluations at different utilities cover the same measures.

The specific goals of this evaluation are to:

- Evaluate the ability of the Universal Service Programs to maintain affordable service.

- Evaluate the ability of the programs to make payment assistance available through a Customer Assistance Program (including CARES).

- Evaluate the operation in a cost-effective and efficient manner.

- Evaluate the Low Income Usage Reduction Program (LIURP) link (but not LIURP itself), only the link between the Customer Assistance Program (CAP) and LIURP.

The basic templates for Pennsylvania Universal Service programs were designed in past years for less serious economic conditions. The numerical amounts in Section 69 of the Pennsylvania Code are now far out of calibration, having been set in 1992. The basic problem for utilities is that real income has transferred away from households in the lower income groups, especially from households with children. As living wage jobs continue to disappear, business, such as utilities, that provide essential services to all households will continue to experience difficulties as their lower and middle-income customers lose while costs of energy, medical care, and housing are rising.

Further, it appears that the lack of CAP coordination between electric and gas utilities in Pennsylvania contributes greatly to customer's inability to succeed when they are enrolled in only one utility's CAP program. In New Jersey, the CAP is coordinated between electric and gas utilities – with payments calculated at 3% of income for electric and 3% of income for gas, or 6% for all electric customer homes. In Nevada, the coordinated program is set at an energy burden of 3.1% overall. The Pennsylvania templates need to be revised to provide for a coordinated approach.

This evaluation focuses on need and the link between need and program capacity to meet need. Thus it focuses on the four specific goals listed above.

Within the given constraints of the Pennsylvania templates for Universal Service Programs, from an evaluation perspective, the FirstEnergy Universal Service programs are well designed and well run.

However, it is clearly time to initiate new program designs to accommodate increased need while insuring that the utilities are kept whole. This includes new templates and bringing Section 69 of the Pennsylvania Code back into calibration.

H. Gil Peach, Ph.D.
October 2004

CONTENTS

I. EXECUTIVE SUMMARY 1

A. RESULTS 1
B. RECOMMENDATIONS 3

II. INTRODUCTION 9

III. DEMOGRAPHICS & EFFECTIVENESS 11

A. SERVICE POPULATION (Q1) 11
1. Income Shares 12
2. The Trend Toward Increasing Inequality 17
3. Energy Burden 21
B. POVERTY DISTRIBUTION (Q2) 22
C. BARRIERS TO PARTICIPATION (Q3) 32
D. PARTICIPATION & ARREARAGES (Q4) 35
1. Arrearage Reduction Plans 35
2. The Relative Size of Arrearage 36
3. Penelec Arrearage 37
4. Met-Ed Arrearage 37
5. Arrearage Creep 38
6. Summary: Arrearage 39
E. PARTICIPATION & TERMINATIONS (Q5) 40
F. PARTICIPATION & COLLECTION COSTS (Q6) 45
1. The Collection Process 45
2. The Arrearage Factor 45
3. Operational Cost Offsets 46
4. Summary: Participation & Collection 46
G. EFFECTIVENESS & EFFICIENCY (Q7) 49
1. The Sector Map; a Window on Program Results 49
2. Reading the Sector Map 50
3. Met-Ed and Penelec PIPP Rates 52
4. Energy Burden Compliance 53
5. CAP Credits 54
6. CAP Credit Limits 56
7. Program Profiles: Met-Ed & Penelec 57
8. Program Profiles: Penn Power 66
9. Overview of Results for Three Utilities 70
10. Program Design Options 72
a) PIPP with Revised CAP Credit (Subsidy) Limits 72
b) New Jersey/Nevada Program Template 73

IV. THE CUSTOMER ASSISTANCE PROGRAM 75

A. DISTRIBUTION BY PAYMENT PLAN (Q8) 75
B. BARRIERS TO RECERTIFICATION (Q9) 77
C. RETENTION (Q10) 81
D. CONTROL FEATURES & COSTS (Q11) 87
E. CAP & PAYMENT (Q12) 89
1. Number of Payments 89
2. Dollar Amounts of Payments 89
3. Payment Disbursements 89
4. Full, Partial, and On-time Payments 90
5. Expected payments 90

F. PAYMENT REQUIREMENTS, BUDGETS & BENEFITS (Q13) 91
G. PARTICIPATION & ENERGY CONSUMPTION (Q14) 93
1. Sample Attrition 93
2. Analysis 95
3. Energy Savings Analysis: Conclusion 98

V. PROGRAM LINKAGE 99

A. PARTICIPATION LINKS (Q15) 99
1. CARES 101
a) FIRSTENERGY CARES 103
b) Reporting CARES Activity to BCS 107
c) The CARES/CAP Link 108
d) The "9/11" Downstream Constraints Problem 108
2. The Gatekeeper Program 110
3. CAP and the Agencies 110
a) Community Based Organizations 110
(1) No CAP Waiting Period 111
(2) The CAP face-to-face Appointment 111
(3) Chronicles Feature—CAP Adjusted payment: 112
(4) Chronicles Feature—Case Notes 113
(5) Chronicles Feature—Social Service Resource Locator 115
(6) Customer Call-backs 116
(7) Chronicles System Downtime 117
(8) The Customer Agreement Form and Bill Subsidy Limit 117
(9) Recertifications 119
(10) CBO Home Visits 120
(11) Community Outreach Efforts by the CBO's 121
(12) Community Action Partnership of Mercer County 121
(13) Agency Wish List—"If there were something I could change, it would be…": 122
(14) Bill Wording vs. Customer Agreement Form 123
b) The Dollar Energy Call Center 124
c) OSI Call Center 129
B. CAP & LIURP (Q16) 133

VI. APPENDIX I -- SURVEYS: GENERAL RESULTS 135

VII. APPENDIX II – SELF SUFFICIENCY VS. PERCENT OF POVERTY 138

VIII. APPENDIX III – THE DEFINITION OF ENERGY BURDEN 142

List of Figures

FIGURE 1: INCOME SHARES TO PENNSYLVANIA HOUSEHOLDS. 13
FIGURE 2: INCOME SHARES TO HOUSEHOLDS IN FIRSTENERGY PA SERVICE TERRITORIES. 14
FIGURE 3: INCOME DISTRIBUTION FOR PENN POWER & PENELEC. 15
FIGURE 4: INCOME DISTRIBUTION: MET-ED. 16
FIGURE 5: INCOME SHARES TO US HOUSEHOLDS. 18
FIGURE 6: PENNSYLVANIA FAMILIES WITH CHILDREN. 20
FIGURE 7: CAP HOUSEHOLDS IN 2003. 31
FIGURE 8: REASONS FOR ENTERING THE CAP. 32
FIGURE 9: WAITING FOR THE CAP BILL TO GO INTO EFFECT. 33
FIGURE 10: MET-ED - THE PATTERN OF TERMINATIONS FROM CAP (2003). 41
FIGURE 11: THE PATTERN OF TERMINATIONS FROM CAP (2003). 43
FIGURE 12: MET-ED MEAN MONTHLY ELECTRIC BILLS. 50
FIGURE 13: CAP CREDITS IN EXCESS OF LIMITS. 52
FIGURE 14: CAP CREDIT. 54
FIGURE 15: MET-ED - CAP CREDIT EXCESS. 56
FIGURE 18: MET-ED CONFORMANCE MAP. 63
FIGURE 19: CONFORMANCE MAP. 63
FIGURE 20: PENN POWER CONFORMANCE MAP. 68
FIGURE 21: PENN POWER - CAP CREDIT EXCESS. 69
FIGURE 22: AREAS OUTSIDE AFFORDABILITY CONFORMANCE (PENN POWER). 75
FIGURE 23: WHY ENTER THE CAP? 77
FIGURE 24: REASONS FOR FAILURE TO RECERTIFY. 79
FIGURE 25: WHY PARTICIPATE? 81
FIGURE 26: WHY CUSTOMERS ARE NO LONGER IN CAP. 84
FIGURE 27: CALLS RESULTING IN A CAP APPLICATION. 126
FIGURE 28: CALLS REGARDING GENERAL BILLING QUESTIONS. 127
FIGURE 29: TOTAL VALUE OF PAYMENT PROMISES. 127
FIGURE 30: TOTAL DOLLAR AMOUNT GRANTED BY PHONE. 128
FIGURE 31: LIURP/WARM TREATED HOMES. 133

List of Tables

TABLE 1: ENERGY BURDEN. 21
TABLE 2: ESTIMATE OF NEED. 22
TABLE 3: DISTRIBUTION. 23
TABLE 4: MET-ED CAP PARTICIPANTS BY RATE CODE. 24
TABLE 5: MET-ED CAP (CUSTOMERS ABOVE 150% OF POVERTY). 25
TABLE 6: MET-ED BY RATE AND HEAT CODES. 26
TABLE 7: PENNSYLVANIA ELECTRIC CAP - BY RATE CODE. 27
TABLE 8: PENELEC CAP - ODD RATE CODES. 28
TABLE 9: PENNSYLVANIA ELECTRIC CAP - BY RATE & HEAT CODES (2003). 28
TABLE 10: PENN POWER CAP - BY RATE & HEAT CODES. 29
TABLE 11: PENN POWER CAP - OVER 150% OF POVERTY. 30
TABLE 12: CAP HOUSEHOLDS - 2003. 30
TABLE 13: CAP SERVICE SLOTS & CAP HOUSEHOLDS (2003). 31
TABLE 14: THE RELATIVE SIZE OF AGGREGATE ARREARAGE. 37
TABLE 15: MET-ED & PENNSYLVANIA ELECTRIC PIPP RATE. 53
TABLE 16: PENNSYLVANIA CAP DESIGN GUIDELINES FOR ENERGY BURDEN. 53
TABLE 17: CAP DISCOUNT. 54
TABLE 18: ZERO CAP CREDIT. 55

TABLE 19: MET-ED & PROFILES. 57
TABLE 20: CAP DESIGN & ENERGY BURDEN. 58
TABLE 21: AVERAGE DISCOUNT. 58
TABLE 22: ZERO CAP CREDIT. 60
TABLE 23: CAP CREDIT EXCESS. 62
TABLE 24: PROGRAM GROWTH. 64
TABLE 25: CUMULATIVE EFFECTS. 65
TABLE 26: PENN POWER GROWTH. 66
TABLE 27: COMPARATIVE RESULTS (2003). 70
TABLE 28: COMPARATIVE RESULTS (2004) 71
TABLE 29: COMPARATIVE RESULTS AT CURRENT PIPP TIERS. 73
TABLE 30: RECOMMENDED PROGRAM – SINGLE TIER. 74
TABLE 31: DOCUMENTS PROVIDED. 80
TABLE 32: DOCUMENTS PROVIDED. 82
TABLE 33: BILL COMPREHENSION. 83
TABLE 34: CUSTOMER CONTACT PRIOR TO LEAVING CAP. 85
TABLE 35: HIGH ATTRITION -- CAP TREATMENT GROUP. 94
TABLE 36: HIGH ATTRITION OF 2002 CASES. 95
TABLE 37: PRISM ATTRITION. 96
TABLE 38: T-TEST. 97
TABLE 39: GROSS WEATHER NORMALIZED SAVINGS RESULTS. 98
TABLE 40: USE OF ADJUSTMENT FEATURE. 112
TABLE 41: CASE NOTES. 114
TABLE 42: RESOURCE LOCATOR FEATURE. 115
TABLE 43: REASONS FOR CALL-BACKS. 117
TABLE 44: CUSTOMER RECALL ON INFORMATION PROVIDED. 135
TABLE 45: HEATING SYSTEMS. 136
TABLE 46: SURVEYS SUMMARY. 137

Study Results

I. Executive Summary

This Executive Summary provides the results and recommendations developed from the study. Company management of low-income and payment troubled customers through the current program templates is both excellent and innovative.[2] However, there are key problems. These problems have to do with the templates, funding, and need. They are problems of the economic environment and of program design.

A. Results

1. **Excellent Formal Compliance:** The primary formal result of the independent evaluation is that the FirstEnergy companies in Pennsylvania (Metropolitan Edison, Pennsylvania Electric Company, and Penn Power are in excellent technical compliance with the Universal Service provisions of the Pennsylvania Code as applied to Electric Distribution Companies. There were some problems during the recent period of transition in the areas of the CAP control tool that limits the amount of the CAP subsidy, and more generally other aspects of the programs that require finely tuned computer support were not all functional leading to data access and reporting problems. However, while there are still some steps to go, these systems are now either in place or on the horizon for implementation.

2. **Excellent Management and Staff:** Across the three companies, in many interviews and through several meetings and interactions via telephone and via Internet we found no staff in the utilities who were other than fully committed to working for their companies and their customers in delivering the Universal Service programs in good faith. There is a complete and sincere effort to carry out Universal Service programs with company direction and in conformance with state regulations and guidance. This kind of result should always be expected, but it is not always found. For this reason we want to call

[2] If this evaluation had been for a prior year, we would have noted data problems and needs for better program integration across the companies. However, these problems are rapidly receding and will have become a matter of history as this report is being read. This evaluation was limited in that only a portion of Penn Power data was available, so Penn Power is not included in some of the areas of this report. Data systems are now in place to insure that the required data will be available for future evaluations for FirstEnergy companies in Pennsylvania.

attention to the all around dedication and performance. Everything in the area of management and staff performance is being done both properly and well.

3. **Excellent work & Excellent tools:** The staff is managing an excellent performance within the limits of the current program templates. In particular, the FirstEnergy Companies in Pennsylvania have developed excellent software tools and, combined with "manual" (or "local" software implementation to meet needs not yet covered by the central computer system) appear to be practicing excellent management of the programs in a fair manner. This has required substantial use of "local" computer skills.[3] And, as the central IT functions do come on-line, they work.

4. **LIURP/WARM:** The LIURP/WARM program is working in accord with its program logic. It is reducing low-income energy use in weatherized homes. In particular, a plot of normalized post program energy use shows reduction due to the program in each month in comparison to normalized pre-program energy use, showing that it is functioning throughout the year.

5. **CAP Participation and Energy Savings:** Analysis of WARM and WARM plus CAP data indicates that neither group increased energy consumption in a post-year analysis as compared with a pre-WARM baseline year. This suggests that there is currently no increase in energy use associated with CAP participation.

6. **CARES Requires Re-establishment of Some Casework Capability:** Two ongoing tendencies, general cutbacks in social service funding and increasing need mean that unless the companies maintain some casework capability, some seniors will fall through the safety net.

7. **The Need for the Programs Continues:** At the same time, substantively, there are problems in meeting the intent of the Universal Service programs because economic problems faced by low and moderate income families are both sustained and increasing. Due to a number of factors, including the price of gas heat, the need for help with electric bills is increasing.

8. **Calibration of the Need Requires Revision:** Gauging the size and intensity of the affordability problem requires looking at what would be needed in program design for customers from 0-50% of poverty. Then for customers from 150% to 200% of poverty, and from 200% to 250% of poverty. Section

[3] This performance is due in part to exceptional computer skill sets within the staff of the Human Services group on the part of S. Berglund and T.Keltz. For example, Berglund maintains the system for annual reporting of the LIURP (WARM cases) which is also used for ongoing monitoring. As a second example, Keltz has gone beyond using DPW's toll free information line to the use of electronic communications between FirstEnergy and DPW. Keltz sends a file of accounts to DPW for recertification, and they respond with a "yes/no" for each account in the batch. This greatly reduces recertification time and effort, a significant administrative improvement.

69 of the Pennsylvania Code is out of calibration, having been set in 1992. In addition, the federal poverty metric is not properly calibrated with the experience of poverty, defined as the affordability problems faced by low and moderate income customers. The true affordability problem is much larger than provided for in current state program design templates implemented by the companies.

9. **Program Design Templates Require Updating:** The rate discount program design and the percentage of income payment plan (PIPP) design are compared. However, the result is that for either case changes are required in the fundamental program templates to make the program more effective. This means introducing a new design template.[4]

10. **Budget Problem - inadequate Funding:** A primary finding of this evaluation is that the CAP programs are inadequately funded. Income is the major factor determining need but several other factors are operating together to push more households into problem situations. These other factors include the rising price of gas heat, increasing costs of housing, increasing health and medical costs, declining social services, problems with the job structure, and the long-term trend of increasing labor hours for ever lower real income. Also, as noted above (see item 4), the current program templates used by the state to guide CAPs were set in 1992 and have not been escalated to account for changes in consumer prices. Although Pennsylvania is in many ways trying to meet problems of low and moderate income families, both the program templates provided to the utilities and the calibration of need *are not now reality based* given current societal economic conditions. The Universal Service budgets have not increased since 2002 but several essential costs (particularly, housing, medical, and energy) have increased dramatically just this year, on top of prior increases. Note that all of the problems driving need are outside of state or utility control. The only variables we can affect are program design and funding level. Funding has to be increased.

11. **Conformance to Percentage of Income Guidelines:** Penelec and Met-Ed are in full compliance with the percentage of income guidelines specified in the Pennsylvania Code. Penn Power is not.

B. Recommendations

There are nine recommendations. Five are in the area of program design of the Customer Assistance Program, requiring a new template based on the New Jersey and

[4] This type of adjustment is provided for under Pennsylvania Code, Title 52, § 69.267, Alternative program designs. Alternative program designs that differ from § § 69.261—69.266 and this section may reduce uncollectible balances and may provide low income, payment troubled customers with needed assistance. These programs may be acceptable if the utility can provide support for design deviations. Before implementing an alternative program design, the utility should submit its proposal including an evaluation plan as described in § 69.265(10) (relating to CAP design elements) to the Bureau of Consumer Services for review and Commission approval.

Nevada models. Two are recommendations for adoption of payment arrearage management principles. Two are in the area of CARES. Some of the recommendations are for direct action on the part of the FirstEnergy companies in Pennsylvania. Others are recommendations that the FirstEnergy companies request the Bureau of Consumer Services to conduct reviews or studies.

1. **Better Limits.** The "CAP limits" control tool is specified in Title 52, §69 of the Pennsylvania state code. However, the limits on maximum credit (subsidy) for electric heat and non-heating households are current as of 1992. Met-Ed and Penelec, as well as several other utilities, have recognized this problem and have moved their program caps up from the code levels to take into account changes in the cost of living since 1992. The current adjusted levels for Met-Ed and Penelec almost cover the changes in calibration that would be required in an adjustment to current dollars using the Consumer Price Index (CPI). Penn Power is still at the 1992 code levels.

    a. **Recommendation 1a**: FirstEnergy should do a *one-time adjustment* to Customer Assistance Program design to bring these levels to $1,000 for non-heating and $2,500 for electric heat accounts. These figures are based on analysis of 2003 program data. These levels would be set for the 2005 program year, and *then should be adjusted each year* using the CPI (the calculation is provided in the section on effectiveness and efficiency in this report, which begins on Page 49) and make them uniform across the FirstEnergy companies in Pennsylvania. This yearly adjustment should be continued until the state code is revised on this point and a common yearly adjustment procedure is established.[5]

    b. **Recommendation 1b**: FirstEnergy should request the Bureau of Consumer Services to study this problem and to develop fair and workable language to amend the state code so that the "CAP limits" will be updated each year based on to reflect changes in underlying costs.[6]

---

[5] Met-Ed and Penelec use a credit limit of $800 for non-heat accounts and $1800 for space heat accounts. CAP credit limits of $560 and $1400 were specified in 1992, and these values are still in use for Penn Power. If these original limits are escalated to current dollars they would be $756 for non space heat and $1,891 for space heat, quite close to the values used for Met-Ed and Penelec in 2004. As noted in the text , the recommendation is to move these values to $1,000 and $2,500 for 2005 and then adjust them each year.

[6] Such a study would probably involve BCS-utility distribution company review and collaboration. While a straightforward CPI adjustment is recommended here, the alternative of adjustment using an appropriate energy index might be considered.

2. **PIPP Design.** The FirstEnergy companies in Pennsylvania should standardize on a percentage of income payment plan (PIPP) template for all three companies. Currently Met-Ed and Penelec use this design while Penn Power uses a rate discount (CAP-Rate) approach. As shown in the section on sector maps in this report (Effectiveness & Efficiency –Q7), beginning on Page 49), the percentage of income design is optimal for meeting actual need while minimizing cost to the companies.[7]

3. **NJ Model.** Beyond the PIPP recommended above, the FirstEnergy companies in Pennsylvania should propose a program design modeled on key provisions of the New Jersey and Nevada program models under Pennsylvania Code, Title 52, § 69.267. In particular, the energy burden for non-electric heat accounts would be set to three percent (3%) of income, and for electric heat accounts to 6% of income. However, as an improvement on the NJ model a separate provision for low-income households with low energy usage should be included in the program so that these households will be eligible for a debt forgiveness program component. In any model that uses energy burden to assign program participation, low-income households with very low energy use will not receive a discount (or credit/subsidy) on their energy bills. This is the trade-off for efficient and effective targeting of available funds by means of energy burden and a percentage of income payment plan. To compensate for this trade off, the debt forgiveness component should be separately extended to low-income, low energy use households.

   a. **Recommendation 3a.** The FirstEnergy companies in Pennsylvania should propose a program design for 2005 or 2006 modeled on key provisions of the New Jersey and Nevada programs models under Pennsylvania Code, Title 52, § 69.267. *This recommendation can only be implemented with adequate funding.* The funding level should be increased to support an extension of the New Jersey program template to the FirstEnergy companies in Pennsylvania, and this approach be adopted for the 2005 or 2006 program year.[8] The recommended CAP credit (subsidy) limits are $1,000 for non-heating and $2,500 for electric heat accounts.

---

[7] The advantages of the PIPP design over the rate discount approach are developed in this report. It should be noted, however, that moving from a rate discount to a PIPP design, while target funding more efficiently to need, means that some low-income customers currently receiving the rate discount will not receive credits (subsidy) under the PIPP formula.

[8] The calculation of funding level is developed in the last part of the section on sector maps in this report. In any case, we propose continuing the relationship with the Community Action Programs, but increased funding for payment assistance.

b. **Recommendation 3b.** The FirstEnergy companies in Pennsylvania should request the Bureau of Consumer Services to study ways to better coordinate gas and electric Customer Assistance Programs (as in the New Jersey and Nevada models). This is necessary to insure that ongoing gas price increases do not simply shift customers over to electric heat and seriously impact the electricity company Universal Service budgets.

4. **Shift Out Limit.** As an alternative to reversion to full rate when the CAP credit amount for a non-heating customer is reached, basic customers should be shifted out to the electric heat CAP credit. The recommended levels for the CAP credit (subsidy) limits for 2005 are $1,000 for non-heating and $2,500 for electric heat accounts. Reversion to full rate counters the logic of customer assistance programs. Also, it is likely that such customers are or have become electric heat customers.

5. **Revise Income Percentages**. Energy burden is the central concept, around which the income provisions of Title 52, §69 of the Pennsylvania Code have been constructed.[9] This section of the code lacks a mechanism for calibration of energy burden percentages. Nevada has developed a system for annual calibration of required percentage of income payment (for 2005 it is 3.1% for combined gas and electricity use in a combined program).[10] The FirstEnergy companies in Pennsylvania should request the Bureau of Consumer Services to develop a mechanism to update the income percentages (energy burdens) specified in the state code, following the Nevada and New Jersey models.

6. **Adopt Arrearage Principle.** We recommend that the FirstEnergy companies develop an internal working group to formulate a policy that would lead to adoption of a practice of forgiving arrearage as it is written off and recovered. There is not a particular problem with this approach in Pennsylvania, but we recommend formal affirmation of this approach and principle as a good practice. It would be important to work jointly with Credit & Collections and Rates, with review by counsel to find an expression of this principle that would be acceptable. However, as we see what is happening to income and jobs it is important to be proactive in establishing an expression of fairness in this area. The policy should be stated in a form that is definite and that can be easily understood by customers.

---

[9] Energy burden is defined in Appendix III of this report.

[10] The mechanism is required by legislation (Nevada Revised Statutes 702); the actual yearly calculation is worked out by the state and gas and electric utilities using a standard calculation incorporating the prior year household incomes and prior year costs of natural gas and electricity. For Nevada, the income percentage is set to equal the median energy burden for households in the state.

7. **Front-Load Arrearage Management:** We recommend that any arrearage forgiveness plans adopted by the companies provide for f*orgiveness of half of the outstanding arrearage with the first full payment of the customer portion of the regular monthly bill*, with the rest split evenly over the next five months or the next eleven months. This will enhance recovery and provide a strong signal to the customer that the companies intend to work with the low income payment troubled customer to make the relationship work. *This recommendation can only be implemented with adequate funding.* There is a cost advantage to the companies in fielding this more rapid write off approach.

8. **CARES – Re-Establish Some Casework Capability:** The CAP/CARES transition from a previous casework emphasis to CAP coordination and administration has worked well. However, changes in the operating environment of the companies require addition of some casework capability within each company. This is because, since the "9/11" attack on the US, the federal focus on keeping social services at least minimally funded has suffered as attention and funding has necessarily had to be focused on other areas. Consequently, the "hand off" via referral to an Area Aging Agency, for example may encounter a substantial waiting period. State funded social services are often linked to federal allocations as a result of welfare devolution which has transferred responsibilities to the states, counties, cities, the private sector, and to families. At a minimum, the recommendation is to add one additional CARES person per company who would solely do casework and follow-up with seniors.[11]

9. **CARES – Review Manual Tracking Capability:** CARES serves customers in need of a degree of hand holding who sometimes cannot do well at negotiating the boundaries between agencies on referrals. They may also be at a point in life in which some customers may lack physical or mental capacity to fully comply with CAP provisions unless they have help. Currently, there is an effort at manual tracking and follow-up for cases in which this is clearly necessary The recommendation is for management to review manual tracking for flagged CARES cases, and tighten accountability for manual

[11] Note that this problem is not caused by utilities. The drain on social services is a back-door rationing effect of war mobilization and homeland security, social priorities that focus both attention and funds away from social service needs. This back-door drain is not yet on the table for public review, but it is happening. We have no question about what is happening because we do evaluations from the bottom up – seeing the actual effects on people and social service performance. It might be asked if the back-door drain on social services is a utility's problem to solve. This is a reasonable question to which there may be many different but equally valid answers. What we can say as a fact is that small numbers of seniors are falling through the "hand off" to the Area Aging Agency. It is likely that this problem cannot be fixed unless the utilities resume some of their earlier "hand holding" work.

tracking, if required. This step is recommended simply to reaffirm that manual tracking it is working as expected.[12]

[12] Alternatively, it might be possible to set up a "bare bones" PC-based system for this tracking. The evaluators are aware that tracking to see if referrals are followed up (and tracking of special needs cases) is a difficult assignment. It is a very positive thing that the companies arrange to make referrals, even if there is not follow-up. Still, there is a demonstrated need for follow-up and tracking capability to assist follow-up for special needs cases.

Universal Service

Customer Assistance Programs

II. Introduction

The purpose of this impact assessment is to develop useful, policy-relevant information regarding the FirstEnergy Pennsylvania Universal Service Programs. The format is an overall report (this report) including information equivalent to three separate utility reports.

Met-Ed, Penelec and Penn Power Universal Service Program Impact Evaluations were scheduled for 2004. Results of the three evaluations are to be submitted to the Pennsylvania Public Utility Commission's Bureau of Consumer Services by Friday, October 31, 2004.

The format of this evaluation report follows from a list of specific questions as recommended by the Bureau of Consumer Service These questions are set as standard evaluation questions so that independent Pennsylvania Universal Service evaluations will address the important common content areas across utilities, as determined by the Pennsylvania Public Utility Commission, Bureau of Consumer Service (BCS) in consultation with the Pennsylvania Electricity Distribution Companies (EDCs) and the Pennsylvania Natural Gas Distribution Companies (NGDCs).

The Low Income Usage Reduction Program (LIURP) or WARM is not within the specific focus of this evaluation, however all of the other Universal Service programs are included. Due to problems of establishing adequate funding and to calibrate services with actual need, there is a focus in this evaluation on the basic template for the Customer Assistance Program (CAP), and the need to update program parameters (such as the program control tool of "CAP limits") to current economic reality.

Although CARES has been integrated with the CAP, we do provide a focus on CARES and particularly the need to restart some casework capability as other programs using state and federal resources are stretched beyond realistic service capabilities.

The report begins with an analysis of program characteristics, including the need for the Universal Service programs. Later, there is a major section on modeling the CAP programs which leads to recommendations on program design. The modeling tool that supports this section can also be used to model other design options. The report concludes with a discussion of program linkages, and a set of appendices. Among the appendices are an analysis of why the current federal poverty metric should be moved to 250% of poverty and an appendix on the calculation of energy burden.

Program Characteristics

III. Demographics & Effectiveness

This section of the evaluation provides analysis and discussion of seven specific questions.

The first two are (1) to describe the service population to insure that the appropriate population is being served, and (2) to analyze the distribution of poverty in the territories served by the FirstEnergy Pennsylvania utilities and within the separate utility service territories. Having looked at the level of need and the level of service, the next question, (3), is to examine barriers to participation (if any). The focus then shifts to program effects, including (4) effects on arrearage, (5) effects on termination, and (6) effects on collection costs. The section concludes with a general review of effectiveness and efficiency. The final topics in the section are approached using sector maps to look at effects at the household level in the context of overall program effort and to model the projected impacts at the household level of possible changes in program design.[13]

We begin by looking at the service population within the context of realities of current economic trends.

A. Service Population (Q1)

Is the appropriate population being served? The appropriate population is defined as meeting the specific eligibility criteria as defined by the universal service plan. The primary criterion is income, expressed as a percentage of the federal poverty level.

Even upper income households may experience a temporary payment problem due to life contingencies such as a health emergency, downsizing of management positions, the offshoring of middle and high level technical jobs, or divorce. These contingencies of life can place a high-income and executive household into a time of need. However, the effects of life contingencies are intensified for households with lower income and lower existing assets.

As a rule of thumb, today, there is a breakpoint above which households can be expected to be almost entirely self-sufficient. Below this breakpoint, problems in household self-sufficiency are an aspect of life, perhaps a minor aspect but a kind of presence that does not go away. For some, it is a major aspect. To put this into percentage of poverty terms, households above about 250% of poverty are virtually all

[13] The Sector Maps permit analysis of distributional effects at the household level, while without the use of Sector Maps the evaluation would be constrained to the level of program averages supplemented by anecdotal information.

self-sufficient in matters of ordinary economic life so long as their household employment situations are stable and some other life contingency does not come their way.

The same is true for many households below 250% of poverty, that is, many households manage to be self-sufficient even though they may have not have as much in the way of income or assets as others. However, the chance of payment problems becoming repeated and chronic increases in households at 200%, 150%, 100% or under 50% of poverty.

In particular, for households below 25% of poverty most current program designs cannot work. For households between 25% and 50% of poverty it is very difficult for most current program designs to work.

Currently, Pennsylvania Universal Service Customer Assistance Programs serve households up to 150% of poverty, with a provision for very limited exceptions for unusual hardship cases. For weatherization assistance, the Low Income Usage Reduction Program (LIURP) provides assistance to households up to 200% of poverty.

1. Income Shares

Analysis in this report has to focus on households to 150% of poverty. It is important, however, also to look at the problem of affordability in a wider context. A recurring theme in this study is that our current programs are not sufficiently tailored to actual poverty, defined as inability to pay. Poverty continues to increase while the official indicators are not properly calibrated and fail to pick up these changes.[14]

The current economic context for Pennsylvania households is shown in Figure 1.[15] This is an "income donut" that shows five colored bars, bent to form a circle. Each bar contains the same number of households and the size of each bar indicates the income share. Each contains one "quintile" or twenty percent of Pennsylvania households at the time of the 2000 federal census.[16] As shown in the figure, the bottom twenty percent of Pennsylvania households by income (the white bar) receives only about four percent of Pennsylvania household income.

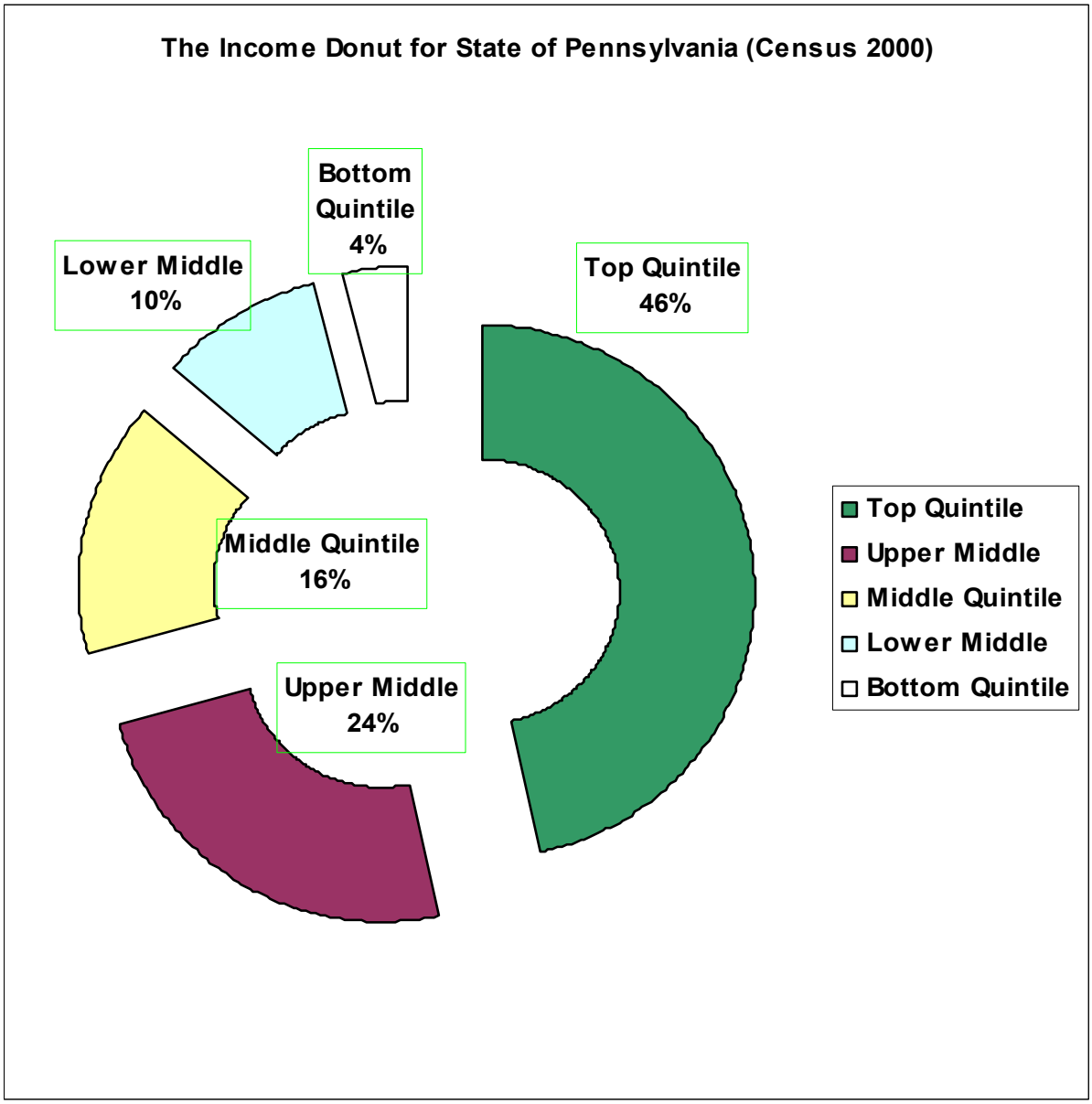
---

[14] At the same time, the workings of the "underground economy" are not included in this analysis. We do not have analyzable information on the "under the table" economy which has to be out there and increasingly larger each year (otherwise households could not be surviving). A limitation of this study is that quantitatively useful information on transactions in this part of the economy is not available to the evaluation.

[15] Source: HGPA analysis of Census 2000 data

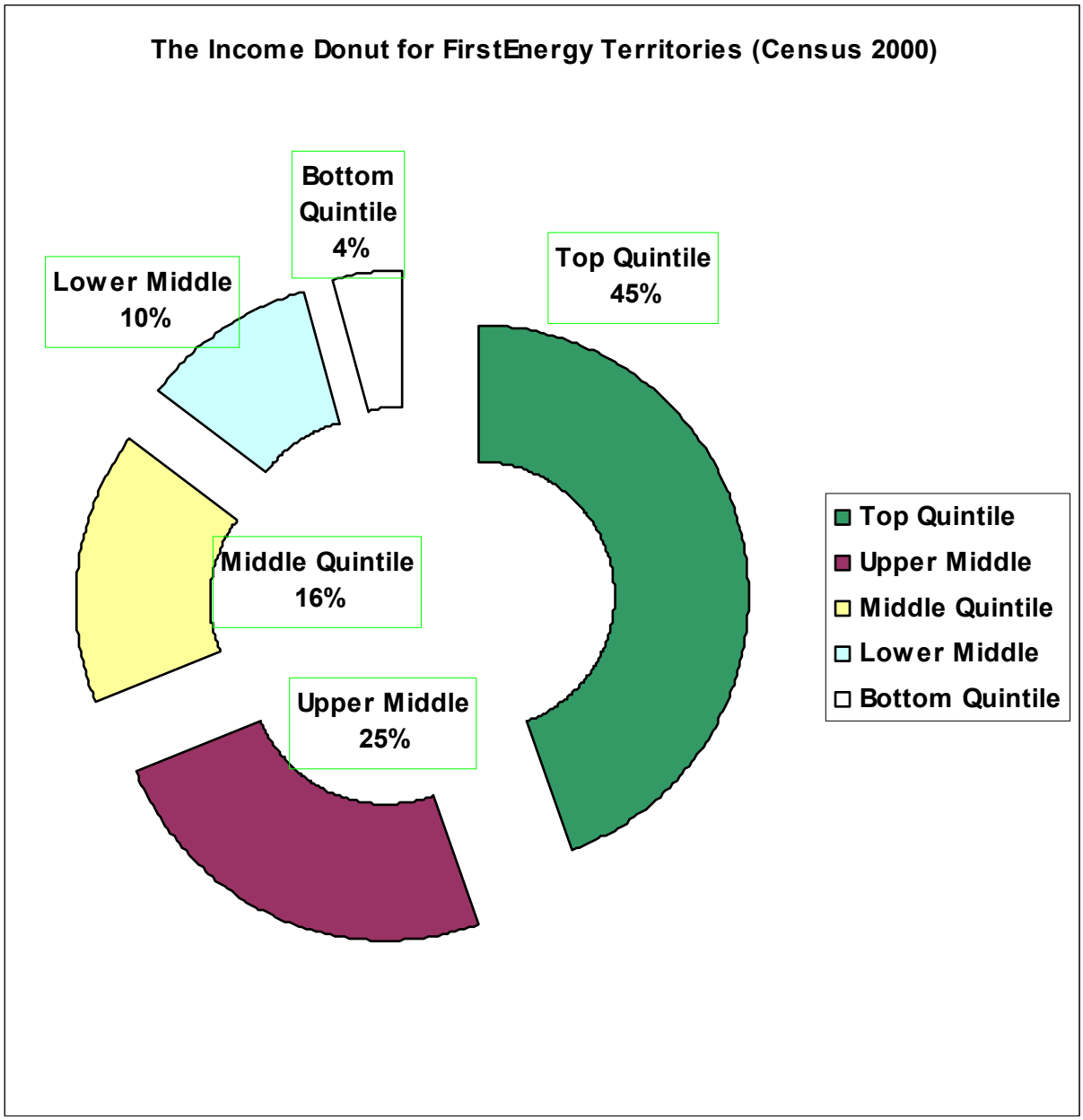
[16] The data is for 1999.

Figure 1: Income Shares to Pennsylvania Households.



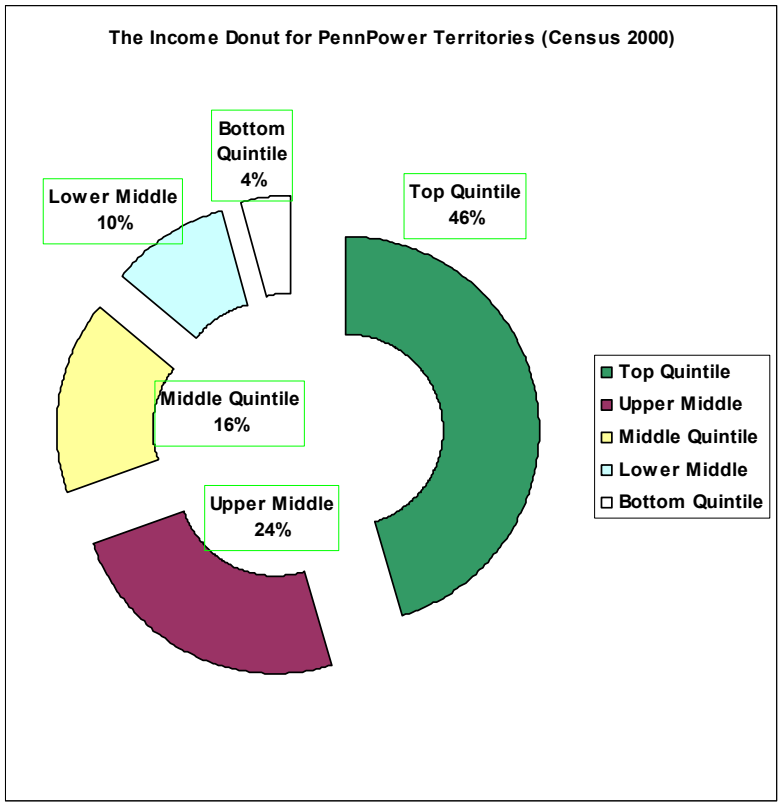
Households in FirstEnergy Pennsylvania service territories have almost the same income allocation as does the state as a whole. In particular, the bottom 20% of all households by income receives only four percent of household income. The lower-middle quintile receives ten percent.

Figure 2: Income Shares to Households in FirstEnergy PA Service Territories.



Pennsylvania Electric and Penn Power have the identical income distributions for the bottom two quintiles, four percent for the bottom 20% and ten percent for the low-middle quintile (Figures 3).

Figure 3: Income Distribution for Penn Power & Penelec.



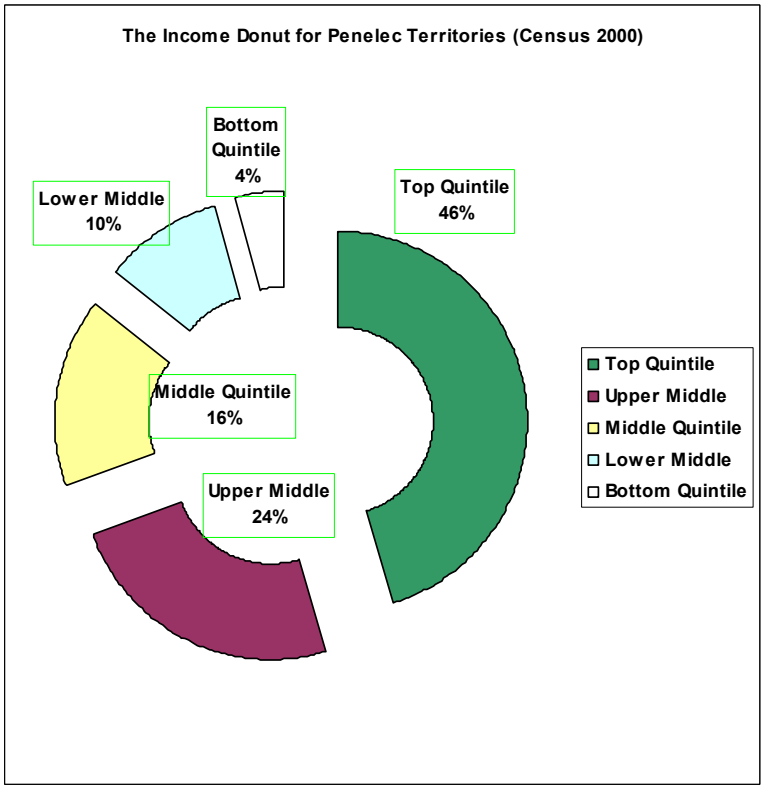
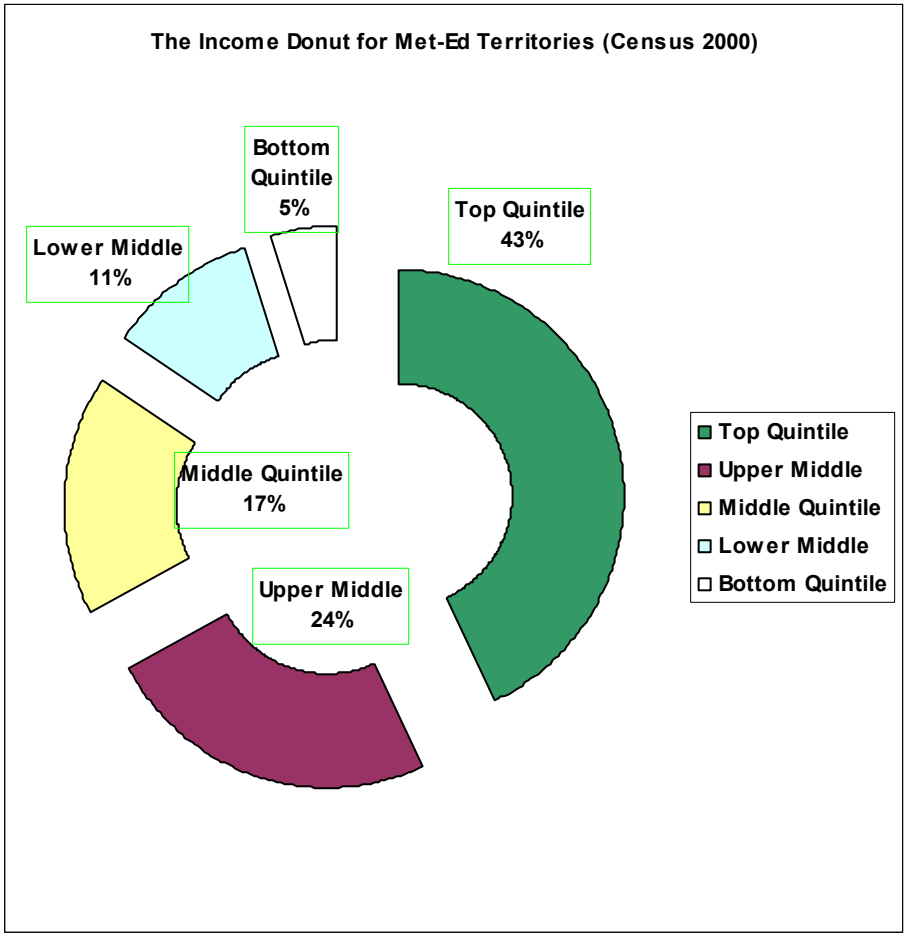


Figure 4: Income Distribution: Met-Ed.



The income allocation for Met-Ed is a bit different, in that the bottom quintile has one percent more income, as does the lower-middle quintile.[17] A difference of one percent does not sound like much, but for the bottom quintile of households by income this means *one-fifth more income* than similar Penn Power or Pennsylvania Electric households. For the lower-middle quintile the additional one percent means ten percent more income than for comparable Penn Power or Pennsylvania Electric households.[18]

[17] The distribution of income by quintile is basically stable across these income donuts; however the donuts do not take family size into account. Poverty levels show considerably more variation (Table 2, Page 24).

[18] The Income Donuts do not translate directly into the federal poverty metric because family size is not taken into account. For the most part, however, payment troubled customers are located in the range from the middle of the middle quintile downwards along the household income distribution. While most arrearage, for example, is associated with middle and upper income households, this type of arrearage is caught up by the following payment period. The sustained arrearage problems occur among low-income to moderate income households. The Income Donuts are primarily useful in understanding why some households have payment problems while others do not.

2. The Trend Toward Increasing Inequality

For the US as a whole, income inequality has increased dramatically since about 1970. From 1900 to 1970 US income inequality gradually decreased, but since 1970 it has gradually increased so that the United States is approximately as unequal with regard to income as it was a little before the year 1900. The squeeze on low-income households and the offsetting radical increase in income of the uppermost income households has been documented in several studies by the Center for Budget and Policy Priorities.[19]

Similarly, Pennsylvania's income distribution mirrors that of the United States as a whole.

The US context is shown in Figure 5, taken from a federal census publication.[20]

These graphs on income inequality indicate why cost-based ratemaking doesn't work well under current economic conditions.[21] This is because an increasing percentage of households no longer has access to family wage jobs and can no longer meet all of the financial obligations of an ordinary standard of living.

Since income can only come from the job structure in the counties of the service territory (that is, from salary and wages) or from transfer payments, a well run Customer Assistance Program (CAP) is essential to prevent termination of service, a form of social exclusion of households from the society.

The perspective of the evaluation is that the electric utility exists to provide electric service and the market for customer use of electricity must be kept functional. Real income recedes, and housing, energy, health care and other costs increase. The only way to

---

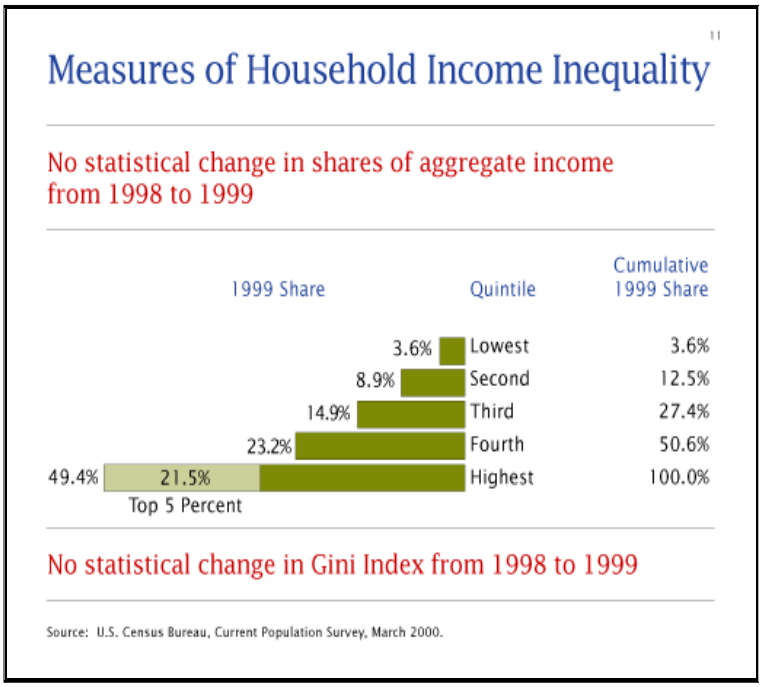
[19] News Release, Center on Budget and Policy Priorities, August 27, 2004; Bernstein, Jarad, Elizabeth C. McNichol, Lawrence Mishel & Robert Zahradnik, Pulling Apart, A State-by-State Analysis of Income Trends. Washington, DC: Center on Budget & Policy Priorities and Economic Policy Institute, January 2000; Bernstein, Jarad, Heather Boushey, Elizabeth McNichol & Robert Zahradnik, Pulling Apart, A State-by-State Analysis of Income Trends. Washington, DC: Center on Budget & Policy Priorities and the Economic Policy Institute, 2002.

[20] US Census Bureau, Current Population Survey, March 2000.

[21] Technically, of course, there is nothing wrong with cost-based rates. They have an inherent fairness and they could work if income allocations to household more closely resembled those of the 1960's. What is missing in the US is a more equitable distribution of income to households that could support cost-based rates. It simply does not pass a "straight face" test to expect the economic ability of persons receiving 3.6% or 4% of income to even roughly approximate the ability to pay of persons receiving more reasonable income shares.

prevent widespread market failure in the form of termination of service due to inability to pay is to provide bills that households can pay.[22]

Figure 5: Income Shares to US Households.



Note that in Figure 5, there is no direct way to ascertain the relation of various federal poverty levels to the bars in the chart. This is because the chart does not take into account family size which is used in the computation of poverty levels. Still, Figure 5 is useful in understanding the overall income picture and why it is that some households experience chronic payment troubles for essential service while others do not.

22 Note that in economics up until the 1960's failure of a market to function because people could not afford to purchase was generally not classified as market failure, and the people excluded from the market were simply dropped from economic diagrams without comment because economic and social exclusion was not taken into account. Since the 1960's and in the current context, *failure of a utility as an institution to deliver essential service by pricing out of the range of households to pay for basic service* constitutes market failure. The market either works for all (or virtually all) households, or it does not. "Market failure…refers to the inability of a market or system of markets to provide goods and services either at all or in an economically optimal manner. Market failure is…defined exclusively in terms of economic efficiency in general and allocative efficiency in particular. [T]he market failure paradigm can be extended to include distributional or equity elements …."(Wallis & Dollery, 1999, P.16). See Wallis, Joe & Brian Dollery, *Market Failure, Government Failure, Leadership and Public Policy*. London: MacMillan Press Ltd., 1999; New York: St. Martin's Press, 1999. Of course, those who can pay but do not are a different question because economic and social exclusion does not come into play.

The "affordability" problem is exacerbated for families with children (Figure 6).[23] While income has been transferred from low-income households to the households at the top of the state income distribution over the past thirty to forty years, real income has increasingly been transferred away from low-income families with children. This is in part a consequence of welfare reform, but it also reflects the tendency of both private enterprise and public institutions to look at their clients and institute customer development and customer retention strategies that take into account the so-called "Pareto rule."[24]

The Pareto (80/20) rule has many forms but a relevant form for business is that "eighty percent of profits come from twenty percent of customers." So, a common corporate strategy is to try to attract the best customers and not be concerned about discouraging other customers.[25] For the past thirty years, many corporations have experimented with "cutting a good deal" for the upper income and penalizing low-income households.[26] The net effect of this change across key sectors of the economy is to load costs in the form of extra payments, fees, penalties, and higher rates on low-income customers and to reduce costs to higher income customers.

Similarly, as corporate thinking has been adopted across public institutions, the non profit sector, and in many foundations, costs have been increasingly unbundled. Instead of being treated as a shared load across all transactions, customers, or participants, costs have increasingly been assigned according to cost causation. Considered across the

---

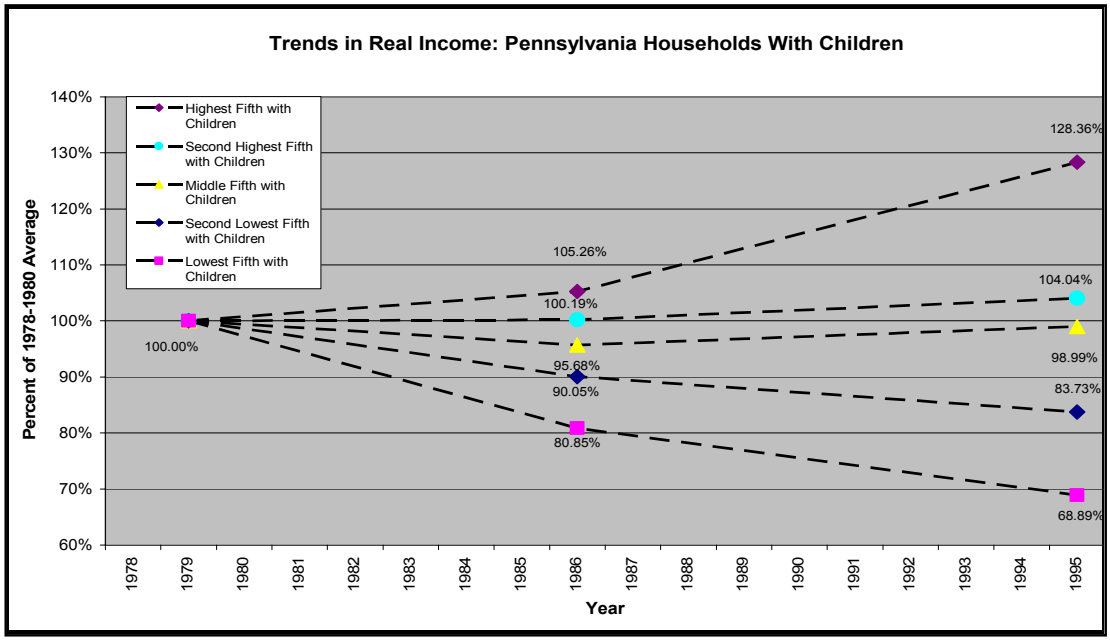
[23] Note that there are only three points plotted in Figure 6 for each quintile. Each of these points is the average of Current Population Survey results over three years. The Current Population Survey is a sample survey that does not produce enough points in any one year for analysis at the state level, so the method is to average the data for three surveys. Looking at Figure 6, it may be that there was a confluence of impacts in about 1986. Or, if we plotted more points, in might be that the lines in the graph might be replace by a more gentle curve.

[24] This rule is named for Vilfredo Pareto, an important figure in the history of economics, sociology, and what was previously termed moral philosophy. The original observation was that twenty percent of the population owned eighty percent of the land in Italy at the end of the nineteenth century. However, the Pareto rule has become a "rule of thumb" in management, economics, and general business. The basic idea is that it can be useful in many areas of life to focus not on a whole set of entities but on "the twenty percent that really matter." For example, an unregulated private business that does not carry out an essential public purpose might do well to focus on the approximately twenty-percent of customers who provide perhaps eighty percent of profits.

[25] For this form of cost allocation as related to utilities, see "Equality May be a Good Slogan, But Certainly Bad Business." *The International Energy Newsletter*: 1-2, 1999; Chawalowski, M. (1997). "Pareto's Law: A Key to Profits." *Public Utilities Fortnightly*: 18-20.

[26] For example, most banks do not charge fees to upper income customers, yet bank income from fees (as a rising profit center) has increased dramatically.

Figure 6: Pennsylvania Families with Children.



range of life activities, this increasingly loads costs on low-income families and on families with children. Thus public schools have introduced a charge per child for participation in a school choir, a science club, or any other school activities. Similarly, for a family to enroll a child in Head Start, a mother now may have come up with money for doctor visits to obtain a health certificate, a service that Head Start used to pay for as a part of its former community-oriented philosophy.

As another example, credit scoring has been introduced by many companies. These systems are typically oriented to develop information to assign customers to groups associated with cost causation (or, alternatively to profit, following the philosophy of the Pareto 80/20 rule). They tend to load costs on low-income customers and withdraw costs from high-income households. Altogether, this fractionalizing of costs and assignment of new costs to low-income families with children is a massive new burden on low-income households. The large impact of this new cost assignment approach is not optional but is now built-in to requirements of the ordinary level of living as additional charges.

A major cause of intensification of poverty for single-parent families is the welfare reform, which has led to lower welfare roles but increased poverty, especially for families with children.[27]

---

[27] See Hays, Sharon, *Flat Broke with Children, Women in the Age of Welfare Reform*. New York, New York: Oxford University Press, 2003.

3. Energy Burden

Fisher, Sheehan & Colton conduct an annual study on home energy burden and poverty. Their findings for 2003 indicate that households living in the lowest levels of income, under 50% of Federal poverty, have energy burdens that average over 45% of their annual income. Their analysis shows that even those households living between 150 and 185% of FPL have energy burdens above the median US energy burden of about 3% of household annual income.[28]

Low Income Energy Burden, Pennsylvania
(Households by Poverty Level Groups)

Poverty Level	Home Energy Burden
Below 50%	45.6%
50% – 74%	18.5%
75% – 100%	13.2%
101% – 124%	10.4%
125% – 150%	8.5%
150% - 185%	7.0%

Source: Pennsylvania: On the Brink 2004; Fisher, Sheehan & Colton; Belmont, MA; April 2004; http://www.fsconline.com/work/heag/heag.htm.

Table 1: Energy Burden.

[28] For the official definition of energy burden and median US energy burden, please see Appendix III of this report.

B. Poverty Distribution (Q2)

What is the customer distribution for each universal service program component by poverty guidelines, 0-50%, 51-100%, 101-150%, and 151-200%?

According to the needs assessment carried out for this evaluation, there are approximately 205,928 households in FirstEnergy service territories that fall under 150% of Federal poverty, and 311,332 below 200% of poverty (Table 2).

FirstEnergy Territories
Estimated Households by Poverty Levels

Poverty Level	Met-Ed	Penelec	Penn Power	Totals
Total:	434,529	495,239	132,319	1,062,087
Under .50	15,637	25,671	6,197	47,505
.50 to .74	8,547	16,834	4,186	29,566
.75 to .99	10,031	20,364	4,779	35,175
1.00 to 1.24	12,847	25,328	5,601	43,776
1.25 to 1.49	15,866	27,676	6,364	49,906
1.50 to 1.74	16,659	28,212	6,639	51,511
1.75 to 1.84	7,423	12,267	2,807	22,498
1.85 to 1.99	10,666	16,587	4,142	31,396
2.00 and over	336,852	322,300	91,603	750,755
Key Levels				
Under 150%	62,928 **(14.5%)**	115,873 **(23.4%)**	27,127 **(20.5%)**	205,928 **(19.4%)**
Under 175%	79,587	144,085	33,766	257,438
Under 185%	87,010	156,352	36,573	279,936
Under 200%	97,677 **(22.5%)**	172,939 **(34.9%)**	40,716 **(30.8%)**	311,332 **(29.3%)**

Source: Census 2000 SF3 tables P52, P88 and P93, and FirstEnergy estimates of customers within each county

Table 2: Estimate of Need.

Census vs. Participant Distributions (Households)						
Poverty Level	**Met-Ed & Penelec**			**Penn Power**		
Col. 1	**Col. 2**	**Col. 3**	**Col. 4**	**Col. 5**	**Col. 6**	**Col. 7**
	Federal Census, Adjusted to Customers per County	**Average Monthly Participants , April 2002 Filing**	**Percent of Potential Served (%)**	**Federal Census, Adjusted to Customers per County**	**Average Monthly Participants, April 2002 Filing**	**Percent of Potential Served (%)**
0-50%	41,308	4,030	9.8	6,197	594	9.6
51-100%	55,776	6,041	10.8	8,965	1,703	19.0
101-150%	81,717	2,844	3.5	11,965	1,488	12.4
Total	178,801	12,915	7.2	27,127	3,785	14.0

Table 3: Distribution.

Note: Columns 2 & 5 are derived from Census 2000 poverty percentages for counties, ratioed to customers per county. Columns 3 & 8 are averages over the months in a year from the April 2002 filing.

Table 3 shows the average over a year of the monthly distribution of program participants, as reported by the company in the 2002 Universal Services filing. These numbers are compared across each row to the base population (the potential population that would qualify for the Customer Assistance Program based on their poverty level) and the resultant percentages are shown in Columns 4 & 7. This presentation converts program participation into equivalent yearly “program slots” of service provided by the CAPs.

Another way to look at participation is in terms of actual households, that is, the number of customers who were in the CAP at some time during the year. While Table 3 shows the average participation over the year in terms of annual program slots of service, Table 4 shows the participant distribution for Met-Ed in terms of months in the program. Table 4 also provides further detail by Rate Code.

Metropolitan Edison – Monthly Participation by Rate Code (2003)

Months in Program	Rate RS 0-50%	Rate RS 50-100%	Rate RS 100-150%	Rate RT 0-50%	Rate RT 50-100%	Rate RT 100-150%
< 1 month	69	89	40	3	17	6
1	133	275	133	15	30	16
2	197	295	158	14	21	19
3	187	322	158	9	25	16
4	114	183	89	17	23	16
5	100	183	73	8	21	6
6	103	191	80	10	21	15
7	163	246	117	20	33	14
8	176	285	111	18	36	19
9	128	191	91	16	21	14
10	75	132	63	6	14	14
11	75	143	44	5	18	5
12	642	1066	464	64	145	69
Totals	2518	4110	1922	235	479	262
Two Rate Codes	12	20	5	5	7	6

Source: Evaluation computer runs on Universal Service evaluation database.
Note: Households paying under two Rate Codes are included in the totals.

Table 4: Met-Ed CAP Participants by Rate Code.

Note that in the detail tables for Metropolitan Edison, for calendar year 2003, more than one-half of all participants have been in the CAP for less than the full year.[29] This type of program participation is typical for Universal Service Customer Assistance Programs.[30]

[29] This table is one of several developed to establish parameters to enable modeling of the program. Note that while it contains number of months in the program it is not organized to show particular months or seasons.

[30] Of course, program overhead costs (enrollment processing etc.), will vary with the gross number of participants rather than with the number of average full-year equivalent program slots.

Table 5: Met-Ed CAP (Customers above 150% of Poverty).

Counting the total customers in Table 4, the result is that 9,471 Met-Ed customers participated in the CAP at some time during the year. Of these, fifty-five were paying bills under two Rate Codes (counted above in totals). In addition, analysis of the data shows a total of 80 customers in the Met-Ed CAP above the 150% poverty level (Table 5).

Metropolitan Edison CAP Participants above 150% of Poverty (2003)					
Rate RS 151-200%	**Rate RS 200%+**	**Rate RT 151-200%**	**Rate RT 200%+**	**Rate RT_02D & RT_03D All Poverty Levels**	**Total**
46	6	12	4	12	80
Source: Evaluation computer runs on Universal Service evaluation database.					

Table 6: Met-Ed by Rate and Heat Codes.

Metropolitan Edison – Monthly Participation by Rate Code and Heat Code

Months in Program	Rate RS 0-50%		Rate RS 51-100%		Rate RS 101-150%		Rate RT 0-50%		Rate RT 51-100%		Rate RT 101-150%	
	Heat	Base-load	Heat	Base-load	Heat	Base-load	Heat	Base-load	Heat	Base-load	Heat	Base-load
< 1 month	8	61	10	79	5	35	2	1	14	3	4	2
1	12	121	44	230	17	114	10	5	21	9	11	5
2	19	178	48	246	31	126	8	6	12	9	11	8
3	20	164	44	278	31	125	5	4	14	11	6	10
4	22	92	40	141	13	76	14	3	16	7	12	4
5	13	86	23	158	11	61	6	2	15	6	2	4
6	8	95	29	170	19	61	3	7	9	12	10	5
7	35	128	41	204	20	96	12	8	25	8	10	4
8	30	146	57	227	27	84	16	2	29	6	13	6
9	17	111	37	152	15	76	11	5	18	3	11	3
10	8	67	25	106	10	53	5	1	13	1	13	1
11	13	62	17	125	5	39	4	1	16	2	3	2
12	86	555	183	882	87	376	54	10	111	34	55	14
Totals	338	2175	687	3410	344	1570	177	58	354	123	191	71
Second ratecode	10	2	14	6	2	3	1	4	1	5	0	6

Source: Evaluation computer runs on Universal Service evaluation database.
Note: Households paying under two Rate Codes are included in the totals.

A further breakdown for Met-Ed by the electric heat code for each customer present in the database (the coding is for baseload *vs*. electric heat) is shown in Table 6. For Met-Ed and Pennsylvania Electric, the programs have an atypical structure in that space heat customers are present in each rate code.[31]

Monthly participation for Pennsylvania Electric is shown in Table 7 for households from zero to one-hundred and fifty percent of poverty. Counting across the totals in Table 7, the count of households participating in the CAP at some time during calendar year 2003 is 16,349. Of these, 31 were billed under two Rate Codes.

Penelec – Monthly Participation by Rate Code (2003)

Months in Program	Rate RS 0-50%	Rate RS 50-100%	Rate RS 100-150%	Rate RT 0-50%	Rate RT 50-100%	Rate RT 100-150%
< 1 month	143	199	83	6	9	1
1	317	472	164	9	21	11
2	329	560	200	17	34	11
3	404	580	175	10	19	12
4	268	406	133	9	17	14
5	214	291	92	6	18	7
6	242	363	130	16	19	6
7	340	530	137	15	27	12
8	304	499	159	11	34	15
9	239	347	117	7	18	5
10	155	305	63	8	14	4
11	183	289	91	14	15	1
12	1287	2131	600	62	113	44
Totals	5097	7942	2550	222	403	166
Second ratecode	6	11	4	3	3	4

Source: Evaluation computer runs on Universal Service evaluation database.
Note: Households paying under two Rate Codes are included in the totals.

Table 7: Pennsylvania Electric CAP - by Rate Code.

Table 8 shows customers above 150% of poverty at Pennsylvania Electric.

[31] Usually, utilities assign space heat customers to a separate space heat rate.

Penelec – Other CAP Participants (2003)				
Rate EL RS 01B 51-100%	Rate EL RS 01B 101-150%	Rate PN RT 02D 51-100%	Rate PN RT 02D 101-150%	Total
1	1	1	1	4
Source: Evaluation computer runs on Universal Service evaluation database.				

Table 8: Penelec CAP - Odd Rate Codes.

Pennsylvania Electric – Monthly Participation by Rate Code and Heat Code

Months in Program	Rate RS 0-50%		Rate RS 51-100%		Rate RS 101-150%		Rate RT 0-50%		Rate RT 51-100%		Rate RT 101-150%	
	Heat	Base-load	Heat	Base-load	Heat	Base-load	Heat	Base-load	Heat	Base-load	Heat	Base-load
< 1 month	21	122	29	170	7	76	3	3	6	3	1	
1	36	278	61	402	14	147	5	4	5	16	3	8
2	32	295	81	469	27	169	3	13	12	20	3	8
3	43	355	83	485	18	156	3	7	11	6	6	6
4	34	233	74	327	9	124	5	2	6	10	5	8
5	27	183	40	246	15	74	2	3	10	7	1	6
6	30	210	51	308	17	111	5	9	8	7	2	3
7	37	302	75	449	11	124	4	8	11	12	5	7
8	33	271	52	442	23	134	6	4	13	19	9	6
9	23	215	56	288	16	101	3	3	9	8	3	2
10	15	140	37	267	7	56	2	5	8	6	4	
11	23	160	38	250	7	84	9	3	6	7	1	
12	100	1184	210	1911	58	541	32	24	56	49	25	18
Totals	535	4537	1007	173	277	2255	99	94	187	184	83	80
Second Rate Code	4	2	6	3	2	2		3	1	2	1	3

Source: Evaluation computer runs on Universal Service evaluation database.
Note: Households paying under two Rate Codes are included in the totals.

Table 9: Pennsylvania Electric CAP - by Rate & Heat Codes (2003).

A further breakout by Rate Code and Heat Code is shown in Table 9. Again, as is clear in the table, Pennsylvania Electric customers (like Met-Ed customers) can be coded for space heat regardless of their Rate Code.

Table 10 is the equivalent table for Penn Power. For Penn Power, a total of 4,332 customers were in CAP for at least one month in calendar 2003. Of these, 83 were billed under two Rate Codes.

Penn Power – Monthly Participation by Rate Code and Heat Code (2003)

Months in CAP	Heat Rate CH				Non-Heat Rate CS			
	0-50%	50-100%	100-110%	111-150%	0-50%	51-100%	100-110%	111-150%
< 1 month	0	0	0	0	3	1	0	1
1	5	2	1	3	20	34	5	20
2	6	5	2	10	34	46	11	29
3	2	5	1	5	32	63	8	45
4	5	5	3	6	28	45	13	59
5	1	13	0	3	33	56	7	30
6	4	8	2	3	27	70	9	46
7	4	11		11	20	58	7	38
8	6	8	3	7	10	74	16	42
9	7	18	3	8	36	119	18	45
10	19	30	6	12	86	197	33	116
11	5	5	2	4	36	77	12	57
12	45	123	23	57	301	1022	154	426
Totals	109	234	46	129	696	1871	293	954
Second Rate Code	4	10	1	6	11	26	6	19

Source: Evaluation computer runs on Universal Service evaluation database.
Note: Households paying under two Rate Codes are included in the totals.

Table 10: Penn Power CAP - by Rate & Heat Codes.

In addition, there were a few other participants; those above 150% of poverty, as shown in Table 11.

Table 11: Penn Power CAP - Over 150% of Poverty.

Penn Power – Other CAP Participants (2003)			
Heat Accounts 151-200 +%	**Non-Heat Accounts 151-200%**	**Non-Heat Accounts 200%+**	**Total**
3	10	1	14
Source: Evaluation computer runs on Universal Service evaluation database.			

Customer Distribution (All Customers with some Participation in Calendar Year 2003)			
Poverty Level	**Metropolitan Edison**		
	Base	**Households**	**(%)**
Col. 1	**Col. 2**	**Col. 3**	**Col. 4**
0-50	15,637	2,753	17.6
51-100	18,578	4,589	24.7
101-150	28,713	2,184	7.6
151-200	34,728	58	0.2
Poverty Level	**Penelec**		
	Base	**Households**	**(%)**
Col. 1	**Col. 2**	**Col. 3**	**Col. 4**
0-50	25,671	5,319	20.7
51-100	37,198	8,375	22.5
101-150	53,004	2,716	5.1
151-200	57,066	0	0
Poverty Level	**Penn Power**		
	Base	**Households**	**(%)**
0-50	6,197	805	13.0
51-100	8,965	2,105	23.5
101-150	11,965	1,422	11.9
151-200	13,588	13	0.1
Source: Column 2 entries are taken from Table 2, and are derived from Census 2000 poverty percentages for counties, ratioed to customers per county. Column 3 entries are taken from Evaluation computer runs on the Universal Service evaluation database.			

Table 12: CAP Households - 2003

To bring this area of the evaluation to a conclusion, Table 12 provides the distribution of households served by the CAPs in 2003. A comparison with the equivalent service slot (full year equivalent customer) data from Table 3 is shown in Table 13. CAP participation is shown geographically across the FirstEnergy service territories in Pennsylvania in Figure 7.

Table 13: CAP Service Slots & CAP Households (2003).

Customer Distribution (All Customers with some Participation in Calendar Year 2003)			
	Metropolitan Edison & Pennsylvania Electric		
Poverty Level	Number of Full-Time Equivalent Slots	Number of Actual Households	No. Households/No. Slots (%)
Col. 1	Col. 2	Col. 3	Col. 4
0-50	4,624	8,877	192.0%
51-100	7,744	14,799	191.1%
101-150	4,332	6,322	145.9%
Total	16,700	29,998	179.6%

Note: Equivalent full-year "slots" (Col. 2) is taken from Table 3. Number of Households (Col. 3) is from Table 10.

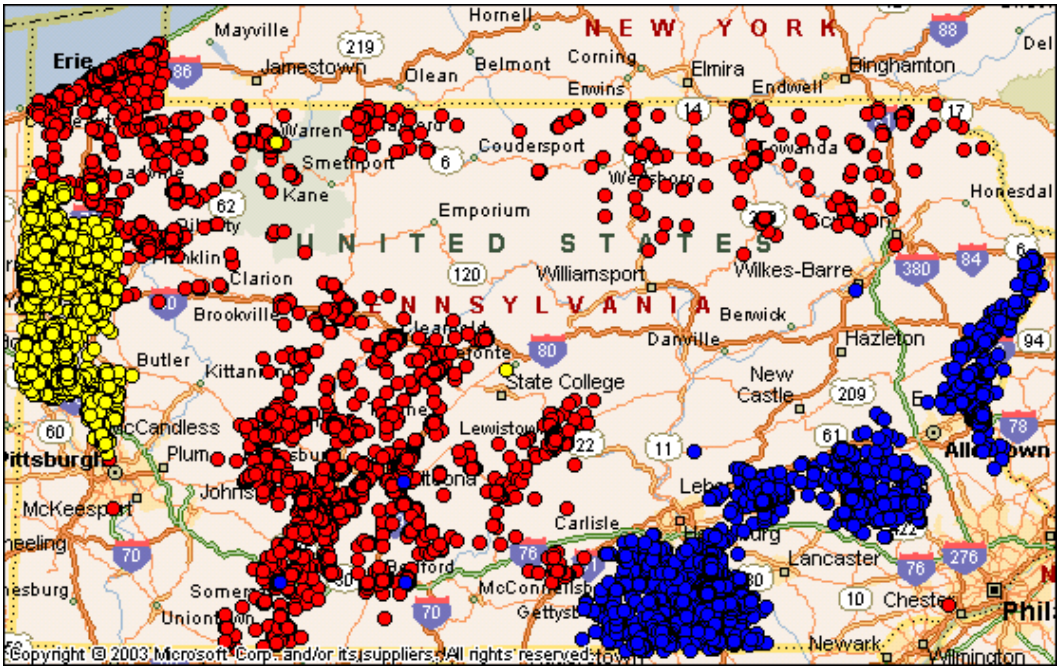


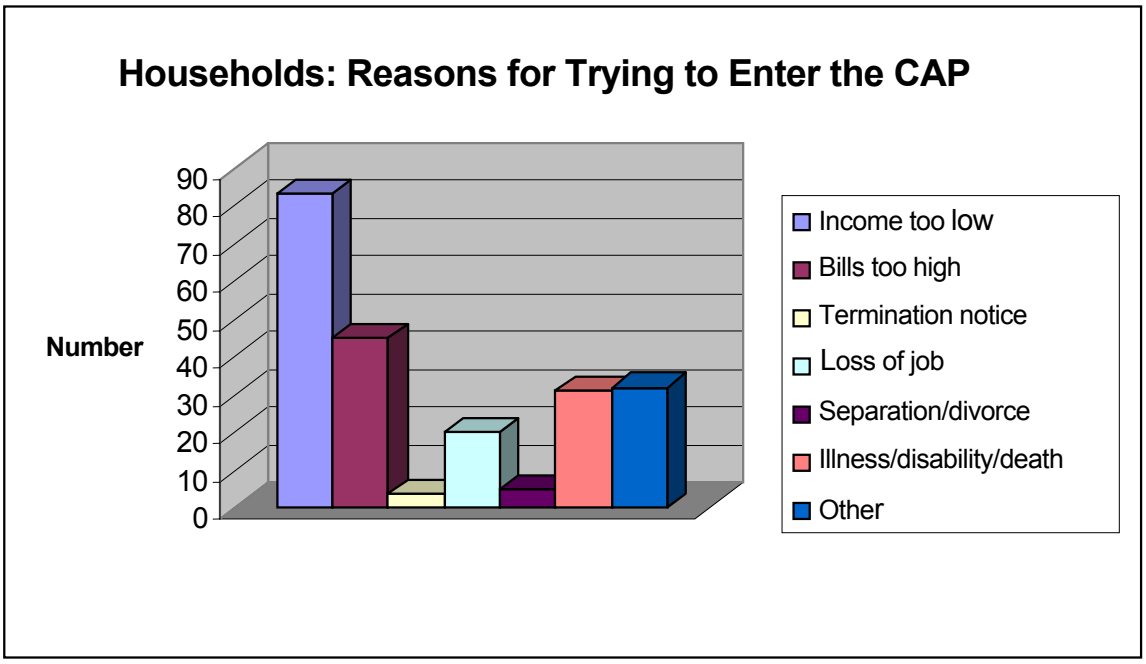
Figure 7: CAP Households in 2003.

C. Barriers to Participation (Q3)

The Barriers to Participation Survey identified potential barriers for those already enrolled in CAP. Ninety households were surveyed, 30 from each of the three utilities. The issues explored were; customer wait periods to get into CAP and any other restrictive eligibility procedures, the ease of the enrollment process, and the clarity of explanation of the program by the Community Based Organizations (CBOs). Also customers were asked their ideas for program improvement. Before getting to the barriers, we take a brief look at the reasons for trying to enter a customer assistance program.

About 44% (40 of 90) of those surveyed were referred to the program by a friend or family member. Another 24% (22 of 90) found out about CAP from the utility company. Others learned about the program through a phone call or letter from a third party agency.

Figure 8: Reasons for Entering the CAP.



Other than low-income status (mentioned by 92% of those surveyed, 83 of 90), high energy bills were given as a significant problem leading to customers entering CAP for half of those surveyed (45 of 90). Loss of work or income was mentioned by 20 of those surveyed and an illness or death in the household was given by 31 respondents. Four had termination notices. A number of customers also mentioned there being a disabled person or a senior living on Social Security in the household. There were also a few single parents or households who accepted new household members without additional income.

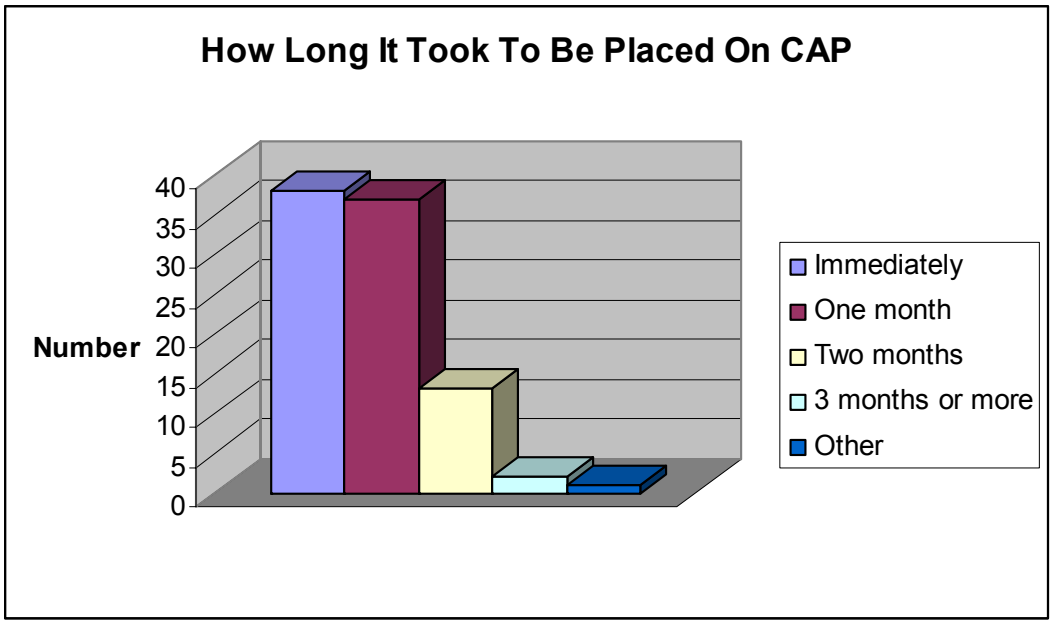
Nearly all of those surveyed applied to CAP by way of a face-to-face visit from an agency representative. Three applied by phone and another three applied by mail.

None of those surveyed had any trouble qualifying for CAP, although seven did have to go through a waiting period of one to three months before receiving benefits due to scheduling conflicts with the agency or trouble with application processing. These application problems are characterized by what the customer called "computer problems at the agency."[32]

When asked if they experienced any difficulty in the actual face-to-face enrollment process, five respondents said it was a toll call to contact the agency. Three customers said they had to travel greater than twenty miles to the agency and felt that the distance was too far. Only one customer mentioned that getting through on the phone to the agency was difficult, and that the agency did not return phone calls after she had left repeated messages.

Most people say they began to see a lower bill within one full billing cycle from signing up (thirty-eight received a lower amount on the next bill while another thirty-seven received the lower billing amount on the second bill). Thirteen saw their CAP bill come in the third billing cycle while two households had to wait for more than three months to see their bill decrease.

Figure 9: Waiting for the CAP Bill to go into Effect.



[32] Note that FirstEnergy implemented a number of Chronicles system enhancements over the past year. The web version of Chronicles has now been implemented and should eliminate most "computer problems" experienced by the Community Based Organizations.

Most customers say the benefits of CAP were explained to them (86 of 90, or 95.6%) but one said they did not understand the benefit, one said the benefit was not explained, and two could not remember whether the benefits of CAP had been explained or not.

When asked what the benefits were, most responded that the main benefit was a lower monthly bill. A few noted that the utility would put in money toward arrearage or payments. Only one used the word "subsidy" to describe the program.

Just over half of those surveyed (49 persons or 51% of those interviewed) said they received a document listing program benefits while twenty-one (almost 22% of those interviewed) said they did not. Another twenty did not remember.

Just under half (43 or 45% of those interviewed) say they were told they had to sign up every year while thirty-six (37.5% of those interviewed) say they were not told about signing up again each year. Eleven (11.5%) could not remember. In all, about 49% either say they were not told or could not remember.

Most of those surveyed thought the CAP was a good program and did not give any ways they would be able to improve on it. A significant number, however, did have some issues with the program they felt should be resolved. Most of those who gave improvement recommendations indicated that they would like to see better communications about the benefits of the program, specifically as they apply to arrearages and how much they pay. Many people also mentioned confusion over the billing with bills sometimes hard to understand. One household said they received several bills that said "No Balance Due" followed by a large bill and a letter saying they were taken off CAP due to non-payment. Others mentioned bills having more than one amount listed and being confused as to which one to pay. While these problems are few, they are significant barriers to the customers affected.

Of course, beyond the survey type of inquiry into barriers to participation, there is the problem of adequate funding in relation to need. As the prior discussion of need suggests, the percentage of households served through the CAP is a fraction of those potentially eligible and in need. The primary barrier to participation is the program funding level.

D. Participation & Arrearages (Q4)

Does participation in universal service programs reduce arrearages? The answer to this standard evaluation question is a definite "Yes". Arrearage is reduced due to the way the program is designed. If CAP payments are made on time and in full, the Met-Ed and Penelec programs are structured so that arrearage is gradually forgiven. If a customer continues in CAP arrearage can be gradually retired at Penn Power also, but only through gradual accumulation of federal LIHEAP grants.

1. Arrearage Reduction Plans

Arrearage arrangements vary by company.

For Met-Ed and Penelec arrearage reduction is provided on the basis of an ordered plan of arrearage forgiveness that can eliminate a CAP customer's total arrearage. The customer is placed on an arrearage forgiveness plan and arrearage is forgiven in equal amounts so long as the customer continues to make regular and complete monthly payments of the "please pay" amount on the customer bill.

Generally, customers of Met-Ed and Penelec are placed on plans that range from six months to twenty-four months, depending on the amount of arrearage on the account. Sometimes the arrangements are for thirty-six months. In each case, the customer is asked to pay the lower of the "please pay" CAP bill or the "please pay" regular bill received each month. If a customer begins this process and then does not continue, the planned arrearage forgiveness stops but the amount already forgiven remains on the customer record. This means every month of customer participation in the CAP generates an amount of permanent arrearage forgiveness.

At Penn Power, arrearage does not step down according to an arrearage forgiveness arrangement but is "frozen" on entry to the CAP. At Penn Power LIHEAP payments are applied first to arrearage, so the plan is that arrearage will eventually go down as a result of these payments if the customer maintains a regular and full payment of the CAP amount.[33] Of course, many customers in need do not receive LIHEAP since the program is never fully funded by the federal government.[34] For all three utilities customers are asked to pay only for current energy use, that is, the smaller of the CAP "please pay" amount or the regular "please pay" amount on the monthly bill. At Penn Power this takes the form of a single bill already automatically discounted to the lower amount.

---

[33] For all three utilities, payments are assigned first to existing arrearages. For Met-Ed and Penelec, this provides an offset to company arrearage forgiveness. For Penn Power, this is the payment that reduces the frozen arrearage. FirstEnergy plans to provide for a common arrearage forgiveness approach across the three Pennsylvania utilities beginning in 2005. This will follow the current Met-Ed and Penelec arrearage forgiveness arrangements. However, this is a plan that can only be carried out for Penn Power if adequate funding is secured.

[34] Also, the federal LIHEAP payments often go to the gas companies rather than to the electric companies.

2. The Relative Size of Arrearage

Table 14 provides the number of accounts in arrears relative to the total number of residential customers by company. Note that, in each case, the number of confirmed low-income accounts in arrears is slightly less than half the number of customers in arrears. The table shows results reported to the Bureau of Consumer Services in the 2003 Universal Service reports for each company.

Generally, the arrearage of middle-income or upper-income families in a given month will be caught up within a month or two and represents a temporary condition. This reflects the general situation across Pennsylvania utilities in which in any month the aggregate arrearage is primarily due to middle and upper income households who have not paid on time.

However, middle and upper-income arrearage falls into a different class than low-income arrearage. Low-income arrearage is typically due to inability to pay. Upper income arrearage is due to a sometimes casual attitude towards utility bills. Throughout the income distribution a life contingency (for example a divorce, a serious illness, or a death in the immediate family) may lead to unpaid bills. Upper income households have existing assets and other income and so typically have the ability to recover. Low-income and some middle-income households may not have the ability to recover. Much late payment is simply due to being away on business or a vacation.

Overall, about 12% of residential customers are in arrears in a given month, and about 5% of all residential customers are low-income customers in arrears.

Generally, recovery of upper-income and much middle-income arrearage occurs on the next bill. Low-income arrearage may go to three bills and still not be recovered. In practical terms, upper and middle-income arrearage is of short duration and is recovered dollar for dollar.[35] Absent a CAP program, low-income arrearage may be recovered for about two cents on the dollar if it goes beyond three payment periods.[36]

[35] Administrative overheads caused by the upper and middle-income arrearage can be recovered by late payment fees and the like so as to keep the cost to the company close to neutral.

[36] There is a market in "collectibles" to which a utility may sell off its records of uncollectible amounts. At any particular time there will be a rate for a particular class of arrearages.

Table 14: The Relative Size of Aggregate Arrearage.

Accounts in Arrears in December 2003				
COMPANY		All Residential Accounts	Accounts in Arrears	
			All Residential	Confirmed Low-Income
Met Edison	No. of Customers	455,818	51,726	19,366
	Percentage	100.0%	11.3%	4.2%
PenElec	No. of Customers	504,380	64,373	29,259
	Percentage	100.0%	12.8%	5.8%
Penn Power	No. of Customers	137,170	15,153	6,688
	Percentage	100%	11.0%	4.9%
First Energy Companies in Pennsylvania	No. of Customers	1,097,368	131,252	55,313
	Percentage	100%	12.0%	5.0%

3. Penelec Arrearage

In calendar year 2003, out of 100,344 (100%) requested payments, customers made 28,824 (28.7%) on-time in-full payments and 39,991 (39.9%) full payments, 11,167 of which were not received by the requested due date. Other partial payments made up the total number of payments.

The total CAP billed amount for the year was $4,025,685. Of the total amount billed, $3,466,210 (86.1%) was received from CAP customers, leaving a CAP shortfall of $559,475. During this year, $3,328,383 in CAP subsidy credits were applied to the usage on the accounts. An additional $1,261,305 in arrearage forgiveness was also applied, and $262,337 in federal LIHEAP payments.

4. Met-Ed Arrearage

In calendar year 2003, out of 57,239 (100%) requested payments, customers made 14,502 (25.3%) on-time in-full payments and 20,608 (36.0%) full payments, 6,102 of which were not received by the requested due date. Other partial payments made up the total number of payments.

The total CAP billed amount for the year was $2,890,479. Of the total amount billed, $2,437,112 (86.1%) was received from CAP customers, leaving a CAP shortfall of $453,367. During this year, $2,360,039 in CAP subsidy credits were applied to the usage on the accounts. An additional $1,124,900 in arrearage forgiveness was also applied, and $139,157 in federal LIHEAP payments.

5. Arrearage Creep

As discussed above, when the customer meets the terms of the CAP and makes regular payments of the lower of the two "please pay" amounts, the CAP functions nicely to retire arrearage that otherwise would not be paid.[37] If a customer begins in CAP and then does not continue to make the required payments, the customer is treated as any other customer who does not pay their utility bill. In this case, the customer enters a structured sequence of requests to pay, notices of impending termination, and opportunities to develop a payment arrangement.

Unless the customer leaves the service territory, it is virtually certain that electricity service will eventually be restored following termination. This restoration is a practical certainty because electricity service is a necessity of life in a northern climate.

Restoration of service is a virtual certainty because electricity service is a necessity of life in a northern climate. This factor has to be taken into account in looking at setting affordable payments.

There are a variety of ways in which service may be restored, however, in the business model as envisioned by the companies the customer would make certain required payments and be restored to service.[38] When service is restored, there will be a new arrearage amount. This will included the arrearage at the time of the last regular CAP payment prior to termination plus the lower of any CAP amounts and regular service amounts not yet paid, plus any other charges that may have accrued. This means that while arrearage will be progressively reduced so long as a customer continues in the CAP, arrearage may show a net increase for customers who come in and out of electric service.

[37] Actually, perhaps a small fraction such as 5% to 15% might be recovered from the customers but at a high administrative cost that would offset part of this recovery.

[38] The company computer systems track customers not only by customer account and service address but as "business partners." This tracking ability means that for these companies a customer who reappears at a different address will find that their payment record, including arrearage, follows to a new account.

For Penelec customers from 0-50% of poverty, $735,076 was requested in CAP payments and $624,915 (85%) was paid. For customers from 51-100% of poverty, $2,279,807 was requested and $1,974,969 (86.6%) was paid. For customers from 101-150% of poverty, $1,010,802 was billed and 866,326 (85.7%) was paid. This means that the payment percentage was approximately equal across the three household poverty income groups.

Overall, for Penelec, arrearage diminished by $1,261,305 due to arrearage forgiveness, and another approximately $262,337 in application of LIHEAP amounts which were applied first to arrearage but in some cases also covered a current bill amount. The total reduction in arrearage for 2003 was approximately $1,533,642. However, this was offset by an increase in arrearage due to shortfall in the CAP payment of $559,475.

For Met-Ed customers from 0-50% of poverty, $429,084 was requested in CAP payments and $360,191 (83.9%) was paid. For customers from 51-100% of poverty, $1,472,226 was requested and $1,253,591 (85.1%) was paid. For customers from 101-150% of poverty, $989,169 was billed and $823,330 (83.2%) was paid. This means that the payment percentage was approximately equal across the three household poverty income groups.

Overall, for Met-Ed, arrearage diminished by $1,124,900 due to arrearage forgiveness, and another approximately $139,157 in application of LIHEAP amounts which were applied first to arrearage but in some cases also covered a current bill amount. The total reduction in arrearage for 2003 was approximately $1,264,057. However, this was offset by an increase in arrearage due to shortfall in the CAP payment of $453,367.

Those who do not continue to make CAP payments accrue an additional program arrearage and when they resume service will find that the business partner element of the computer tracking program will add their program arrearage on to the balance of their remaining pre-program arrearage. For some customers, this means arrearage will increase.[39] However, these are a minority of customers and, in aggregate the program is effective in reducing arrearage.

6. Summary: Arrearage

Based on analysis of arrearage data, the FirstEnergy CAP programs are quite successful in reducing arrearage overall. This is done as a feature of program design. At the same

[39] Arrearage creep is best offset by structuring monthly payments at an affordable bill. One-time arrearage forgiveness would temporarily end arrearage creep and should be given consideration in tandem with lower bills, especially for customers in the 0-50% of poverty range. The problem in this range, however, is that arrearage creep will begin again unless the bills are made very low, for example $5 or $12 per month as a flat fee, with no late charges, or other add-on fees.

time, some customers fail in CAP. These customers experience an "arrearage creep," since they must return to service.

The utility and customers benefit by preventing this arrearage creep when the "please pay" amount is set within the customer's ability to pay.

A major cause of "arrearage creep" for Met-Ed and Penelec is the situation in which baseload customers are using electric space heaters to avoid the escalating price of natural gas and the rising price of home heating oil.[40]

E. Participation & Terminations (Q5)

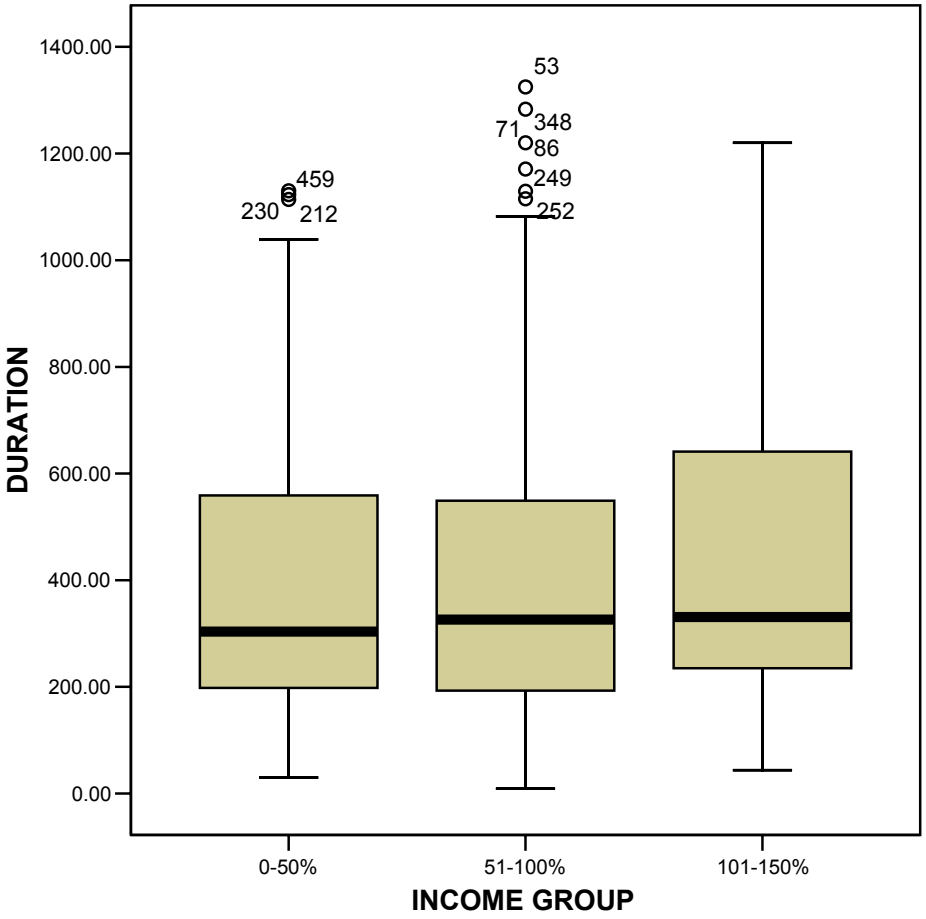
Does participation in universal service programs decrease service terminations?
Universal Service programs are designed to decrease terminations. This is due to two

[40] As discussed later in this report. This interaction of electricity "arrearage creep" and the escalation of gas pricing is a basis for recommending movement in Pennsylvania to a coordinated gas and electric CAP program template.

effects. First, there is the motivational effect of showing care and concern in the customer relationship when customers are having payment problems.[41] Second, there is the effect of lowering the "please pay" amount for the monthly bill. Clearly the programs do decrease service terminations for these two reasons.

The charts in this section are "box and whisker diagrams." The black bar across each box is the mean duration. The boxes each represent the middle 50% of cases. The vertical line (whisker) above and below each box shows the reasonable range of data. Values above the horizontal cutoffs on the vertical lines are "outlier" cases.

Figure 10: Met-Ed - The Pattern of Terminations from CAP (2003).



[41] Showing respect for low-income customers can be a major motivational factor. However, this would generally require a good bit of direct interaction, person with person.

Met-Ed: For Met-Ed, there were at least 566 service terminations of CAP customers during 2003. As can be seen in Figure 10, terminations tend to concentrate at about one year of program experience. This figure shows all terminations from the Met-Ed CAP during 2003 for which the evaluation has good data. This means terminations shown may be for households that entered the program in prior years, or during 2003. The peaking of terminations at about one-year is consistent with other program evaluations in Pennsylvania which have noted that the recertification step is a point at which customers fall out of the program.

- The median length of time that customers from zero to 50% of poverty who were terminated in 2003 spent in the program is 303.5 days, the trimmed mean is 369.6 days.

- The median length of time that customers from 51 to 100% of poverty who were terminated in 2003 spent in the program is 326 days, the trimmed mean is 373.1 days.

- The median length of time that customers from 101 to 150% of poverty who were terminated in 2003 spent in the program is 321 days, the trimmed mean is 423.8 days.

These results show the bracketing of the one-year recertification and that there is a slightly better retention of households from 101-150% of poverty.

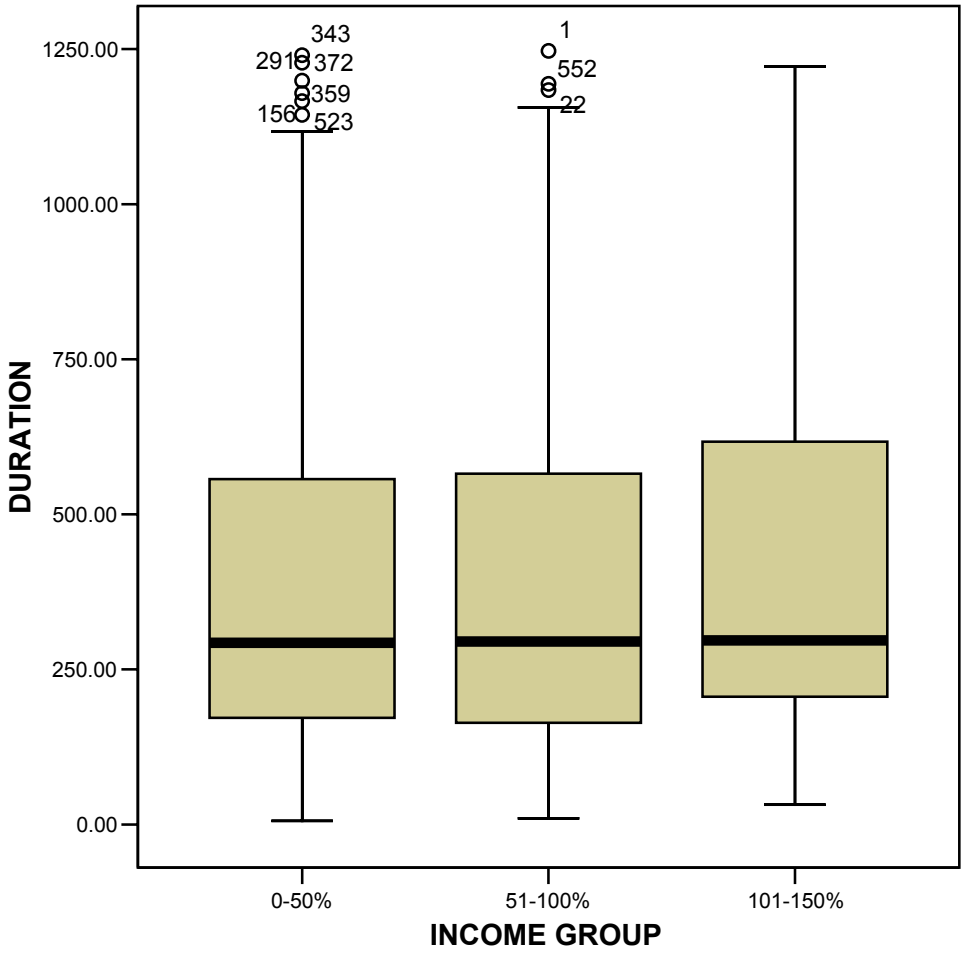
Penelec: For Penelec, there were at least 1,058 terminations of CAP customers during 2003. As can be seen in Figure 11, and similar to Met-Ed, terminations tend to concentrate at about one year of program experience. This figure shows all terminations from the Penelec CAP during 2003 for which the evaluation has good data.

- The median length of time that customers from zero to 50% of poverty who were terminated in 2003 spent in the program is 293 days, the trimmed mean is 372.1 days.

- The median length of time that customers from 51 to 100% of poverty who were terminated in 2003 spent in the program is 295 days, the trimmed mean is 358.1 days.

- The median length of time that customers from 101 to 150% of poverty who were terminated in 2003 spent in the program is 297 days, the trimmed mean is 412 days.

Figure 11: The Pattern of Terminations from CAP (2003).



Overall, these results bracket the one-year recertification. Also, in each Figure, the 101-150% of poverty group shows higher variability of the upper reasonable range of duration. As a group, they tend to stay in a bit longer, but not much longer than the other two (lower) income groups.

F. Participation & Collection Costs (Q6)

Does participation in universal service programs decrease collection costs? This was an important question for the earlier pilot Universal Service programs, but it has now been generally established that Universal Service programs do offset collection costs. In the case of the FirstEnergy companies the direct program operations offsets are small. They exist but should not be considered a sizable factor. However, there is a considerable advantage to the companies in the planned and orderly recovery of arrearage provided for by Universal Service. As arrearage forgiveness amortizations are extended further and further out into the future, recovery and cash flow lags. This represents a cost to the company. We are not able to quantify this cost in this evaluation. However, there is a clear advantage in quick and reliable recovery. As a general principle, the quicker, and the more reliable, the better.

1. The Collection Process

For the FirstEnergy companies, if a customer does not pay a bill within twenty days of the bill date, the account is flagged to go into an outbound call list. However, due to priority currently being given to later stages of collection, this feature of the collection process is not being operated. At seven days after the due date of the subsequent bill, the account is flagged for follow-up if the amount due is over one-hundred dollars. A notice of discontinuance of service is mailed and set for a “block date” (disconnect) fourteen days out. Three days prior to disconnect there is an attempt to call the customer. If the call cannot be completed, a second attempt is made the next day at a different time of day. Finally, if there is no contact or payment agreement, someone goes to the home. If the customer is at home, the account will be disconnected. If no one is home, a forty-eight hour notice is posted to the door and the home is disconnected forty-eight hours later. This is the FirstEnergy implementation of the process specified in the Pennsylvania Code.

Beyond this point, there are several steps in pursing active arrearage and “finaled” arrearage. About five to eight percent of aggregate finaled account amounts are eventually recovered after they are finaled. At times, finaled arrearage that is several years old can be sold off at perhaps two cents on the dollar. This leaves about ninety percent or more of finaled arrearage in a cost bin that has to be recovered through future rate cases.

2. The Arrearage Factor

The treatment of arrearage under Universal Service is the major factor in reducing collection costs. That is, it is the streamlining of workable collections from payment troubled low-income customers coupled with the regular retirement of arrearage that is the special advantage of the Universal Service Customer Assistance Program. From a

utility perspective a CAP is an alternative collection approach that provides a way for the customer and the utility to manage an orderly payment.

- Each dollar of arrearage forgiven by the companies is a dollar that does not go into the collection process. As detailed in the arrearage section of the report, arrearage forgiveness provides a planned and regular mechanism for substantial revenue recovery. A CAP provides a structured financial mechanism that builds a planned amount of arrearage forgiveness into rates. This provides a company with a form of pre-payment. So long as the program is properly run and fully expended in service to the customers, the company receives regular revenue recovery.

- If the CAP customers did not have the opportunity to participate in a Universal Service program, the arrearage forgiven would have to be pursued through the normal collection process, as described above. As noted above, about ninety cents on each finaled arrearage dollar is left (not recovered). Generally, the aggregate of these amounts will be analyzed in a future cost of service study and recovered in the next rate case. However, there has always been a problem in recovering fully. And, during the deregulation era rate cases became scarce compared with the standard regulatory pattern of the past several decades. Currently, it is not clear when the expected regulatory pattern of periodic rate cases will resume for the FirstEnergy companies.

3. Operational Cost Offsets

In the FirstEnergy companies in Pennsylvania, the cost offsets of Universal Service in collections operations exist but they are small. The internal company credit and collections function would be the same size with or without Universal Service. This means that the incremental cost offsets provided to collections operations by Universal Service are in the areas of outsourced calling, outsourced collection and additional field visits of different kinds including visits for blocking of meters. To ballpark the size of the offset, it is likely under one percent and about four percent of the cost of operating the collections functions. In this perspective, the “credit & collections” function is best understood as an essential business component, that is, for practical purposes a fixed cost. Due to the size of Universal Service relative to the size of overall arrearage and of overall collections, *incremental* costs or cost offsets in operations are not a significant factor.

4. Summary: Participation & Collection

The FirstEnergy companies do not treat uncollectibles as working capital, so the cost of carrying arrears can be estimated at about 4.92% a year, and they will accrue until the next rate case. This means it is of strategic interest to consider adjusting bills for payment troubled customers to make them affordable Further, It is in the interest of both

customers and utility to process the CAP credit amounts and the arrearage amounts on a planned and regular basis to the extent this is possible.[42]

[42] In the New Jersey model, monthly subsidy credits are applied with or without the receipt of customer payments. In Pennsylvania, application of credits is generally seen as connected to each customer payment. There is a philosophic and potential motivational difference between these two approaches. In this evaluation we recommend a middle ground. Application of credits should continue automatically for four months from the last full payment of the customer portion of the bill.. This provides definite recovery to the utility, but requires performance on the part of the customer. At the same time, it indicates to the customer that the required payment has been tailored to the ability to pay of each household while taking into account that low income and payment troubled households are not able to pay every bill every month.

G. Effectiveness & Efficiency (Q7)

How can universal service programs be more cost-effective and efficient? This topic area is developed and analyzed using the Reichmuth Sector Map modeling tool. The sector map is actually a set of sector maps that are generated from a single input page and permit testing of different rate forms and different CAP credit limits so that the program may be optimized to meet the relevant provisions of the Pennsylvania code and specific factors special to the different service territories.[43]

1. The Sector Map; a Window on Program Results

One of the primary purposes of examining CAP program results is as an evaluation of program performance vis-à-vis the Pennsylvania State mandated CAP program design elements, PA 69.265. The program models in particular are used to examine how the participant's energy burden compares to the maximum energy burden specified in the CAP design elements. The model also calculates the CAP credit resulting from the CAP rate offered by the program. A maximum level of CAP credit per participant is also specified in the design elements.

At the outset it is important to clarify that the CAP program design elements are intended to apply on a participant by participant basis. The need to examine program results on an individual basis is most evident when considering the energy burden, the percentage of a participant's income used for energy. Clearly, if the energy burden were calculated from program averages, it would mask the extreme cases. For example, if the average energy burden were at an acceptable level, say 6%, the energy burden for a particular non-average participant with half the income and twice the usage would be 24%, clearly unacceptable in the individual case. In actual practice, an average energy burden may seem acceptable while it masks hundreds of cases of severe hardship.

Therefore, the principal purpose of the sector map presentation format is to preserve and display the true diversity and texture of program results throughout the full program population. This preservation of program diversity is accomplished by breaking the participant population into cells of similar energy usage and income. Typically, a program population is subdivided into 30 or more separate cells each with a homogenous population. Within each cell the average program performance is calculated. And since the cell is homogenous, the averages so calculated are representative of the all the participants grouped into that cell.

The sector Map arranges the cells in an orderly way with respect to poverty level and electric usage, with the lowest poverty level to the left and the lowest usage on the bottom. This orderly organization of the cells helps to make visually evident any patterns in program results with respect to income level and usage.

---

[43] Please see the Sector Map Appendix for an example of the model.

The Sector Map then displays the results of the calculations for each cell in a two dimensional map format so that equal areas of the map contain equal numbers of participants. In this presentation a big problem will look big and a small one will look small. In fact, the number of participants effected by a particular thing can be readily established by simply counting the number of squares on the map indicating a certain condition and multiplying by the constant number of participants per map square.

It is important to understand that the Sector map is an estimate that has been derived from a subset of the program population then extended to the whole population, and it will not summarize program activity exactly, but it will be close within a few percent. Every model is calibrated against an available summary of program activity usually, total standard bills. The principal uses of the Sector Map are to examine the population for patterns among the individual participants and to "create deltas," estimates of changes in program totals in response to hypothetical changes in program structure.

2. Reading the Sector Map

For example, consider the annual payments for participants in the Met-Ed Cap Program. Figure 12 shows the annual CAP payments required of the participants.

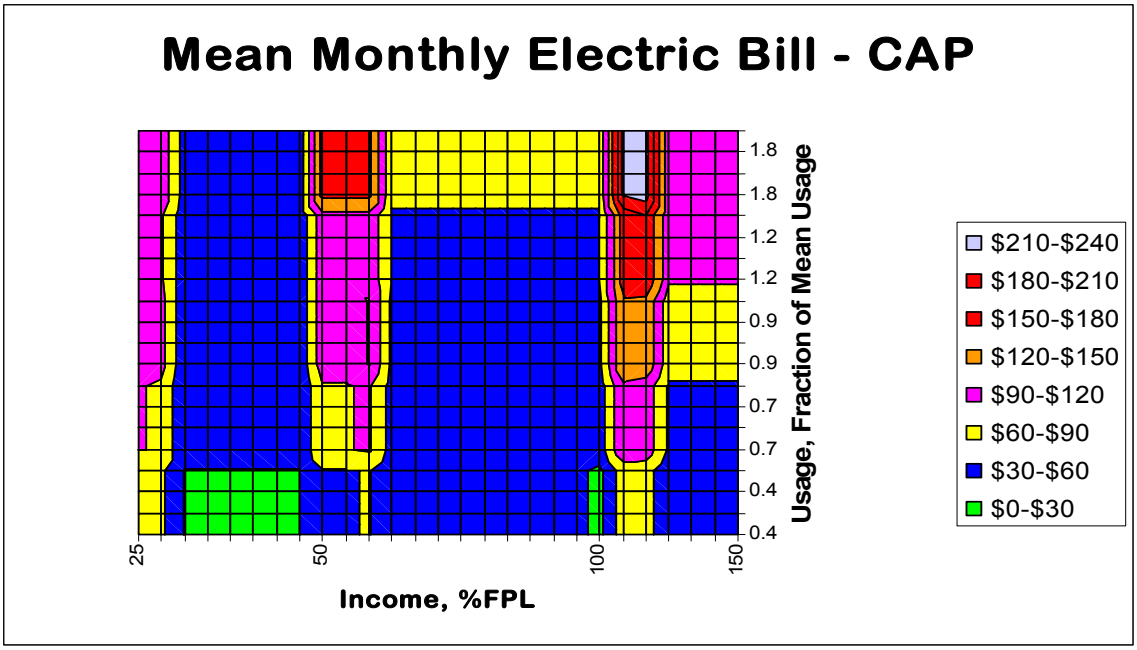


Figure 12: Met-Ed Mean Monthly Electric Bills.

In Figure 12, each square represents 9.2 participant households. It is readily apparent in this figure that most of the participants have monthly bills in the range of $30-$60 (the blue area). About thirty participants have monthly bills in the range of $210-$240(the gray area near the upper right). These highest billed participants have incomes in the range of 100-150% FPL as indicated by the horizontal axis, which has markers for the limits of the poverty level categories. These participants also have electric usage of about 1.8 times their class average usage, as indicated by the markings on the vertical axis.

The vertical bands of color which indicate higher bills are the space heat participants who pay a higher CAP rate. Further exploration shows that the participants with the lowest bills (green area) are grouped in the lower left with usage about 40% of the class average and incomes in the range of 0-50% FPL. These participants do not heat electrically and have slightly lower bills than others in the same income range because they have a slightly lower income than the others (there is a loose correlation between income and energy use). There appear to be about one-hundred and forty participants in this category.

There is another small group of low paying participants indicated by a small green area in the lower right of about 20-30 participants. These participants are in the 50-100%FPL category and have very low usage, about 40% of the mean class usage. In this case these participants pay less than others of their same income level because their usage is so low that their standard bill is even less than the CAP bill and they end up paying the lower of the two, the standard bill. In this example the Sector Map has quickly shown the approximate magnitude and numbers of participants for the diversity of bills paid by the CAP participants.

In the analysis the Sector Map is the starting point; it provokes the analyst to look for the specifics of any unusual situations revealed in the Sector Map. Associated with the Map (on the Excel™ spreadsheets that produce the maps) are the actual numbers that create the plots. These numbers and their algebraic antecedents can be further examined.

The Sector Map has thus allowed us to quickly review the situation facing the entire program population at the level of the individual participant.

The Sector Map is also used to show the existence of a particular condition, shown in Figure 13. Figure 13 shows the poverty levels and usages that result in CAP credits in excess of the $540 limit on non-heat accounts and $1400 on heat accounts. Excess of non-heat accounts will be shown in blue and excess of the heat accounts will be shown in red.

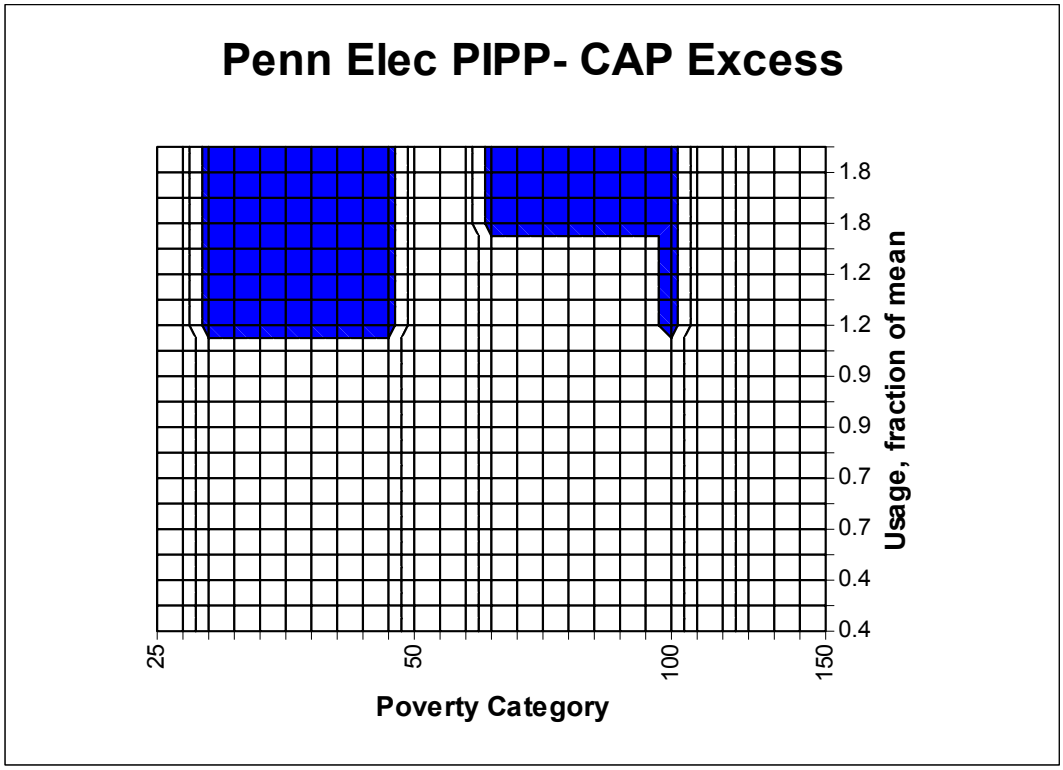


Figure 13: CAP Credits in Excess of Limits.

In this case there are no (or only a few) heat accounts that exceed the limit, but there are many (about 700) accounts that exceed the non-heat limit of $540.[44] It is also evident that this limit is exceeded by the highest usage accounts of participants with incomes below 100% FPL.

3. Met-Ed and Penelec PIPP Rates

These two utilities both have both have the same CAP program rates structured following a Percentage of Income Payment Plan (PIPP) template (Table 15).

[44] Figure 13 illustrates one of the uses of sector maps; showing the relative number of accounts with usage beyond the CAP credit (subsidy) limits. Figure 13 is purely illustrative, however, since for Met-Ed and Penelec the CAP credit limits have been adjusted from the 1992 values given in the Pennsylvania Code. The actual graph for Met-Ed and Penelec is given in Figure 15 (Page 55).

Rate Structure of Met-Ed and Pennsylvania Electric CAPs (Percentage of Income Payment Model)		
Poverty Category	**Non heat**	**Heat**
0-50%	4% of income, $12 min	9% of income, $18 min
50-100%	5% of income, $12 min	11% of income, $18 min
100-150%	7% of income, $12 min	16% of income, $18 min

Table 15: Met-Ed & Pennsylvania Electric PIPP Rate.

The tariffs show that for 2003 the standard rates for both utilities were similarly structured with a RS rate, uniform throughout the year, and a RT rate with peak/off-peak and summer /winter differentiation. The fixed charge and per/kWh charges differed between the two utilities, but they were close. For this evaluation, both utilities are separately modeled using their specific rates. However, the performance for both these utilities will be discussed together, because the close parallel structure of these programs leads to very similar results.

4. Energy Burden Compliance

Both programs fully comply with the energy burden guidelines specified in the CAP program guidelines (Table 16).

Table 16: Pennsylvania CAP Design Guidelines for Energy Burden.

CAP Design Guidelines for Energy Burden		
Poverty Category	**Non heat**	**Heat**
0-50%	2-5% of income, $18-25 min	7-13% of income, $30-40 min
50-100%	4-6% of income, $18-25 min	11-16% of income, $30-40 min
100-150%	6-7% of income, $18-25 min	15-17% of income, $30-40 min
Source: 52 PA Code, §69.265.		

A comparison shows that *the CAP programs for both utilities are well within the Design guidelines.* In fact, both programs offer an aggregate CAP discount that is greater than the discount that would be required to comply with the upper end of the % income range specified in the design elements. Table 16 shows the average discount offered in the

CAP rates and the minimum required discount. In Table 17 the average CAP discounts are higher than the required minimum.[45]

Table 17: CAP Discount.

Average CAP Discounts for Med Edison & Pennsylvania Electric		
Utility	**Average CAP Discount**	**Minimum Compliance Discount**
Met-Ed	28%	19%
Penelec	30%	21%

5. CAP Credits

For both utilities the CAP credits are distributed as shown in Figure 14.

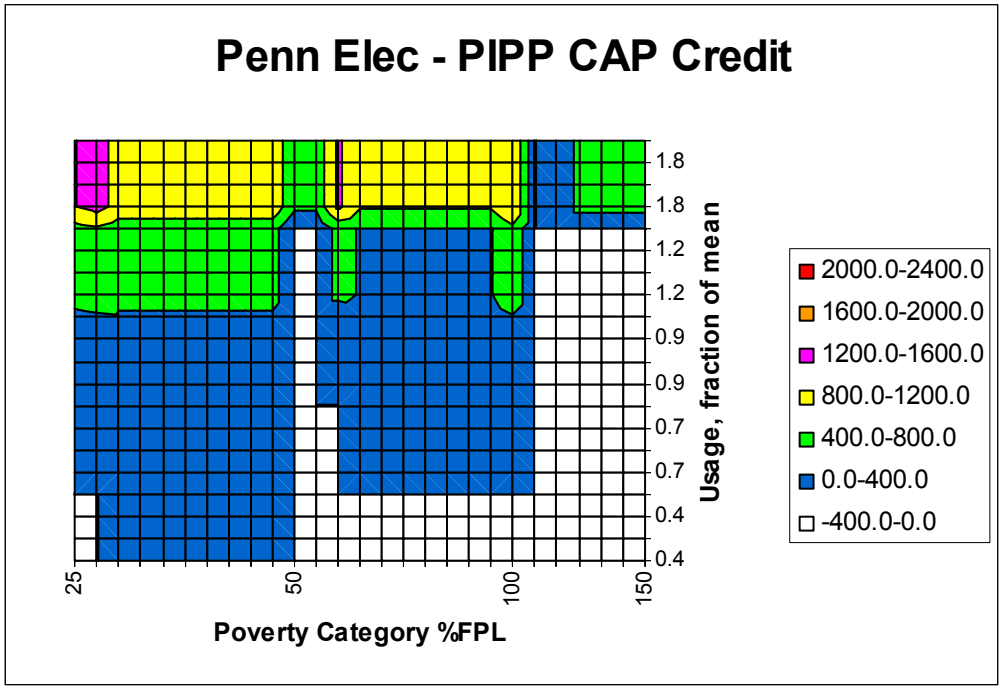


Figure 14: CAP Credit.

[45] Met-Ed and Penelec use a credit limit of $800 for non-heat accounts and $1800 for space heat accounts. CAP credit limits of $560 and $1400 were specified in 1992, and these values are still in use for Penn Power. If these original limits are escalated to current dollars they would be $756 for non space heat and $1,891 for space heat, quite close to the values used for Met-Ed and Penelec in 2004.

Figure 14 shows CAP credits ranging from zero, the white area, to $1,300, the violet area in the upper left corner of the graph. As expected the larger CAP credits go to the larger usages and to the lower incomes.

Note that a large fraction of the participants has *no* CAP credit. This illustrates a situation that is inherent in the PIPP structure. For certain situations the CAP bills will be higher than the standard rate. Participants with relatively higher income and lower usage would receive CAP bills that are higher than the standard rate.

As a side note, in the underlying models used in the evaluation these situations are assigned a CAP credit of zero, since in the actual program the participant is rendered the lesser of the CAP bill or the standard bill. In essence a participant with a zero or negative CAP credit is not benefiting from the program in terms of credits to energy cost. However, the program still contributes to affordability by leveling the monthly payments to a predictable bill.

Participants with a CAP Credit of Zero			
Utility	**Number of Participants with 0 CAP Credit**	**Percentage of total program participants**	**Mean Annual amount by which CAP exceeds standard bill**
Met-Ed	1712	35%	$139
Penelec	1981	30%	$105

Table 18: Zero CAP Credit.

As can be seen, the number of participants with zero CAP credit is reasonably large. Table 18 summarizes the situation for both utilities. As indicated in this table, about one-third of the program participants have circumstances in terms of income and usage that make the CAP bill larger than the standard rate. And the difference between the standard and CAP bills is often not small for these customers. In extreme cases it is $100 per month. The average is slightly more than $100 per year.

Referring to Figure 14 it is apparent that eighty percent (80%) of the participants with incomes in the range of 100-150% of poverty would not see lower CAP energy costs.[46]

[46] As a separate feature of the program, they will, however, benefit from arrearage forgiveness arrangements.

The remaining twenty-percent (20%) of participants with the highest usage would benefit directly from reduced bills offered by the Customer Assistance Program. In terms of energy cost, the space heat CAP bill is usually more than the standard rate. For this reason, *the principal benefit of the CAP space heat rate falls to the participants with incomes in the 0-50% of poverty range*. For the current program design, space heat participants with higher incomes than 50% of poverty generally see CAP bills higher than the standard rate.

6. CAP Credit Limits

The CAP Program Design guidelines specify upper limits to individual CAP credits. The limits in the guidelines are $540 for non-heat accounts, and $1400 for heating accounts.[47] For Met-Ed and for Penelec, the limits are currently $800 and $1800. These actual upper limits in current use adjust for most of the change in the Consumer Price Index since 1992 when the PA Code amounts were set.

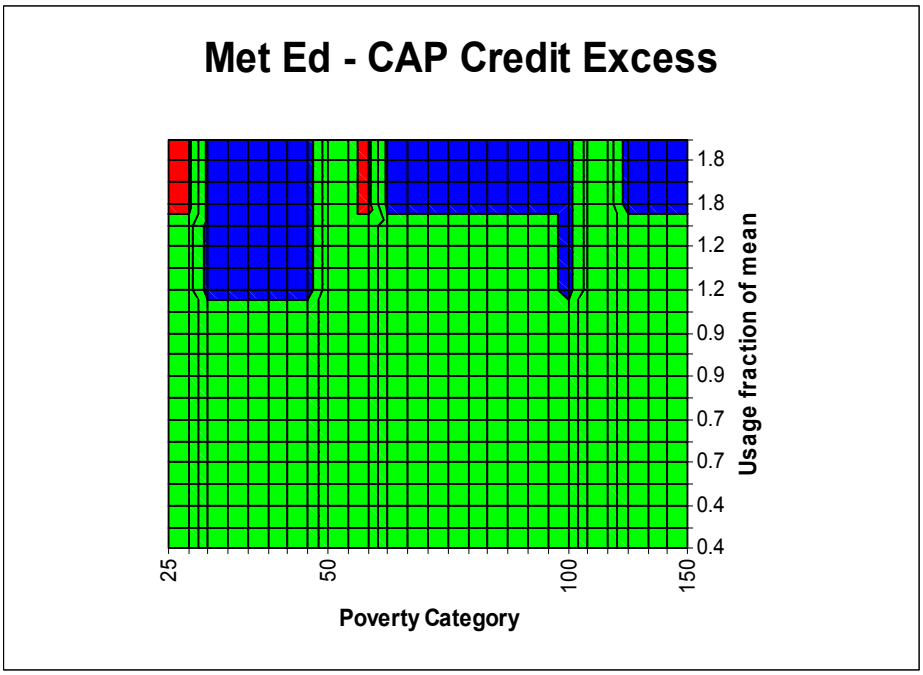


Figure 15: Met-Ed - CAP Credit Excess.

Figure 15 shows the poverty levels and usages that result in CAP credits in excess of the $800 limit on non-heat accounts and $1800 on heat accounts. The excess for non-heat accounts is shown in blue and excess of the heat accounts is shown in red.

[47] Because these limits have not been adjusted since 1992, utilities have been gradually moving to higher values.

In this case there are only about 60 heat accounts that exceed the limit, but there are many (about 700) accounts that exceed the non-heat limit of $800. It is also evident that this limit is exceeded by the highest usage non-space heat participants with incomes in the whole income range of 0-150% FPL.[48]

7. Program Profiles: Met-Ed & Penelec

Program results are presented first for Met-Ed and Penelec which have very similar tariffs and CAP programs. Results for Penn Power will be presented in the following section.

Table 19: Met-Ed & Profiles.

Met-Ed and Penelec CAP Programs		
Poverty Category	**Non heat**	**Heat**
0-50%	4% of income, $12 min	9% of income, $18 min
50-100%	5% of income, $12 min	11% of income, $18 min
100-150%	7% of income, $12 min	16% of income, $18 min

The tariffs supporting Table 19 show that for 2003 the standard rates for both utilities have a similarly structured RS rate, uniform throughout the year, and an RT rate with on-peak/off-peak and summer /winter differentiation. The fixed charge and per/kWh charges differ between the two utilities, but they are very close. Each utility has been separately modeled with their specific rates.

The performance for Met-Ed and Penelec will be discussed together, because the close and parallel structure of these programs leads to very similar results.

[48] During the first quarter of 2004, a number of non-heat participants in CAP were using electric space heaters as a primary heat source. As the price of gas is projected to continue to increase over the next several years (on top of last year's increase and this year's rapid increase) this problem can be expected to continue to grow in size, with implications for program budgets.

Energy Burden Compliance – In 2003, both programs fully comply with the CAP energy burden guidelines. The official CAP guidelines are shown in Table 20.

CAP Design Elements & Energy Burden		
Poverty Category	**Non heat**	**Heat**
0-50%	2-5% of income, $18-25 min	7-13% of income, $30-40 min
50-100%	4-6% of income, $18-25 min	11-16% of income, $30-40 min
100-150%	6-7% of income, $18-25 min	15-17% of income, $30-40 min

Table 20: CAP Design & Energy Burden.

Comparing the actual program design in Tables 19 with the guidelines in Table 20 shows that both CAP programs are well within the Design guidelines.

In fact, both programs offer an aggregate CAP discount that is greater than the discount that would be required to comply with the upper end of the percentage of income range specified in the design elements.

Table 21 shows the average discount offered in the CAP rates and the minimum required discount.

Average CAP Discounts		
Utility	**Average CAP discount**	**Minimum Compliance discount**
Met-Ed	48.6%	39.6%
Penelec	47.7%	39.5%

Table 21: Average Discount.

In Table 21 it is evident that the average CAP discounts are easily more than the minimum required.

Credits –For both utilities the CAP credits are distributed as shown in Figure 16.

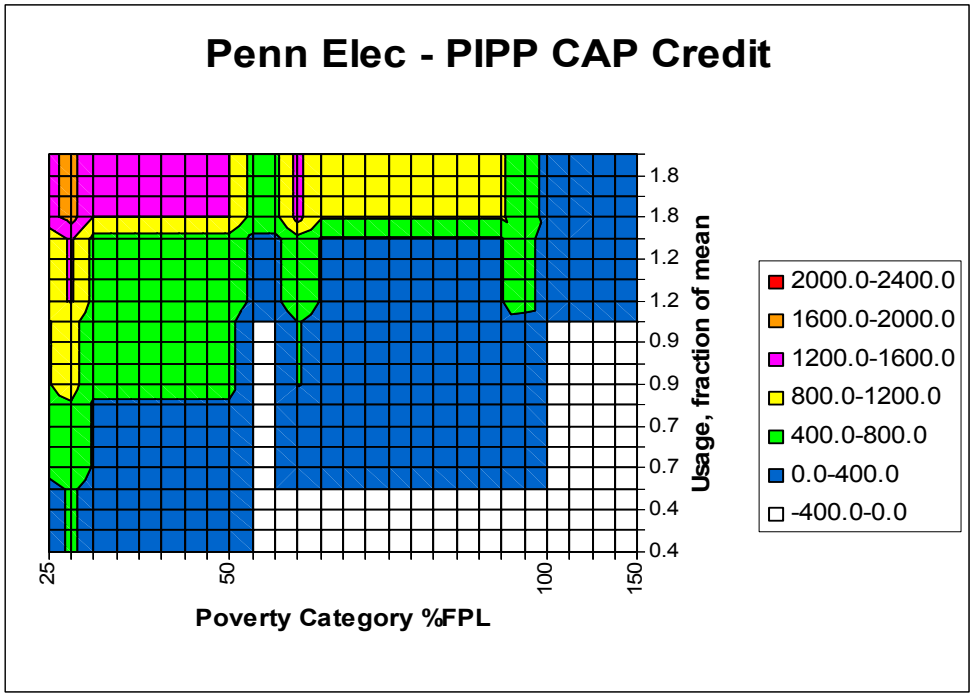


Figure 16: CAP Credits.

Figure 16 shows CAP credits ranging from zero (the white area) to $2000 (the small orange area in the upper left region of the graph). As expected, the larger CAP credits go to the larger electricity usages and to lower incomes. In general, the CAP subsidy in a PIPP rate will show a wide variation with income and usage, in this case from zero to more than $2000/year.

But somewhat startling in this figure is the fact that a large fraction of the participants have no CAP credit (the white area). This illustrates a situation that is inherent in the PIPP structure; for certain situations the CAP bills will be higher than the bills for at the standard rate. Participants with relatively higher income and lower usage can have CAP bills that are higher than the standard rate. In the program, these situations are assigned a CAP credit of 0. For all customers in the CAPs, the “please pay” amount each month is the lesser of the CAP bill or the standard bill.

For Penelec, twenty-three percent (23%) of the CAP participants had bills at the standard rate. At Met-Ed, fourteen percent (14%) of the participants had bills at or very near the

standard rate. In essence, a participant with a zero or very small CAP credit is not benefiting from the program in terms of energy cost. [However, the program still contributes to affordability through the arrearage forgiveness and the levelized monthly payments, a predictable monthly bill.]

The number of participants with zero CAP credit is reasonably large. Table 22 summarizes the situation for both utilities.

Participants with Zero CAP Credit			
Utility	**Number of Participants with 0 CAP Credit**	**Percentage of total program participants**	**Mean Annual amount by which CAP exceeds standard bill**
Met-Ed	590	14%	$273
PenElec	1928	23%	$197

Table 22: Zero CAP Credit.

Table 22 shows that a significant portion of the program participants have circumstances in terms of income and usage that make the CAP bill larger than the standard rate. The difference between the standard and CAP bills is not small. In extreme cases it was as much as $400/month. On average it is about more than $200-$300/yr.

Referring to Figure 16 (Page 59), it is apparent that 60% of the participants with incomes in the range of 100-150% FPL would not see lower CAP energy costs. The remaining 40% of participants with the highest usage would benefit from bill reduction in the CAP program. In terms of energy cost, the space heat CAP bill is usually more than the standard rate.

The principal benefit of the CAP space heat rate falls with the participants with incomes in the 0-50% FPL range. Space heat participants with higher incomes than 50% FPL will generally see CAP bills higher than the standard rate.

Application of CAP Credit Limits in 2004 – In the current year, 2004, CAP subsidy limits are being applied to the CAP bills (enforced) in order to keep the CAP subsidies within the planned budgets. As discussed above, Met-Ed and Penelec currently use a credit limit of $800 for non heat accounts and $1800 for space heat accounts. [It should be noted that the CAP credit limits of $560 and $1400 were specified in 1992. If these

original limits are escalated to current dollars they would be $756 for non space heat and $1,891 for space heat, quite close to the values used for Met-Ed and Penelec in 2004].

The application of these limits will increase the CAP participant's bills to the standard rate when the CAP credit (subsidy) limit is reached. Figure15 (Page 56) shows the participants affected by the limits at Met-Ed, and Figure 17 shows the participants affected at Penelec. As shown in these figures about 1,200 participants at Penelec and 900 at Met-Ed are affected.

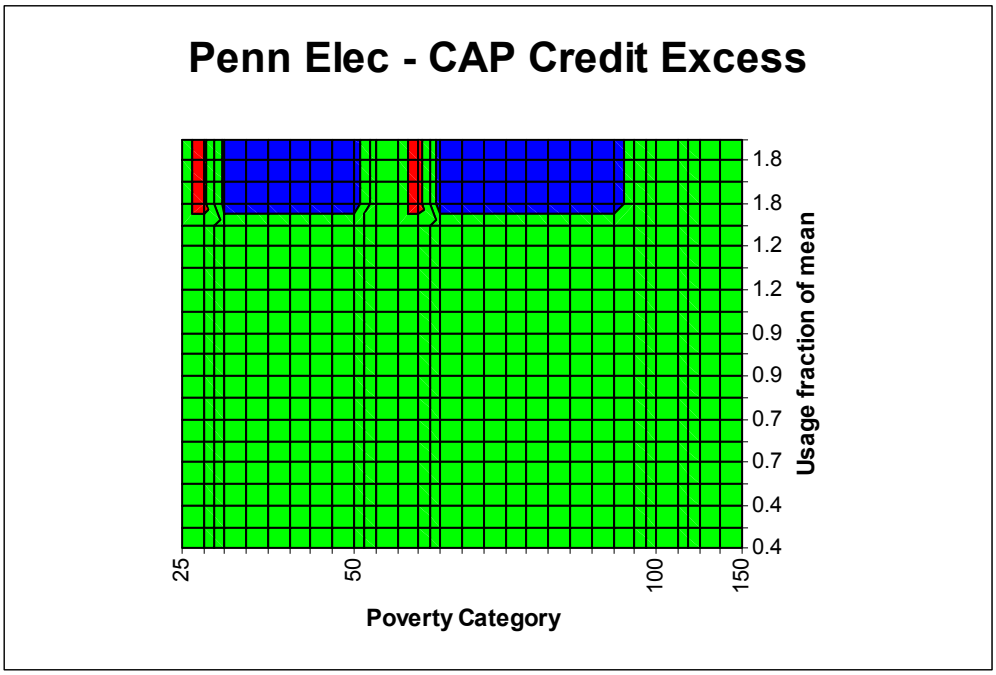


Figure 17: Penelec CAP Credit Excess.

In these figures (Figures 15 and 17), the areas in red shows cases where the $1800 heating credit is exceeded, and the blue areas shows cases where the $800 non-heat credit is exceeded. It is apparent in these figures that there are very few cases where the heating credit is exceeded. But there are many cases where the non-heat credit is exceeded.

To provide another indication of the relative size of the excess, Table 24 summarizes the aggregate dollar impact of the excess and the aggregate CAP credit.

CAP Credit Excess			
Utility	**CAP subsidy**	**Portion Exceeding non heat limit**	**Portion Exceeding heat limit**
Met-Ed	$2,420,000	$316,000	$61,000
Penelec	$3,793,000	$322,000	$5,000

Table 23: CAP Credit Excess.

Table 24 shows that the heating limit is not significantly exceeded, but the non-heat limit is exceeded by an amount in aggregate of the order of 10-15% of the total but not limited, CAP discount. The use of the $800/$1800 limits has the potential of reducing the CAP subsidy by of the order of 10-15%.

The use of the un-escalated limits of $560 and $1400 would reduce the CAP subsidy by even more, of the order of 25-30%. But reductions in the CAP subsidy by means of these limits can have a serious contradictory effect on program operation.[49]

Calibration of CAP Credit Limits and Energy Burden – CAP credit (subsidy) limits are a necessary control tool. Yet, when operated, the most immediate effect of the CAP credit (subsidy) limits is to drive the affected participants over the energy burden limit. Figures 18 and 19 (Page 63) show the compliance of the resulting energy burden with the CAP design elements. On the one hand, reasonable CAP credit limits are a necessary control tool with the positive function of promoting an effective program; on the other, if the CAP credit limits are out of calibration they can have a very strong negative effect. Although the programs are in compliance with affordability guidelines, households that have the highest energy use and exceed the CAP credit limits will commonly see their energy burden i*ncrease from the program stabilized 4-5% to about 20%* as they cross the limit. When they cross the CAP credit (subsidy) limit, the participants are not only driven beyond the affordability limits, but they will probably be driven from the program as well. This situation contradicts the underlying behavioral basis of the CAP program, which is to render to low income participants a predictable energy bill that can be handled in the household budget. It is highly probable that these participants will not be able to sustain their role in the program for more than a few months after the limit is reached. This can have a significant effect on the overall program dynamics.

[49] See section on Arrearage Creep.

Figure 18: Met-Ed Conformance Map.

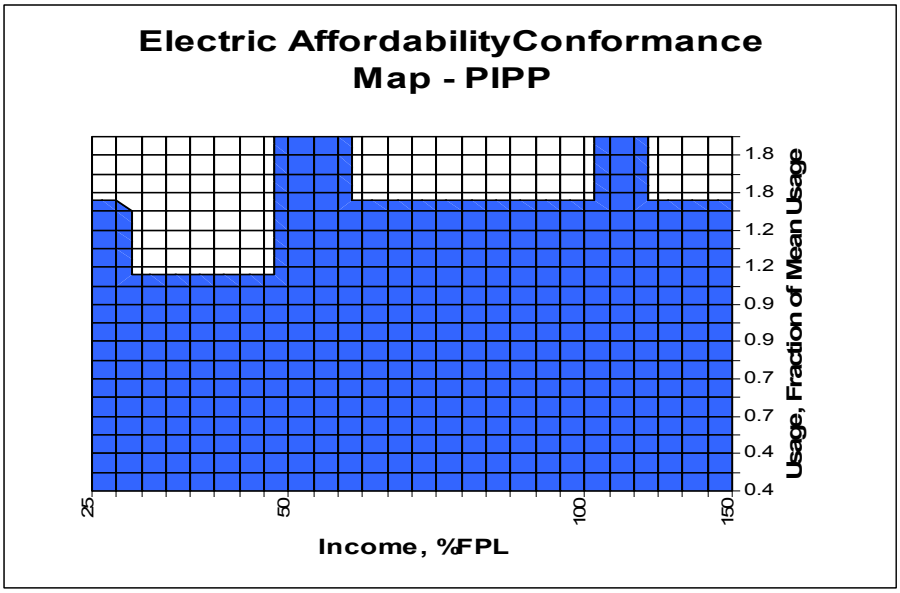
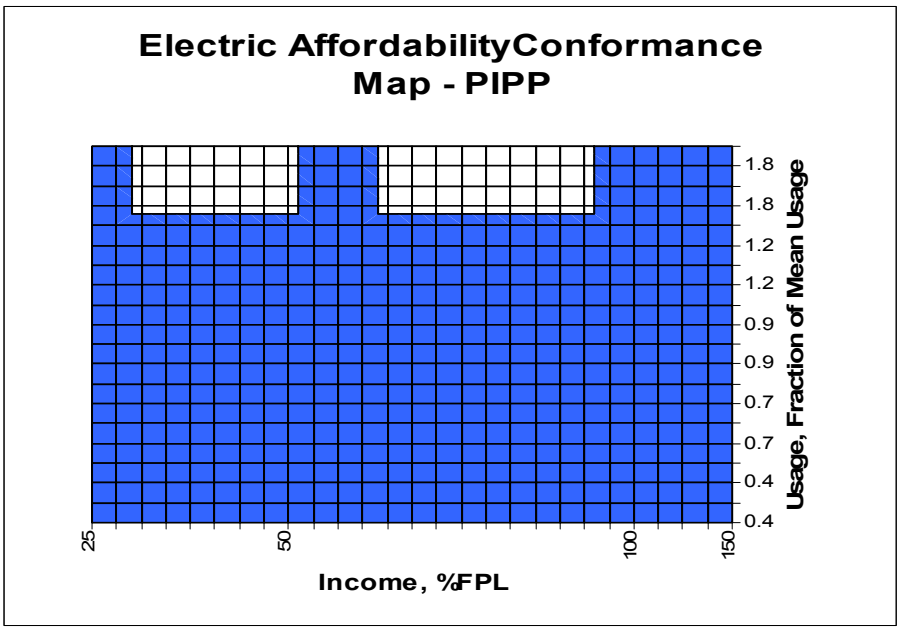


Figure 19: Conformance MAP.



CAP Subsidy Limits and Program Dynamics- A review of program population as of January each year shows program growth (Table 25).

Program Enrollment				
Year	**Met-Ed**	**Met-Ed growth%**	**Penelec**	**Penelec growth%**
2000	2905		5178	
2001	4112	42%	7001	35%
2002	4757	16%	8446	21%
2003	6179	30%	10364	8%
2004*		10%		7%
* September 2003 to September 2004 growth.				

Table 24: Program Growth.

The program enrollments in Table 25 are snapshots at year end and are taken to reflect the annual growth (even though the actual program population is variable from month to month).

The 2001-2002 growth of 35-42% was due to an aggressive attempt to grow the programs accompanied by a four year budget intended to support that growth. The targets were approached and by 2004 the annual growth had slowed to the 7-10% range.

In the initial phase of this growth the emphasis in program operations was to increase enrollment and to shore up the program infrastructure at the participating CAP agencies. But by 2004 it was apparent that the programs in aggregate would exceed the budget. This triggered analysis by program management that showed a significant increase in CAP credits at Met-Ed and Penelec in 2004. This is likely due to the increase in gas prices and probable use of portable electric heaters by CAP participants with the low baseload CAP rates, 4-7% of income.

In 2004 limits on annual per participant CAP credits were imposed and made operative through an increment to computer software capability. The limits are $800/yr for

baseload, and $1800/yr for space heat. With the limit per household now administered through the computer software, by the summer of 2004 it was apparent that significant numbers of participants were reaching the CAP credit limits as shown in Table 26.

Cumulative CAP Participants reaching CAP Credit Limits	
Month	**Cumulative Number reaching Limit**
April	316
May	513
Jun	603
Jul	776
Aug	956
Sep	1180

Table 25: Cumulative Effects.

Customers reaching the limit now (in 2004) immediately revert to the standard rate. The participants illustrated in Table 26 were the most energy intensive of the participants because they used up the credit in the first half of the year. For these participants, reversion to the standard rate will lead to a significant increase in energy cost.

While these customers remain formally enrolled in the CAP program, it is probable that they will not make full timely payments and soon be discharged from the program. If a significant portion of these customers do drop from the program it will be a large enough number to effectively cap and possibly reverse the last few years of program growth.

8. Program Profiles: Penn Power

Table 27 shows the program growth for Penn Power.

Penn Power Program Growth		
Year	**Population (end of yr)**	**Growth %**
2000	2188	
2001	3657	67%
2002	3991	9%
2003	3921	-2%
2004*	3464	-12%
*September 2004		

Table 26: Penn Power Growth.

Table 27 shows that the Penn Power CAP program has been static, even decreasing, for the last two years after an initial growth spurt. The Penn Power program has been employing the CAP credit limits, circa 1992, of $560/yr baseload and $1400 space heat for the full four year period. In this case the program budget was static for the four year period. It appears that the static budget and the CAP credit limits effectively stall the growth of this program.

Program Leakage/Arrearage Creep – There is a growth in preprogram arrears disproportionate to the program growth. It is likely that participants falling from the program would then accumulate an arrearage at an accelerated rate and re-enroll in the program the next year, bringing with them the newly grown arrearage for forgiveness through the program.

In a cycle of this type, a participant may leave the program, with attendant savings in CAP credit (subsidy) only to re-enroll at a later time with an increased arrearage amortization cost. The savings in program subsidy are then counterbalanced by increased arrearage cost and administrative cost. This numeric parameters of this cycle have not been quantified. But its existence illustrates a linkage between the CAP credit (subsidy) on one hand and increased costs on the other. In the process, the participant's payment pattern is disrupted and increased administrative costs associated with dunning and re-enrollment incurred. In terms of net costs and the underlying program behavioral psychology, it would be better to set a sustainable program growth rate and a stable customer payment pattern.

Recommendation: - An alternative to a reversion to the standard rate when the CAP subsidy limit is reached would be to automatically revert (instead) to the CAP heating PIPP. This follows the logic that most of the time that a CAP subsidy limit is exceeded it is by a participant classified as a non-heating account. The extreme usage that causes the CAP limit to be exceeded is most likely by heating with portable heaters. The participant could then be reclassified as a non heat PIPP upon presentation of gas or fuel bills as proof of the other heat sources. This alternative would diminish the rate shock of exceeding the CAP limit and possibly retain the participant in the program.

In a broader sense, the CAP program serves two purposes: it provides affordable and budget-able rates to low income customers, and it provides an orderly business context for recovering arrearages associated with low income customers. In the context of increasing poverty, aggregated arrearages may grow to become a relatively large element in the rate making process.

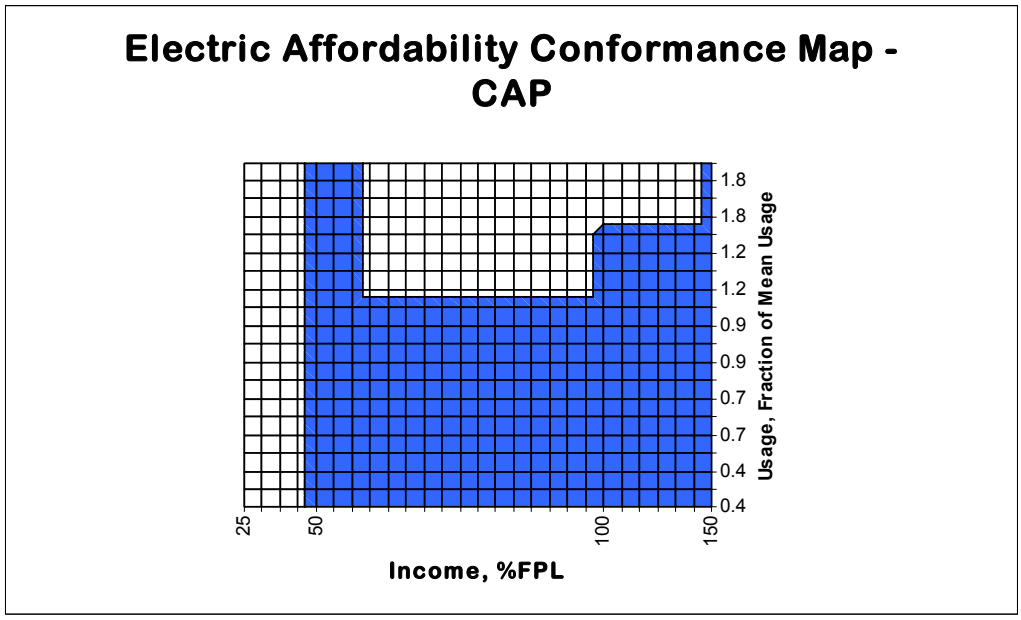
Since the utilities are inescapably providers of last resort, a sustainable CAP program reasonably directed at the true low income population can help to smooth out arrearage related rate impacts and become thereby an important strategic business objective.

The Penn Power CAP Rate - The CAP program for Penn Power uses a CAP rate as opposed to the percentage of income payment programs used at Met-Ed and Penelec. In simple terms the CAP rate used at Penn Power is a 50% reduced kWh rate for participants in the range of 0-110% FPL, level 1, and a 40% reduced kWh rate for participants in the 110-150% FPL range, level 2.

In fact the tariff is more complex and the simple percentage reductions in the kWh rate apply to the average or aggregate usage. The simple average rate reduction would mask the extremes. Therefore the sector map model proceeds rigorously from the tariff. For Penn Power the sector map model has been based on less than a full year of usage data. The model was calibrated against the Universal service report for 2003.

Energy Burden and Affordability - For Penn Power the affordability conformance with the CAP program design elements is shown in Figure 20. This figure shows that the participants with incomes below 50% FPL are not within the affordability guidelines, shown in the figure as the white area. Most of the non heating participants with usage above average also are not within the affordability guidelines.

Figure 20: Penn Power Conformance MAP.



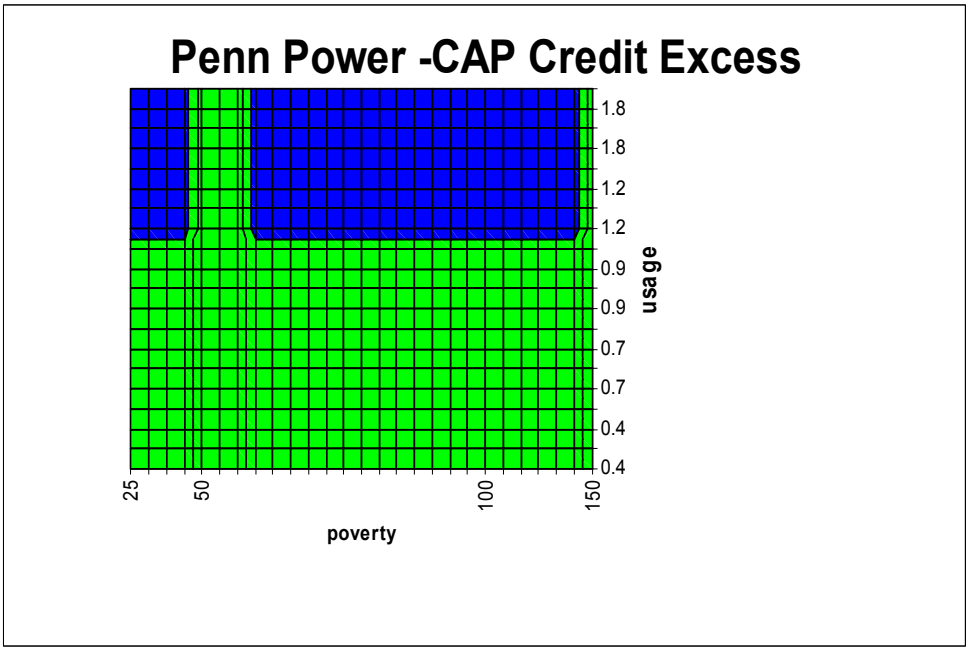
Overall 40% of the participants are outside of the affordability guidelines. This pattern is common in general for a CAP rate. It is a characteristic of a rate discount approach, rather than a PIPP approach. Other characteristics of a rate discount approach are that a CAP rate will usually be un-affordable to those with the lowest incomes, and it will also be unaffordable to those with the highest usage. Even when the CAP rate is set very low, there remain a few pockets of un-affordability.

A usage based rate is an inherently inefficient way to meet income based affordability guidelines. The dilemma inherent to the rate discount approach is that if the rate is set low enough to meet the affordability guidelines for the most disadvantaged participants, then the rate will be so low that most of the rest of the participants will see a rate well below their affordability threshold. Generally rate discounts of the order of 80-90% are required to meet all the affordability guidelines, and the associated CAP subsidies are unusually high relative to a PIPP structured to meet the same affordability criteria.

The Penn Power CAP program also uses CAP subsidy limits of $560/yr for non heat accounts and $1400 for heating accounts. The use of this CAP limit reduces the CAP subsidy by about $350,000 to $1,615,000, about a 20% reduction. Figure 28 already includes the effect of the CAP subsidy limit. But even removing the CAP limits will not improve much the affordability; 40% of the participants will still be beyond the affordability guidelines, though not by as much as with the CAP limits. There is no clever use or non-use of CAP limits that can correct for the structural dissonance between a usage based rate and income based affordability guidelines.

Figure 21 shows the effect of the CAP limits in this program. In this figure the blue shows the participants exceeding the non heating limit of $560/yr, and there appear to be no participants exceeding the heating limit of $1400. The participants affected are the top 40% by usage of the non heating accounts.

Figure 21: Penn Power - CAP Credit Excess.



Note in this figure that about 35% of the participants exceed the CAP limit and reduce the CAP subsidy by about $348,000. If the CAP limits were changed to $800 for non heat and $1800 for heating, the same as the Met-Ed and Penelec programs, about 18% of the participants would be affected, the top 20% of the non heating accounts, and the CAP subsidy would be reduced by $137,000.

The aggregate average discount offered by the Penn Power CAP rates is 39%. Without the CAP subsidy limits, the aggregate average discount would be about 47%.

Steps toward Affordability for Penn Power - However, simulations of alternate program structures show that the non-heating limit will be extensively exceeded by any program within the design guidelines. In short, this is not a program problem, but an artifact of the basic template in the Pennsylvania Code -- the design guidelines work well over a certain range, but beyond their working range they have contradictory constraints. Also the CAP credit limits are expressed as a fixed dollar amount while the rates and the

incomes may change with time. With inflation these fixed limits will gradually limit the total CAP credits for a program.

It is also not specified in the CAP design elements how such a CAP credit (subsidy) limit would be implemented without abruptly and unexpectedly increasing the bills for the effected participant. This would undermine the fundamental program rationale of providing predictable affordable bills to payment troubled customers. In view of the extensive problems associated with these CAP credit limits, the CAP credits will be reported below without applying the limits.

9. Overview of Results for Three Utilities

This overview of the program results for the three utilities, Met-Ed, Penelec and Penn Power is derived by exercising the program sector map models for each utility as set for the conditions being examined. These models do not reproduce the results reported on the Universal Service Reports exactly because the models assume a hypothetical equivalent population of full year participants. But they are close.

The populations noted in the following comparison tables are referred to as participant "slots" where each slot represents a full year equivalent of program participation. In all the comparative tables, the 2003 program population is used so that the comparisons illustrated in these tables are based on a common population. Table 27 presents a comparative overview of the as-operated program results for the year 2003 (the year before the CAP limits were operationally implemented).

Comparative Results (2003)
(CAP Credit Limits Not Implemented)

Utility	Participant slots	CAP subsidy $/yr	Affordability factor	CAP limit factor
Met-Ed	4,203	2,420,000	100%	0
Penelec	8,512	3,794,000	100%	0
Penn Power	3,407	1,615,000	60%	35%
Total	16,122	7,829,000		

Table 27: Comparative Results (2003).

In Tables 28-30 the "affordability factor" is defined as the percentage of program participants within the affordability guidelines. And the "CAP limit" factor is defined as the number of participants that exceed the applicable CAP credit (subsidy) limit factor.

Table 27 (Page 70) reflects the fact that in 2003 the Met-Ed and Penelec programs did not limit the CAP subsidies.[50] Without these CAP subsidies limited, the affordability factors for these utilities would both be 100%. The Affordability Factor for Penn Power was 60% and about 35% of participants exceeded the CAP limits. The total CAP subsidy for the three utilities was $7,829,000.

Table 28 indicates what happens to the 2003 program with the CAP credit (subsidy) limits implemented. In 2004 Met-Ed and Penelec started enforcing CAP subsidy limits on individual program participants. In the Met-Ed program an estimated 24% of participants were affected; in the Penelec program about 15%. These CAP limits also reduced the affordability factors for these two utilities to 79% and 85%. But the use of the CAP limits reduced the total CAP subsidy 7.829 million/yr to 7.079 million/yr. In 2004 Penn Power program operations were unchanged.

Comparative Results (2004)
(Model with CAP Credit Limits Implemented)

Utility	Participant slots	CAP subsidy	Affordability factor	CAP limit factor
Met-Ed	4,203	2,017,000	79%	24%
Penelec	8,512	3,447,000	85%	15%
Penn Power	3,407	1,615,000	60%	35%
Total	16,122	7,079,000		

Table 28: Comparative Results (2004)

But Table 28 (for which the limits are implemented) shows that all the programs have affordability factors of less than 100% and significant portions of the program populations are being affected by the abrupt changes in bills associated with exceeding the CAP limits. It is likely that the full effect of these limits has not yet been observed in terms of program dropout and future arrearage increases.

[50] The computer software tool that permits automatic administration of the limits came on-line in 2004.

10. Program Design Options

Two options of fully compliant programs are considered here. The first, and closest to the current situation, is to use a PIPP program at Penn Power with the same tiers and income percentages as used at Met-Ed and Penelec. The second is the New Jersey/Nevada program design.

- Note that to develop the recommendations, the same numbers of full-time equivalent participant "slots" have been employed as in the current program for 2003.

- A separate problem is that there are currently about 44,000 customers outside of CAP who may qualify for CAP based on their incomes.

a) PIPP with Revised CAP Credit (Subsidy) Limits

In this set of programs, there would be a CAP subsidy limit for space heat participants for reasons of fiduciary diligence, but it would be set to about $2,500, high enough that it would catch only situations that were really out of control. The base load CAP limit would be set to about $1,000, but those exceeding this limit would revert to the space heating PIPP rates, not to the standard rates.

Review of the usage distributions for non-heating participants suggests that the highest twenty percent, those that would exceed the CAP limit, have usage typical of heating participants. These were probably de-facto heating customers and the program should treat then as heating participants unless they could prove otherwise with a gas bill or equivalent proof that they heated non-electrically. This reversion to the CAP credit (subsidy) limits for electric heat would eliminate the instances of exceeding the non-heating CAP subsidy that comprises the preponderance of cases where the CAP subsidy is exceeded.

PIPP with Revised CAP Credit (Subsidy) Limits (Comparative Results for full Compliance at Current PIPP Tiers: A Single Three-Tiered PIPP Design for all Three Companies)				
Utility	**Participant slots**	**CAP subsidy**	**Affordability factor**	**CAP limit factor**
Met-Ed	4,203	2,420,000	100%	0
Penelec	8,512	3,794,000	100%	0
Penn Power	3,407	1,739,000	100%	0
Total	16,122	7,953,000		

Table 29: Comparative Results at Current PIPP Tiers.

Table 29 shows the estimated results for this program design. Notably the total CAP subsidy is estimated to be 7.953 million, just slightly more than the total subsidy estimated for the as-operated 2003 programs.

b) New Jersey/Nevada Program Template

Table 30 (Page 74) shows the results estimated for a single tier program with a 3% energy burden for non-heating participants and a 6% energy burden for heating participants. This recommended design is intended to be similar to the programs offered in New Jersey and Nevada.

The underlying rationale for this program structure is that it applies the median energy burden of all residential customers to the low-income participants, and so is inherently fair. It may also be simpler to operate because it is potentially aligned to existing and automated social service agency records

- Such a program would have a higher CAP subsidy of 10.718 million/yr, up from 7.953 million.
- However the rates rendered by the program would be lower than the current CAP programs.
- Payment habits would likely be much better.
- Associated arrearages would be lower.

Comparative Results for One Tier with 3% Energy Burden Baseload & 6% Heating				
Utility	**Participant slots**	**CAP subsidy**	**Affordability factor**	**CAP limit factor**
Met-Ed	4,203	2,808,000	100%	0
Penelec	8,512	4,849,000	100%	0
Penn Power	3,407	3,061,000	100%	0
Total	16,122	10,718,000		

Table 30: Recommended Program – Single Tier.

This section of the report has focused on efficiency and effectiveness. The recommendation embodied in Table 31 provides a much more efficient program than the rate discount approach (the dollars go where needed and not where not needed) and a significantly more effective program (to eliminate arrearage creep) than the current percentage of income payment plan approach.

- At the same time, the recommendation to go to the New Jersey and Nevada models, using energy burden as a screen, would eliminate eligibility for other low-income customers, as happened with the adoption of the New Jersey template in New Jersey.

There are various ways to address these problems, and the sector map models which have been tailored to the FirstEnergy companies in Pennsylvania in this evaluation can be used to easily assess successive iterations, alternatives, and modifications of program design.

The Programs

IV. The Customer Assistance Program

A. Distribution by Payment Plan (Q8)

What is the customer distribution by CAP payment plan? Note: Payment plans are defined at § 69.265(2) of the CAP Policy Statement. Generally, do participants' energy burdens comply with the CAP Policy Statement at section 69.265(2)(i)(A)-(B)? Energy burden is defined as the percentage of household income spent on energy services (electric or natural gas).[51]

This question on distribution by CAP payment plan is listed separately (here) to meet the expectations of readers familiar with the current standard evaluation questions. The information required by this question is discussed more fully in the sector map analysis.

Because they have been designed following the template for Percentage of Income Payment Plans (PIPPs), the Met-Ed and Penelec Customer Assistance Programs (CAPs) are fully compliant with the percentage of income guidelines in the CAP Policy Statement at section 69.265(2)(i)(A)-(B).

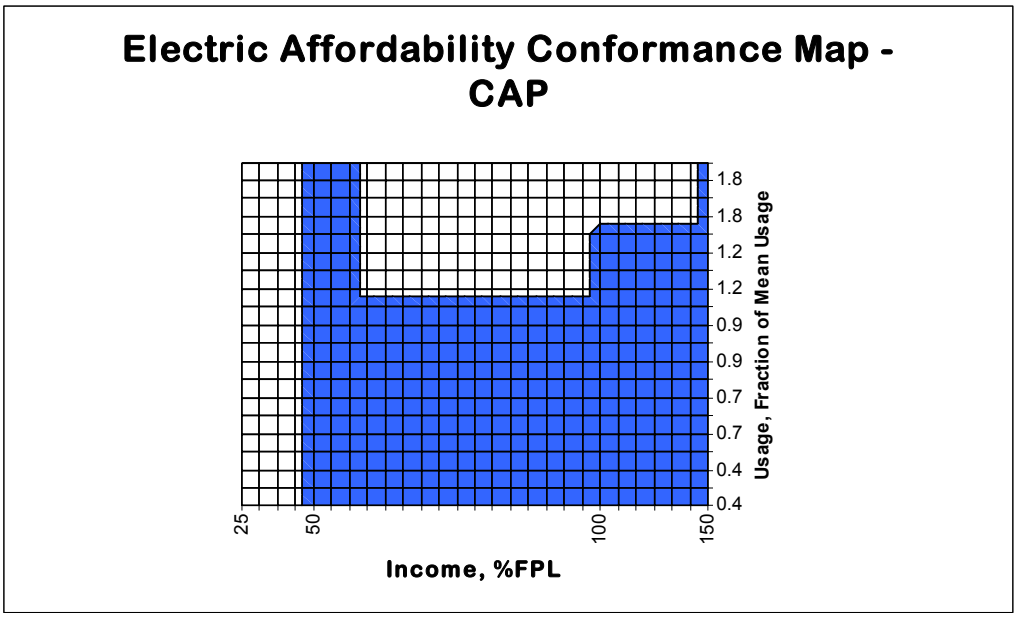


Figure 22: Areas outside Affordability Conformance (Penn Power).

[51] For the official definition of energy burden, please see Appendix III.

However, the Penn Power CAP is set within the template of a rate discount program. For Penn Power, Areas that do not fit within the affordability guidelines are show as white squares in Figure 22.[52] Three problems that follow from the Penn Power Rate Discount design are as follows:

- Participants with incomes below 50% FPL are not within the affordability guidelines.

- Most of the non-heating participants with usage above average also are not within the affordability guidelines.

- Overall 40% of the Penn Power CAP participants are outside of the affordability guidelines.

This is the common pattern for program that employ a "CAP rate" (rate discount) program template: It is not due to any problem in administration of the program, but is a characteristic of a rate discount approach itself, that is, an artifact of the template. Other characteristics of a rate discount approach are that a CAP rate will usually be un-affordable to those with the lowest incomes, and it will also be unaffordable to those with the highest usage.[53] Even when the CAP rate is set very low, there remain a few pockets of un-affordability.

For a more complete discussion of these problems, please see Pages 49-74 where the recommendation to move the Penn Power CAP to a PIPP format is developed. The PIPP is the most efficient design for providing help where it is needed while avoiding application of program funds where they are not needed.

[52] For convenience, Figure 22 repeats Figure 20.

[53] This problem can be resolved by introducing many tiers, so that the multi-tier rate discount approach comes to resemble a PIPP.

B. Barriers to Recertification (Q9)

A recertification survey was conducted with program dropouts to explore what barriers exist to recertification.

This survey was given to forty-eight customers instead of the originally planned sample size of ninety. All thirty of the planned Met-Ed customers are included in this survey but due to problems with the data received from Penelec and Penn Power, there are only five and thirteen customers, respectively, who said they were removed from CAP due to "failure to recertify."[54]

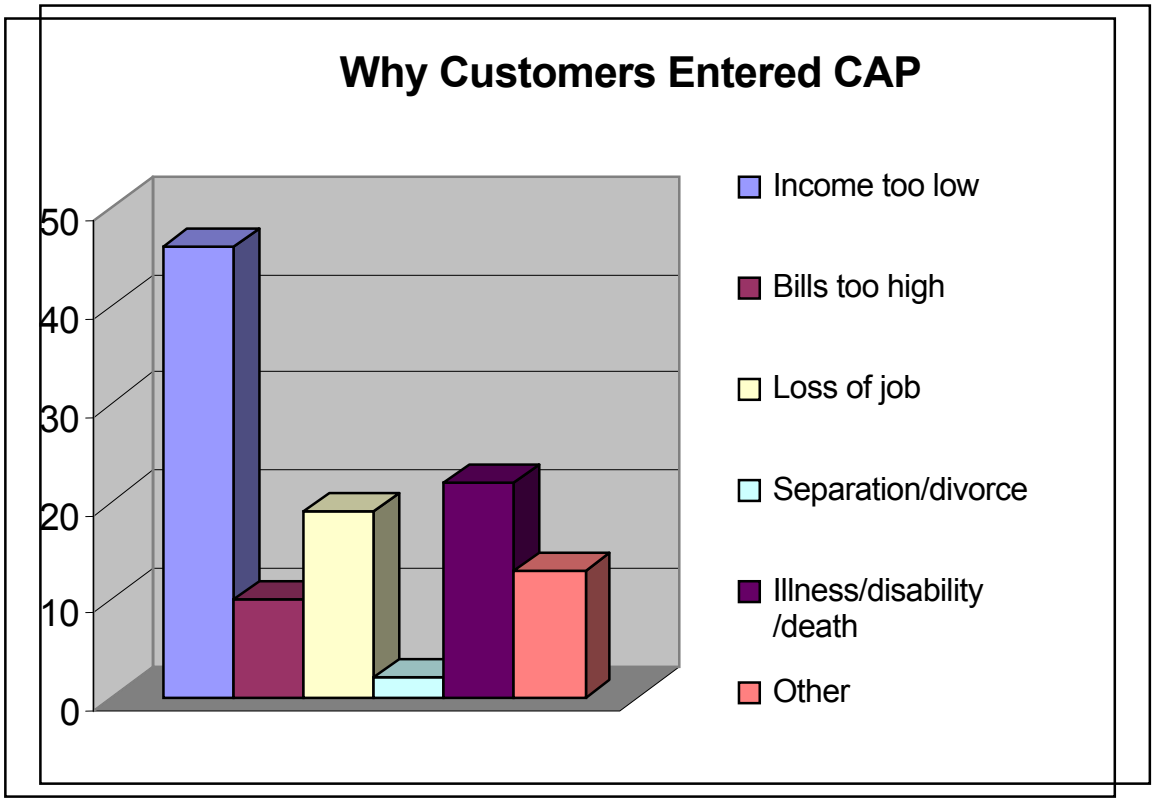


Figure 23: Why Enter the CAP?

Other than low income (cited by 96% of survey respondents, 46 of 48), forty percent (40%) mentioned a loss of a job as the precipitating factor in not being able to pay their utility bills. Twenty-two respondents (46%) had an illness, disability or death in the household that significantly impacted the household financial situation. Ten (21%) said that their bills were just too high or they could not afford them. There were also a few seniors on minimum social security payments and some single parents who mentioned

[54] Most of the customers on the survey list who did not qualify said they were removed from CAP due to non-payment or due to being over-income. These customers could not be used for this part of the analysis.

the struggle to work and pay all the bills associated with a child. Two households went through a separation or divorce with accompanying significant loss of income.

Only sixteen out of forty-eight (33%) say they actually had heard the words “reverify” or “recertify.” Twenty four (50%) said they had not. The other five could not remember.

Similarly, fourteen remembered that they were told they would need to recertify after a year while twenty-four (50%) said they were not and ten could not remember.

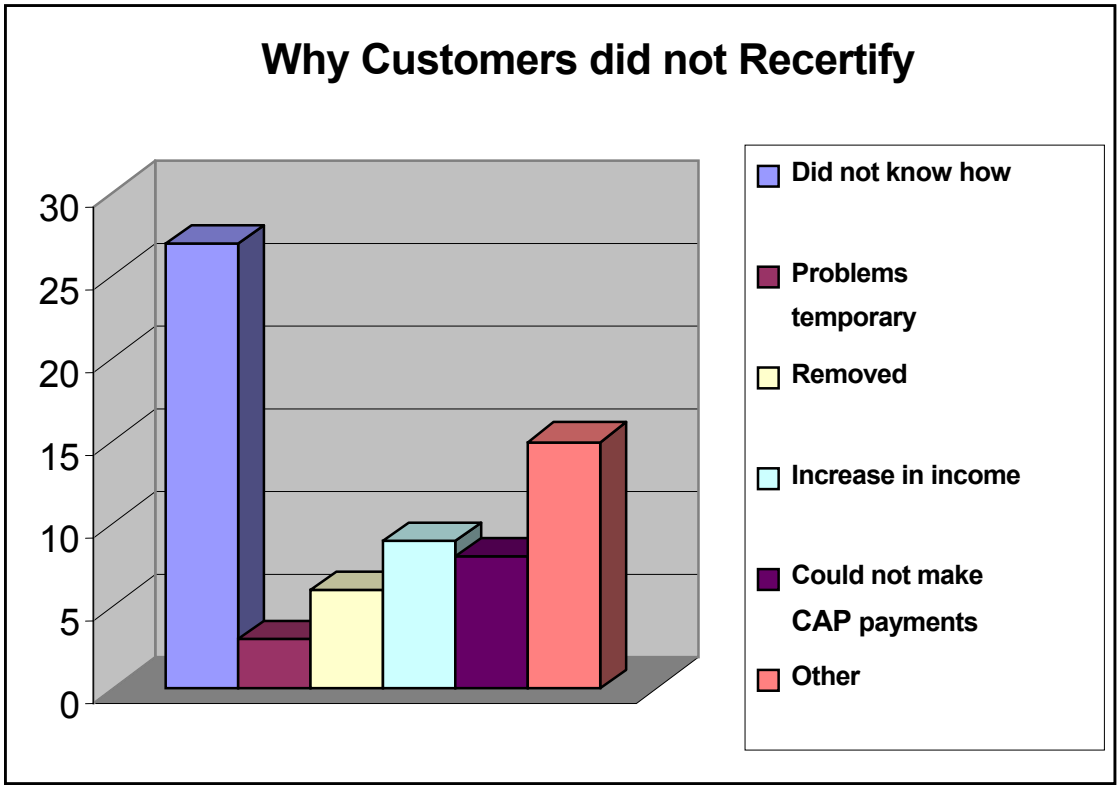
While most knew what “recertify” meant at the time of the survey, quite a few commented that they only found that out after they were taken off CAP for not recertifying. Twenty-one out of forty-eight (almost 44%) were still not sure what “recertify” meant at the time of the interview.

One-third of the respondents said they did not receive a document that explained the process of recertification or what they needed to do to recertify.

Substantially more than one-half (almost 65%) of the surveyed households said they never received any contact from CAP about recertification. Among the rest a few were called by a third party agency. Most of these remaining customers received a letter from the utility. A few also heard about recertification by calling the utility about a different issue.

When asked why they didn’t recertify, twenty-seven of forty-eight (56%) said they did not know they had to recertify. Nine had an increase in household income and became disqualified. Another eight couldn’t make the CAP payments because their income was too low. Six were removed from CAP and didn’t know they could get back in the program. Three no longer needed the program due to a more favorable income situation.

Figure 24: Reasons for Failure to Recertify.



When asked for comments on their experience with CAP, many said that it was basically a good program. Others, however, mentioned some dissatisfaction with how they were treated. Most of these really didn't understand why they were removed from CAP or how to get back on. Some felt the program should be more flexible. Some asked for better communication to the customers in the program. Some customers objected to the program process and expectations. Said one Penn Power customer, "The intake worker told me as long as I paid my CAP bill every month and on time, I wouldn't have to pay the back arrears and it would be wiped clean—not so! I never saw the old balance reduced at all". One household was even told that they were not allowed to be in the program because they had no income.[55] It appears from the comments that there were some communication failures between the utilities and the agencies as well.

Over eighty percent of those surveyed (39 of 48) said they would want to be on CAP again if they had the chance. Of the nine that said no, most were over-income. One had

[55] The "no-income" CAP policy for the FirstEnergy companies in Pennsylvania is as follows: If a customer was on CAP and they lose their job, they can re-certify at the minimum payment of $12/$18 for three months. After that they must re-certify with their new income. If at that time they still have no income, they are removed from CAP. If a customer is not currently on CAP, claims to have no income, and requests to go on CAP they are not permitted entry due to having no income.

moved into a more energy efficient house and could afford their regular energy bills at the standard rate. One disabled senior was so disgusted with the CAP experience that she did not want to re-enter the program.

Table 31: Documents Provided.

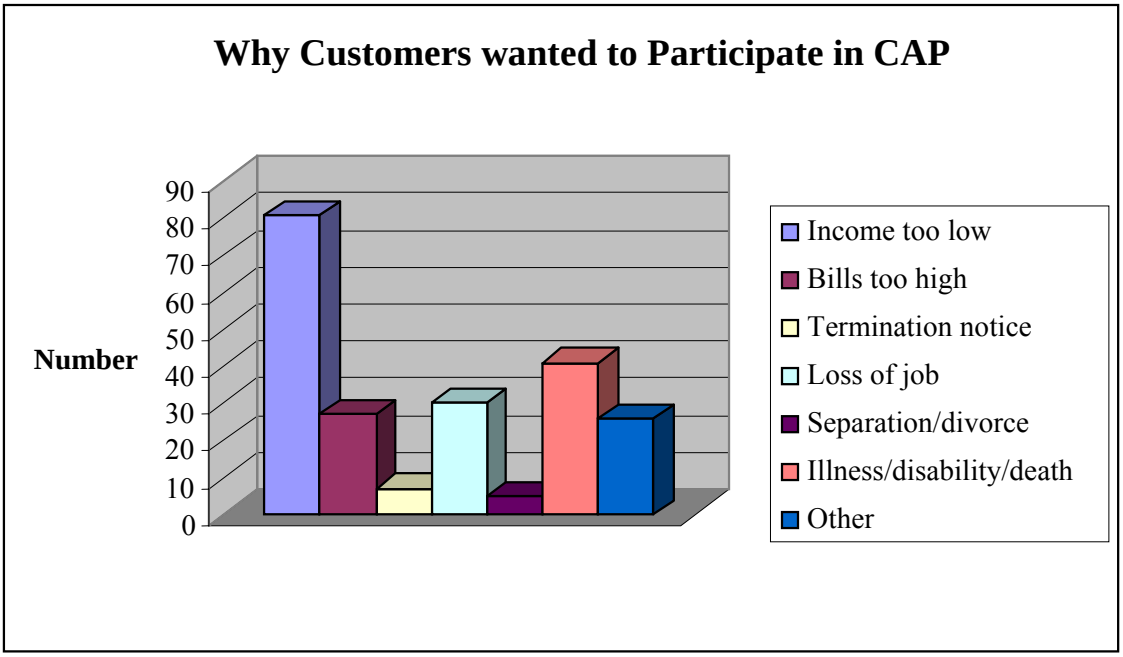
Documents given to Customers				
	Given Contract		Energy tip sheet	
Yes	20	41.7%	17	35.4%
No	15	31.3%	16	33.3%
I don't know	8	16.7%	15	31.3%

About 42% (20 of 48) say they received a contract that listed program benefits and what was needed to stay in the program. Of the rest, fifteen said they did not receive such a contract and 8 said they couldn't remember either way. Another document asked about was a conservation tip sheet detailing ways to reduce energy use at home. About 35% (17 of 48) said they received such a document while sixteen said they didn't and fifteen couldn't remember.

C. Retention (Q10)

In the early CAP pilots, there was a focus on helping households come into better payment patterns and to "graduate" from the need for CAP, if possible. This is still a possible goal. However, as real incomes have declined for many households since about 1970, federal goals for low-income energy programs have shifted from "self-sufficiency to stabilization." Similarly, utility program goals have shifted from "graduation" to stabilization. From a stabilization perspective, attrition from CAP may still be both positive and negative.

Figure 25: Why Participate?



The following responses are the result of a mini-survey by phone that was conducted between the dates of June 15 to August 30, 2004. The purpose of the Barriers to Retention survey was to ask customers who have left the program why they have left.

As shown in Figure 24, an overwhelming majority of respondents (81 of 90 or 90%), indicated they became aware of CAP because of low income at the time. Additionally, thirty percent (27 of 90) said they were having trouble paying their bills. A third of the respondents (30 of 90) indicated a loss of a job as a significant factor. A death, disability or illness in the family was indicated by forty-one of ninety (45.5%) respondents and five indicated that a separation or divorce was a factor. Seven respondents said they received a termination notice and called their utility to avoid a shut off. Five indicated underemployment due to cut backs in hours and seasonal employment, and another five reported being in college as a reason. Eight identified themselves as seniors on social

security. Two said they had an increase in household size and one indicated a household member was incarcerated and lost income.

When asked if the benefits of the CAP were explained to them when they first were contacted about it, seventy-eight out of ninety (87%) said the benefits were explained. Of the others, four said there was no explanation and another eight could not remember. Everyone who answered understood that CAP would result in a lower energy bill. Many also said that the utility would help pay off arrearages. Two people responded that they did not see an appreciable decrease in their monthly payments.

About 54% (49 of 90) of those surveyed say the received a contract that listed program benefits and what was needed to stay in the program. Of the rest, sixteen said they did not receive such a contract and twenty-five said they couldn't remember either way. Another document asked about was a conservation tip sheet detailing ways to reduce energy use at home. Two thirds (60 of 90) said they received such a document while sixteen said they didn't and fourteen couldn't remember.

Table 32: Documents Provided.

Documents Provided				
	Given Contract		Energy tip sheet	
Yes	49	54.4%	60	66.7%
No	16	17.8%	16	17.8%
I don't know	25	27.8%	14	15.6%

Most people said they had engaged in some kind of conservation efforts. Twenty-five mentioned a significant weatherization improvement or appliance replacement. The others mentioned keeping lights and appliances off when not needed. Two said they had been approved or signed up for weatherization assistance but didn't hear back from anyone.

When asked if they understood their bill, 81% (73 of 90) said they did while seventeen said they did not. A few commented that while they understood their bill they did not understand what the CAP subsidy was or how it was applied to their account. Another common remark was that respondents could not see how much the utility company was supposed to pay on their bill. Among those who say they did not understand the bill, most mentioned that they could not figure out what amount they were supposed to pay. One customer mentioned that they got two bills, one normal and one CAP while another

said they never received a bill. This customer and was removed from CAP due to non payment.

Table 33: Bill Comprehension.

Did you understand your bill?		
Yes	73	81.1%
No	17	18.9%

About 41% of the respondents (37 of 90) indicated they were off CAP due to falling behind on payments. An additional 21% (19 of 90) said they could not afford the CAP payments. Four customers noted that their financial problems were temporary and no longer had a need for the program. Another seventeen said their household income increased and were no longer qualified. Three did not recertify. Two had a change of address or income and failed to report it. Three customers were removed from CAP because they refused weatherization. Another three used up their entire CAP subsidy before the end of the year and couldn't make the regular payments.

Among the other reasons given for failing to make CAP payments, the most common was due to illness in the household. Other common responses were a separation, divorce or death of a spouse and the associated loss of income.

In most of these hardship cases, the crisis events taking place prevented the customer from being able to organize their daily tasks well enough to find a viable solution to the fact that they were falling behind in their CAP payments. In other words, the events became so overwhelming that they could not focus. In a lot of the "hardship—sudden crisis" categories (long-term hospitalization of child, death of a child or spouse, debilitating illness, etc.) the customer reported that financial resources that normally would have gone to household bill payments had to be diverted to deal with the crisis at hand. A prevailing theme among the respondents who commented on this question is that some problems were caused by a lack of understanding about how the program worked and what their responsibilities were.

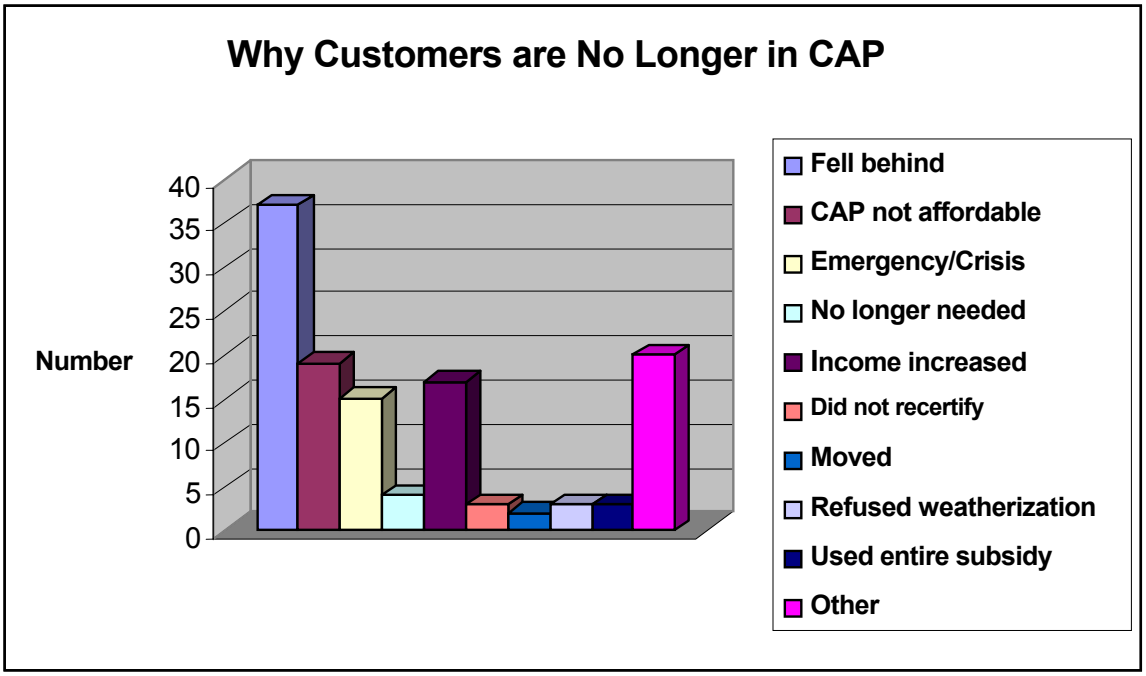


Figure 26: Why Customers are No Longer in CAP.

Only five respondents said someone called them to offer assistance prior to leaving CAP. The other eighty-five (over 94%) were not contacted by anyone.

Of those that were called, four said that an agency or call center representative called but did not help the situation.

A third (30 of 90) of those surveyed said they attempted to contact an agency or utility representative for help before they left CAP. Of those, twenty indicated that no one could help them.[56] The rest stated they were able to receive some limited help but not much. A few mentioned that they received no warning about being taken off CAP and when they tried to do something about it they were told it was too late. Several also mentioned that the utilities would forward them to the local agencies but they had trouble contacting the agencies and getting a response. By the time the agencies would respond it was too late. Of those customers who said they had moved, they said did not realize they had to reapply to CAP after relocation. A few who moved said they did not know what to do to get back on CAP.

[56] For Met-Ed and Penelec, the Dollar Energy Fund has been contracted to provide payment counseling. The toll-free number on the delinquent payment notice is for Dollar Energy, rather than collections. The goal of this approach is to help payment troubled customers move from "crisis mode" to "budget mode." This degree of partnering, using Dollar Energy for CAP intake and payment counseling in addition to serving as the hardship fund is probably unique in Pennsylvania.

Table 34: Customer Contact Prior to Leaving CAP.

Offer of Help						
Did anyone call to offer help before leaving CAP?				Did you call agency or utility for help before leaving CAP?		
Yes	5	5.6%		Yes	30	33.3%
No	85	94.4%		No	60	66.7%

Most of the survey respondents said the CAP was a good program that helped them with their energy payments. A significant portion of those unhappy with CAP indicated this was because of not understanding the program or a lack of communication with the utilities. Also, a number wished there was more leeway in handling late payments and emergencies as they came up.

At the conclusion of the survey, respondents were asked, "If you had a chance to apply for CAP again, would you be interested?" Roughly seventy-two percent (72%) of the surveyed customers (65 of 90) said they would. It is important to note that of those who responded positively to this question, the survey taker then did a mini-screening of the total household income according to the 150% of poverty threshold. Also, before the agency and phone number was given to the customer it was noted if they had first met the required "stay-out" period, that being 6 months for Penelec and Met-Ed and one year for Penn Power.

Of the twenty-five customers not interested in applying to CAP again the most cited reason was, "I'm now over income for the program." Other reasons included not being out of CAP for the requisite time or no longer needing the program.

D. Control Features & Costs (Q11)

How effective are the CAP control features at limiting program costs? There are six CAP control features:[57]

(1) Minimum payment terms. Each of the companies employs a minimum payment control tool. Met-Ed and Penelec require a payment of at least $12 per month for a non-heating customer and $18 per month for a heating customer. Penn Power requires a payment of the "please pay" amount each month. For Penn Power, the "please pay" amount has been developed to include the fixed charge of $8.89 plus fifty to sixty percent of the alternative bill at the regularly applicable residential rate. In § 69.265(3)(i), the minimum payment is set at at least $12 for non-heating accounts and at least $30 for heating accounts. This means that Met-Ed and Penelec are in conformance with the minimum payment terms for non-heating accounts but provide a lower level control amount for heating accounts. For each company, the minimum payment terms control feature is in operation but the specific levels are different from those in the code.

(2) Non-basic services. A CAP participant may not subscribe to nonbasic services that would cause an increase in monthly billing and would not contribute to bill reduction. (Non-basic services that help to reduce bills may be allowable.) CAP credits should not be used to pay for nonbasic services. Each of the companies strictly follows this provision [§ 69.265(3)(ii)].

(3) Consumption limits. The companies do not use the consumption limits control tool. This tool limits on consumption should be set at a percentage of a participant's historical average usage. A level of 110% is recommended. Adjustments in consumption should be made for extreme weather conditions through the use of weather normalization techniques. From an evaluation perspective, this tool has been very problematic in practice wherever it has been tried. This is in part due to turnover of homes, and in part because energy use by nature has a large standard deviation and the regularities of conservation and usage reduction work as long run averages across a larger group of homes and do not apply well to individual cases.

(4) High usage treatment. Utilities should target for special treatment those participants who historically use high amounts of energy. Each of the companies provides targeted Low Income Usage Reduction Program (LIURP) service to high users. This is discussed separately in the LIURP section of this report.

(5) Maximum CAP credits. For 2003, the maximum CAP credit control tool had not yet been implemented in the computer system for Met-Ed and Penelec. However, it was in place for Penn Power. In 2004, the Met-Ed and Penelec tool was implemented so there is now an automatic cut off of the CAP credit once the limit has been reached. The cut off takes place the month after the limit has been reached so actual CAP credits applied

[57] CAP control features are defined at § 69.265(3) of the CAP Policy Statement.

are slightly above the planned limit. Met-Ed and Penelec use a limit of $800 for non-heating accounts and $1800 for heating accounts. Penn Power uses the old 1992 limits from the code of $560 for non-heating accounts and $1400 for heating accounts.

(6) Business Partner tracking. The FirstEnergy companies have an additional control tool, business partner tracking. This is based on a control field in the customer accounting system beyond the traditional "premise/physical location/meter" fields and the account field. The field identifies the customer as a "business partner." This provides an additional dimension in tracking customers who may leave the system and come back on at another address.

As to effectiveness, the minimum payment terms and non-basic services prohibition simply set the terms for CAP participation in a way that guarantees a minimum payment and prevents diversion of funds from Universal Service objectives. As with other Pennsylvania utilities, the consumption limits tool is not employed (some utilities tried this tool in the early 1990's but found it generally cumbersome and not very relevant to actual home situations). High usage treatment, the linking of the Customer Assistance Program (CAP) with the Low Income Usage Reduction Program (LIURP) is recognized as the effective strategy to reduce energy use in high-use homes. This strategy changes the physical characteristics of the home so it requires less energy, and is the single available physical solution to the problem of limiting the CAP credit amount for high use homes.

The maximum CAP credit (subsidy) control tool is currently in operation. Since it is programmed into the computer billing system, it operates automatically and should provide an effective tool for stretching CAP dollars to cover more homes but providing a limit to each home. The operation of this tool is modeled in this evaluation report in the section on Sector Maps. Actual effectiveness and the possibility of a side effect of an increase in arrearage creep can be measured from usage and billing data in the late spring or early summer of 2005 once the complete winter season and shoulder months data is available. Customers unable to pay the "please pay" amount this winter after their CAP credit limit has been reached, will fall out of the program and then later re-enter with substantially increased arrearage. It can be anticipated that if the CAP credit limit is set too low, the immediate budget problem may be eased only to create a larger problem later in the year.

Business partner tracking is a unique control tool that can be effective in enforcing program requirements by providing an additional way to track customers over time and insure that records are linked.[58] This is not 100% effective, but it is very effective with single person households and effective over time with two-adult households.[59]

---

[58] It would still be possible, for example, to leave service with a substantial arrearage and then register for new service under a spouses name at a new address (which is legal). However, the "business partner" field will be a help in increasing record linking.

[59] The companies also request a social security number from the ratepayer and check it (if provided) to insure that service is not being requested in the name of a child.

E. CAP & Payment (Q12)

Does CAP participation improve payment behavior? (Number of payments, percentage of bill paid, $ amount paid) Compare CAP payment behavior to pre-CAP enrollment payment behavior.

A sample of 54 cases with at least one year of both pre-CAP and CAP payment history was provided by FirstEnergy. These cases had varying amounts of data in the pre and CAP periods. Data was cleaned and analyzed two ways to standardize the amount of time elapsed in the pre-CAP and CAP periods. Data in the pre and CAP periods was trimmed so that (1) one year of data was included in both periods, and (2) the pre or CAP period data was cropped to match the shorter of the two periods in each individual case. In this dataset, the number of months varied between cases.

The data provided included the date of billing, the date the bill was due, and the date the bill was paid. Detail included the relation of each payment to each bill. That is, if the customer was past due, the oldest bill was satisfied first, then the next most current and so forth. One payment could be dispersed by the utility to cover several bills and late fees. Both the number of payments and the number of disbursements in the pre and CAP periods were computed. To compute the number of payments made, the payments were aggregated by the date paid, regardless of the bill the payment satisfied.

1. Number of Payments

More payments were made in the CAP period than in the pre-CAP period. For the dataset with one year of data, about 3 more payments were made in the CAP year than in the pre-CAP year. Pre-CAP, with a one-year pre-CAP period, this sample made an average of 6.5 payments. Post-CAP they made 9.4 payments.

2. Dollar Amounts of Payments

The total dollar amount of payments was less in the CAP year than in the pre-CAP year as would be expected with lower overall yearly bills. The average annual payment for the pre-CAP year was $517.54. For the CAP year, the mean payment for the year was $487.41. In addition these 54 cases paid ninety late fees in the pre-CAP year. The late fees are not included in the payment totals.

3. Payment Disbursements

The number of disbursements is the number of bills each payment satisfies. If the customer is late, the payment will be applied to the past due bill before the current bill. In the pre-CAP period it is evident that payments were made late, and disbursed to satisfy

more bills. In the pre-CAP year, payments covered 12.5 disbursements. In the CAP year, they covered an average of 10.8 disbursements

4. Full, Partial, and On-time Payments

The detailed data that showed the date of payment and the bill issue dates to which the payments were applied (disbursement detail) were used to determine whether payments were made on time and in full. Any payment made on or before the due date was considered 'on time.' More full and partial *on time* payments were made during the CAP year than during the pre-CAP year. The number of full on time payments nearly doubled in CAP year compared to the pre-CAP year. An average of 5.5 full and on-time payments were made in the CAP year, compared with 2.7 in the pre-CAP year. In addition there were more partial but on time payments in the CAP year (0.5 compared with 0.4 on average.

5. Expected payments

During the pre-CAP period, the amount billed was the amount the customer was expected to pay. During the CAP period, the customer was expected to pay the CAP amount unless the standard bill was lower. The expected payment in the CAP period was computed by comparing the CAP amount to the billed amount. The lower bill is the expected payment. The general finding is that customers who became participants in the CAP and remained participants for one full year made their CAP payments for the year. This is as expected, and it shows that for low-income and payment troubled customers who become stabilized in the CAP the program works as designed.

F. Payment Requirements, Budgets & Benefits (Q13)

What effect do Met-Ed and Penelec CAP payment requirements have on program budgets and participant benefits?

A serious problem has developed in the relation of payment requirements to program budgets and participant benefits. Current program budgets do not support the needs of the customers. To operate under the current program design and in accord with the provisions of the Pennsylvania Code (to permit dollars to go farther so as to cover more customers, and even simply to not run out of funds), the CAP credit (subsidy) limits have been enforced in 2004.

As a result, as shown in Table 28 (Page 71), for 2004 approximately 24% of Met-Ed, 15% of Penelec, and 35% of Penn Power customers will cross the CAP credit (subsidy) limits. While the effect of this shift cannot be measured except retrospectively in 2005, the attendant shift in bill amounts will likely countervail two essential CAP goals for the affected households:

(1) Remove these customers from the discouraging, expensive and often ineffective collection cycle.

(2) Encourage consistent bill payment.[60]

CAP credit (subsidy) limits are a necessary control tool. Yet, when operated, the most immediate effect of the CAP credit (subsidy) limits is to drive the affected participants over the energy burden limit. Figures 18 and 19 (Page 63) show the compliance of the resulting energy burden with the CAP design elements. On the one hand, reasonable CAP credit limits are a necessary control tool with the positive function of promoting an effective program; on the other, if the CAP credit limits are out of calibration they can have a very strong negative effect. Although the programs are in compliance with affordability guidelines, households that have the highest energy use and exceed the CAP credit limits will commonly see their energy burden i*ncrease from the program stabilized 4-5% to about 20%* as they cross the limit. When they cross the CAP credit (subsidy) limit, the participants are not only driven beyond the affordability limits, but they will probably be driven from the program as well. This situation contradicts the underlying behavioral basis of the CAP program, which is to render to low income participants a predictable energy bill that can be handled in the household budget. It is highly probable that these participants will not be able to sustain their role in the program for more than a

[60] Excerpted from "III. CAP Policy Statement/EAP Design Comparison," P. 7 of Response of Equitable Gas Company to Ordering Paragraph 11 and Motion of Chairman David W. Rolka as Contained in Order Entered in Docket No. R-912164 on July 16, 1992, Before the Pennsylvania Public Utility Commission, September 14, 1992.

few months after the limit is reached. This can have a significant effect on the overall program dynamics.[61]

The recommendation in this evaluation is to increase the CAP credit (subsidy) limits to $1000 for non-heating accounts and to $2,500 for heating accounts (Page 72) based on the pattern of actual energy use in the 2003 data, and then to adjust these limits on a yearly basis. In addition, this evaluation recommends that the $1000 limit for non-heating accounts be melded into the $2,500 heating account limit when the $1,000 amount is crossed (Page 72). The usages are present in the data and energy costs continue to increase – this is the reality that we face. There are only two alternatives -- increase budget program budgets and CAP limits to meet the demonstrated need or ration program participation. As noted elsewhere in this evaluation, there is a good bit of unacknowledged "back-door" rationing of social services currently. Depending on perspective, this not yet publicly acknowledged rationing can be seen as a moderate to severe situation. However, in any event, rationing is a topic that should be placed on the table for full inspection and open discussion. Also, rationing does not appear reasonable in this context because effective CAPs are the most rational approach to addressing health and safety concerns associated with energy services for low-income payment troubled customers. The problems discussed in the evaluation in the fundamental tension between lower incomes and increasing residential household costs in the context of increased rationing of social services will confront the utilities and the state in several forms. This is a matter that will ultimately require a systematic solution, beyond the scope of individual companies

As discussed more fully in the section of the report on bill payment and arrearage (Pages 35-40), for both Met-Ed and Penelec the percentage of the electric CAP bill paid was 86.1% for 2003. This compares with a range of 69% to 96% for Pennsylvania electric companies reported for 2002, a distribution with a simple (unweighted) average of 85.5%.[62] These percentages can be expected to decrease unless program budgets and CAP limits are adequately calibrated to current usage and cost realities. The recommendation for a uniform PIPP with revised CAP limits and the recommendation for moving to a single tier program modeled on the New Jersey and Nevada program templates (Page 72-74) address this need and show the associated costs. In addition, the sector map model tailored for this evaluation can easily model other permutations of program parameters.

---

[61] This paragraph is repeated from Page 62.

[62] Also, in 2002, the reported percentage of electric bill paid for Penn Power was 96%. See "Percentage of Bill Paid," Page 44 in Pennsylvania Public Utility Commission, Bureau of Consumer Services, Report on 2002 Universal Service Programs & Collections Performance of the Pennsylvania Electric Distribution Companies & Natural Gas Distribution Companies. Harrisburg, Pennsylvania: Pennsylvania Public Utility Commission, Bureau of Consumer Services, 2003. Note that the reported 2002 GPU percentage is not included in the calculation.

G. Participation & Energy Consumption (Q14)

Does CAP participation impact electricity consumption? If so, how does it impact electricity consumption?

Another way to look at the analysis in this section of the report is to ask the savings question somewhat differently, "Does participation in CAP cause customers to increase consumption?" Ideally, the data used for this analysis would be CAP participants without LIURP/WARM participation. However, the data provided for analysis of other topics included consumption in only the post CAP period, and did not include pre-CAP consumption data.

A separate sample of 120 cases enrolling in CAP in 2002 with both pre and post consumption data was requested and provided to the evaluation team.[63] All cases received weatherization during 2002. Because the data included the effect of weatherization in the post period, two groups were drawn.

The first group did not participate in CAP (the control group). The second enrolled in CAP in 2002 within four months of weatherization.[64] In addition to the post-WARM dates, we included as much post period CAP data for the CAP participants as was available.[65]

The method of analysis is the Princeton Scorekeeping Method (PRISM™), a standard method for removing the effects of weather from energy usage data. As in all PRISM™ work, and especially with low-income and payment troubled households, there is high sample attrition. The attrition is caused by very strong requirements for compatible data.

1. Sample Attrition

The data attrition tables for the two groups show that the sample size diminishes quickly when timing and participation constraints are placed on the data.

---

[63] Time and other restrictions did not allow a sample to be drawn from the CIS system. Data availability was limited to the customers receiving WARM and the pre and post weatherization consumption used to prepare reports for the Pennsylvania PUC.

[64] Weatherization was determined as the month between the last pre-WARM date and the first post-WARM date.

[65] While this meant that WARM only customers had only 12 post dates, and WARM + CAP could have more, in terms of weather normalizing the data, PRISM develops an annual normalized weatherization period from the available data.

CAP Treatment Group: Data Attrition Table (Cases with both WARM and CAP) (CAP occurs in Post Weatherization Period, but not the Pre-Weatherization Period)	
CAP cases in History File: N=22,900	Completed WARM2000-2002: N=8033 2002 WARM N=2763
Number enrolled in CAP in 2002 and no dismiss date: N=3634	Of 2763 with WARM in 2002, number with history records for CAP activity: N=2134
Number with CAP enrollment during 2002 with no dismiss date and WARM in 2002: N=422	
Cases where CAP enrollment occurred within 4 months after the weatherization month (weatherization month set as the month between the last WARM pre-period date and the first WARM post-period date) [CAP enrollment is in post period so the baseline pre period is without CAP.] N=101	
Final Screen for WARM pre and post complete data: N=94 Ratecodes of 94 cases: ME_RS__01D N=14 (Met-Ed Baseload) ME_RT__01D N=1 (Met-Ed Space Heat) PN_RS__01D N=74 (Penelec Baseload) PN_RT__01D N=5 (Penelec Space Heat) Total 6 space heat and 88 baseload cases.	

Table 35: High Attrition -- CAP Treatment Group.

Number of baseload cases with enough actual meter readings for PRISM weather normalization (PRISM output available): N=85

After screening, there were 85 cases in the “WARM + CAP” treatment group and 130 cases in the “WARM only” control group. This is a very small sample size. Of these there were only six space heat cases in the WARM + CAP group and seventeen cases in the WARM only group. Due to these small sample sizes, space heat cases were not analyzed.

Control Group: Data Attrition Table **(Caseswith WARM Only in 2002)**
Number completing WARM2000-2002: N=8033 2002 WARM: N=2763
Number with no CAP enrollment: N = 629
Number of cases with same zip codes as those found in the Treated Group: N=224
Final Screen for WARM pre and post complete data: N=150 Job types of 150 cases: Space heating: 17 (5 MetEd, 12 Penelec) Water heating & Baseload: 101 (20 MetEd, 81 Penelec) Baseload: 32 (14 MetEd, 18 Penelec) Total of 17 space heat and 133 baseload cases.

Table 36: High Attrition of 2002 Cases.

Number of baseload cases with enough actual meter readings for PRISM weather normalization (PRISM output available): N=130

In preparation for weather normalizing the data with PRISM, both groups were organized by five geographic areas and weather data for each of those areas was constructed for PRISM input. The five areas included: Allentown, Harrisburg, Williamsport, Pittsburgh, and Erie. All cases were weather normalized and the output was sorted for treatment group and by baseload and space heat cases.

2. Analysis

PRISM data quality screens were imposed on the weather normalized PRISM output. Only those cases that passed the screens in both the pre and post periods were included. These screens look for a fit to the PRISM model of an R2 of .7 or greater. It also includes those that have a coefficient of variance of NAC (CV NAC) of 10%.

Note that while these are all coded as Baseload heat rates, some consume as much as typically found in space heated single family homes. Either these cases are miscoded, or the homes rely on electric space heaters to heat their homes. The cases identified as 'extremes' in the statistical program and were excluded from the analysis.[66] For the WARM only group, NACpre greater or equal to 20,653 kWh and NACpost greater or equal to 20,730 kWh were excluded. For the WARM plus CAP group, NACpre greater or equal to 23,834 kWh and NACpost greater or equal to 23,752 kWh were excluded.[67]

With these constraints on the data, 68 WARM plus CAP cases and 90 WARM only cases were analyzed. Table 38 shows sample attrition with PRISM output.

Further Data Attrition from PRISM (Cases Remaining at Each Step)		
	CAP Treatment (WARM and CAP)	**Control** (WARM Only)
Baseload	88	133
Space heat	6	17
PRISM Output Available		
Baseload	85	130
Passed PRISM Data Quality Screens		
Baseload	72	95
Not Identified as 'Extremes' in Consumption (Pre or Post)		
Baseload	68	90

Table 37: PRISM Attrition.

Non-participant (WARM only) baseline pre-period consumption is lower than the participant group (WARM plus CAP). This makes intuitive sense in that the CAP customers would migrate to CAP because their bills are higher and they need additional assistance paying their bills.

A t-test for statistical significance between the baseline periods of the treatment and control groups shows the difference between the two baselines is significant at the p=.05 level. This means that the two groups are different to begin with (Table 39). In other words, the control group is not a proper control group because the t-test shows the

[66] The cases included in the final analysis have baseload electricity use profiles.

[67] Note that removal of extremes (four CAP Treatment cases and five Control cases) is part of the statistical method but is not consistent with the way that extremes are defined for the annual LIURP report. The case excluded here would be included in the LIURP report and would have an effect on reported energy savings for that study.

CAP/WARM treatment group and the WARM only control group are each drawn from different kinds of customer/homes (drawn from different populations of accounts that have different statistical characteristics). This is as it should be since households recruited into a CAP are generally in more difficult situations than households that somewhat similar situations that do not enter a CAP.[68] This means that the control group cannot be use to determine net differences, but we can still look at the "Pre vs. Post" energy use separately in the two groups.

Put more directly, the two groups of homes are like apples and oranges as determined by pre-CAP baseline conditions – they cannot be directly compared to produce a net savings because they are different in kind.

T-test for statistical significance of Baseline periods between the WARM only and WARM + CAP Groups					
					95% Confidence Interval of the Difference

Table 38: T-Test.

t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
1.970	156	.051	1193.234	605.633	-3.065	2389.533

Descriptive Statistics						
Group		**N**	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
WARM only	NACpre	90	3007	20213	9153.68	4022.549
	NACpost		2661	18786	8554.83	3757.044
	NAS		-4415	10780	598.79	2333.733
CAP & WARM	NACpre	68	4032	20397	10346.91	3403.792
	NACpost		3869	19622	9956.15	3660.210

[68] The evaluation design used in this section of the report is a non-equivalent control group design. However, the t-test (Table 39) indicates that the control group is just too "non-equivalent" to function as an adequate control group for the design. This means the test is picking up a systematic difference in the baseline year between the two groups This makes some sense because, essentially, entry into CAP is a kind of "flow" variable with certain proximate conditions affecting the household to a greater extent than those somewhat similar household that do not enter the CAP. In other words, we would expect some form of "selection effect" to differentiate customers who enter the CAP from those who do not. This selection effect makes the two groups different in kind.

	NAS		-4306	4573	390.84	1904.242

The PRISM weather normalized annual electricity savings (Normalized Annual Savings or NAS) for the WARM only group is about 599 kWh. The WARM plus CAP group saved an estimated 391 kWh (Table 40). Any number of things could influence the outcome in a sample this small, including the mix of housing types in the sample, number of residents in the homes, number and type of measures installed. However, the primary result is that *neither the Control group (WARM/LIURP) nor the Treatment group (CAP plus WARM/LIURP) increased consumption in the post period compared to the baseline period. Further, the two groups are different in kind during the pre-CAP baseline period.*

3. Energy Savings Analysis: Conclusion

The better analysis would be one with pre and post data for CAP only customers, without weatherization in the mix. However, data constraints required use of available data; cases which had been assembled to show the effects of WARM/LIURP to generate PUC reports. *The CAP/WARM/LIURP group shows no increase in energy use; it shows a decrease compared to the baseline year.* The final sample sizes in this analysis were quite small, but they are sufficient to show that energy use in each group is not increasing. Analysis of these cases shows that the WARM only and the WARM + CAP groups both reduced consumption in the post period.[69]

Table 39: Gross Weather Normalized Savings Results.

[69] It would be tempting to go further and compare the two results in Table 40, interpreting the addition of CAP to WARM/LIURP as related to a drop from 599kWh savings to 391 kWh savings. But, it must be remembered that Table 39 showed that the two groups are sufficiently different from each other statistically as to imply they were drawn from different statistical populations (pools of customer homes). For this reason, if they are compared no causal relationship can be stated regarding the difference. WARM/LIURP and WARM/LIURP plus CAP homes are like apples and oranges.

Section

V

Linkages

V. Program Linkage

A. Participation Links (Q15)

Is there an effective link between participation in CAP and participation in energy assistance programs (LIHEAP, hardship funds, other grants)?

Over the last fifty years, the most fundamental economic change in Pennsylvania has been the loss of living wage jobs. With the loss of the steel and mining industries and the multitude of independent small business that they indirectly supported, Pennsylvania experienced the effects of globalization before other parts of the US, before there were words to understand what was happening.[70] When good jobs disappear, there have to be adjustments in every other sector of life.

The effects of poverty have long been known, as well as the fact that poverty is not a "natural" phenomenon except for a very few persons who take on poverty voluntarily, for example, for religious reasons as part of a service commitment or who for one reason or another fall out of society.[71] The poverty we have today is very different in that it affects

[70] Note that it is not just direct job loss to displaced workers and workers who will never be hired to the lost jobs, but a multiplier effect throughout the economy that displaces small business owners and their employees. As better paying jobs continued to disappear, big box stores came in to offer standard goods at lower price. This helps low-income households with problems affordability by lowering the costs of everyday goods. However, the incursion of the big boxes further destroys the diverse local infrastructure of small and middle sized entrepreneurs and eventually results a near monopsony status to the "big box" megaliths. A monopsony is a situation in which a particular type of product or service is only being bought by one customer.

[71] For example, those who fall out of society or experience social exclusion due to a mental illness, some forms of alcoholism or chronic abuse of certain drugs.

very large numbers of households and is generally not due to some action on their part. It is like the depression of the 1930's but in slow motion, growing since about 1970.[72] The economic levels of the affected households are now preponderantly determined by economic and social forces over which they have no control. First to encounter these problems, Pennsylvania was one of the first states to move forward to make institutional adjustments, where possible, that could ease household economic problems.

In the mid to late 1980's, Pennsylvania utilities and the Pennsylvania Public Utility Commission began to develop approaches to serve households that had now become payment-troubled due to the change in the structure of available employment in the state.[73] Customers who were traditionally good, on-time payers were thrown into crisis by a regional economy characterized by loss of manufacturing employment.[74]

---

[72] The "natural" poverty that would have existed today would still have required helping programs, but the extension and intensification of impoverishment from about 1970 to the present is an artifact of world economic changes that have in part been outside anyone's control, and in part due to economic policy that followed the course of supporting rather than resisting these changes. The effect of these two factors has transferred money to the rich and taken it from the poor and from parts of the middle class over this period. Also, if we only had the "natural" poverty, there would be many more households with income self-sufficiency than we now have, since many more households would have been in a position to help solve poverty problems. US statistics on poverty, unemployment, and the like are in part constructed as technically solid statistics but in part understate social problems, so that the actual experience of the people has become is different from that reflected back at them through official statistics quoted on TV or radio. As discussed elsewhere in this report, official statistics based on the federal poverty level grossly underestimate poverty in the United States. This is similar to the official unemployment rate. In August 2004 the official unemployment rate published by the US Bureau of Labor Statistics was 5.4%. If those who are working part-time because they cannot find fulltime work plus those who have stopped looking are counted the actual rate of unemployment is 11.3%. This difference between how official statistics are kept and the social experience of the people is well known among economists. For monthly estimates of actual unemployment, see National Jobs for All Coalition, www.njfac.org. Or, to be approximately correct, take whatever you are given as the official statistic and double it.

[73] The programs are open to all households that meet the eligibility criteria.

[74] Today, the employment market is much reduced in what it offers, and in proportion of the community to which good jobs are offered. That is, it is diminished in its extensiveness (in terms of numbers) of good jobs offered. For many households that would have been supported by a single member earning a family wage fifty years ago, the situation is now often full time employment of two or more members of the family to bring home a combined income approximately equal to that provided by the single wage fifty years before. This massive shift in work patterns is an intensification of work by absorbing the labor hours of two or more family members for about the same income received by a single family member in a living wage job fifty years ago, often combined with hollowed-out benefits. For example, at some of the better fast food restaurants workers are encouraged to contribute to company-sponsored IRA's but there is no defined benefit pension plan. If there is a health plan, it will be a shadow of what would have been considered a viable health insurance plan fifty years ago. This vast labor mobilization has occurred quietly. It is a far reaching mobilization of labor similar in some respects to a wartime mobilization or to the intense labor mobilizations in the socialist countries during the 1930's. However, it is a mobilization that occurred due to changes in markets rather than for reasons of pulling together for common advancement or for reasons of state. Requiring twice or more the labor hours for the same or a smaller package of wages and benefits is a fundamental change in social and economic structure, similar in some ways to the pattern of the early industrial revolution.

Many of those now served by Universal Service programs are former middle class men and women, in the sense of coming from families in which the parents received a living wage or better. Many have been middle class working people in every respect for large portions of their lives. Now, many fall into the category termed as the "new poor" or "working poor," not as the result of any problem of their own but because the living wage/family wage employment for which they are qualified has disappeared.[75] These customers began to experience problems paying bills, then mounting utility arrearages and terminations. Some of these households encounter severe income deficits when compared to basic monthly living expenses.[76] For others, the deficits are small to moderate and affordability problems repeat, but they can get by with some help.

1. CARES

Utility CARES programs emerged out of this great regional and economic need. The Pennsylvania Public Utility Commission took a proactive position in "strong advisement" directives to regulated utilities, particular to CARES and its implementation. Utility CARES programs are an indication of increased awareness of the needs of the new poor, the under-employed, the low-skilled minimum wage worker, the new waves of downsized and surplused employees, those with an extended illness or injury and seniors and disabled persons on fixed incomes.[77] CARES programs have responded to the needs of a changing community with customers experiencing hardship in difficult economic times.

Early CARES programs varied in the way in which utilities designed and implemented this service. Some utilities were in the unique position to hire and use the services of professional social workers, and entire utility "in-house" CARES departments were created. Other utilities contracted with traditional Community Based Organizations (CBOs) that offered the services of case-managers who made referrals to customers in a "total case management" approach. But a strong thread that wove itself throughout the program design was that the PA PUC "strongly endorsed" the guidelines that these

---

[75] See Shipler, David K., *The Working Poor, Invisible in America*. New York, New York: Alfred A. Knopff, 2004; Good, Judith and Jeff Maskovsky, The New Poverty Studies, The Ethnography of Power, Politics, and Improverished People in the United States. New York, New York: New York University Press, 2001.

[76] Generally, "bad things" come in sets. A job loss, a death in the family, a serious illness, a divorce can lead to a sudden income deficit. Loss of a viable income can lead to maxing out the credit cards, mortgage foreclosures, automobile repossession, family disruption and increased emotional stress and depression. See Kosa, John & Irving Kenneth Zola, *Poverty and Health, A Sociological Analysis*. Cambridge, Massachusetts: Harvard University Press, 1969, 1975.

[77] When the job and income problems encountered by Pennsylvania households occur to a two-income family, they can be difficult to deal with. When one of jobs in a two-income family is lost, or to a single-parent family, or to a senior who was middle class during their working life, they become much more difficult. See Warren, Elizabeth & Ameila Warren Tayagi, *The Two-Income Trap: Why Middle-Class Mothers and Fathers Are Going Broke.* New York, New York: Basic Books, 2003.

services "should not be done by company employees who perform responsibilities related to billing, credit or collections." [78] In other words, the CARES programs are to stand apart from traditional credit and collections and instead be administered by social service personnel within the utility or contracted (out-sourced) to the community advocacy sector.

CARES services may include a home visit, although this may not be necessary or effective in all cases.[79] The essential element of a CARES referral for individuals in crisis is the implementation of a case management assessment of the life challenges and hardships that brought about the compelling circumstances. In extreme hardship situations where a customer's mobility is limited, a home visit may be necessary.

CARES programs have historically been categorized under the "policy umbrella" of "strong advisement" with much flexibility in design, rather than the stricter interpretation of the Pennsylvania Code, Title 52, which mandates Universal Service Programs.

Specific Universal Service plans, including CARES, are to be submitted to the Commission for approval by each NGDC every 3 years beginning in February 28, 2002.[80]

The Commission released four recommendations in a Secretarial Letter dated November 30, 1992 that provide guidelines for a CARES program. The Commission recommends the following guidelines for a CARES program:

- Utilities should continue to operate and develop their CARES programs as recommended.
- Utilities should communicate annually with the BCS on the status of their CARES program.
- Utilities which currently require senior citizen status to be eligible for CARES should expand eligibility criteria so as to include special needs low-income payment troubled customers who have extenuating circumstances.[81]

---

[78] PA PUC Secretarial Letter M-840403, John G. Alford, May 31, 1985.

[79] Janice Hummel, PA PUC, BCS, paraphrase from quote of August 22, 2001.

[80] Ibid., §52.62.4, (b), (1)-(11) Universal service and energy conservation plans, and §52.62.5, Annual residential collection and Universal Service and energy conservation program reporting requirements.

[81] Authority for CARES resides at the level of a Secretarial Letter, rather that (as for other compliance requirements) in the Pennsylvania Code. PA PUC Secretarial Letter, John G. Alford, Secretary, November 30, 1992.

- Utilities should include, *inter alia,* the following seven elements in a CARES program:

    - Staff training in communication skills.
    - Staff training regarding the program design of CARES.
    - Home visitation, one at a minimum, and preparation of an energy audit in most cases for CARES recipients.
    - Intensive tracking and referral services for CARES participants.
    - Maintenance of confidential files for CARES participants.
    - Expansion and maintenance of the customer service network.
    - Inclusion as one of the job description criteria for a CARES representative, a social services background or a combination of experiences and education that includes listening and communication skills and a compassionate and caring attitude towards the needs of the low-income utility customers.[82]

a) FIRSTENERGY CARES

The FirstEnergy Customer Assistance Referral Evaluation Services Program (CARES) is described in Metropolitan Edison Company (Met-Ed), Pennsylvania Electric Company (Penelec), and Pennsylvania Power Company's (Penn Power) "Universal Service Programs Updated Plan Filing, February 28, 2002", as a "program that provides

[82] Ibid.

assistance on a short-term basis to payment-troubled residential customers."[83] Where appropriate and, "[b]ased upon the circumstances, Company CARES representatives make referrals to social service agencies and provide information on appropriate Company and/or external programs."[84]

A customer accesses the CARES services by initiating the phone call to the Customer Service number on the FirstEnergy bill. Customer Service gives the Human Services toll-free number and the Human Services staff then directs the call to the appropriate CARES representative assigned to that county where the customer resides. Customers may be experiencing a short or long-term hardship, which makes it hard to pay their bills. Potential CAP customers must meet the 150% FPIG to be eligible, but CARES referrals do not have to meet the income guidelines. Customers given assistance through CARES do not have to meet a delinquency threshold or have an acceptable payment history. They do have to be willing to receive the services that CARES can provide.

Met-Ed and Penelec CARES representatives operate out of five regional offices throughout the FirstEnergy territory. Since CAP was implemented, CARES and CAP have become intertwined. Very few customers are in CARES long term. Instead, they put eligible customers immediately into CAP and give referrals to outside agencies. Staff time on CARES is charged to CAP. Currently there may be approximately 12-15 long-term customers termed CARES across the Met-Ed/Penelec region combined. The CARES representatives also have the title of Local Area Administrators for CAP. They also carry out the objectives of the Gatekeeper Program.

The Penn Power Cares representative functions in a similar way to Met-Ed and Penelec. All referrals are given to Community Action Partnership of Mercer County.

The immediate role of the CARES representative is to place a three-month "dunning lock" on the account, thus placing a HOLD on the account to stop collection activity for a specific time frame. This provides a 'safe-haven' approach. It includes protection from termination and special payment arrangements though credit & collections if appropriate. During this time, the customer is referred to their local county CBO and other energy hardship funds and energy assistance when available. Referrals may also include Consumer Credit Counseling to look at spending priorities and debt management given the customer's financial circumstances. The CBO will then provide appropriate assistance to meet the customer's needs, including a home visit if necessary. If the CARES customer is at or below the 150% income eligibility and meets the program criteria, they will also be referred to the FirstEnergy Customer Assistance Program, energy assistance, Hardship Funds, WARM and CURE.

---

[83] Dated 2/28/2002, Human Services, "Caring Advocates Supporting Customer Needs", Metropolitan Edison Company, Pennsylvania Electric Company and Pennsylvania Power Company, Universal Service Programs Updated Plan.
[84] Ibid.

If customers placed on the dunning-lock-CARES for three months do not follow through with recommended actions, there is no repercussion until the three-month protection is lifted. In exceptional cases, a CARES customer can be given another three months of collection and shut-off protection. However, the CARES representative usually reviews this on a case-by-case basis and normally the dunning lock is limited to three months.

Normally the FirstEnergy CARES representative does not receive feedback from customers or agencies after the initial contact. When the three-month dunning lock is placed on the account, a start date and drop-off date appear. The dunning lock will then automatically remain on the customer's account until its expiration. Generally the customer may have resolved their current crisis, but the CARES representative may not necessarily be informed by the agency of the progress and outcome. After the CARES customer is given the agency referral, there is no way internally to track the effectiveness of the CBO. When asking a FirstEnergy CARES representative how they track the effectiveness of the CBO in follow-through and providing appropriate referrals and meeting customer's needs, she said, "In most cases, customers would contact FirstEnergy if they were not being serviced by a particular CBO."

Two FirstEnergy CARES representatives said their CBO's all do Home Visits. CARES representatives will also do home visits under special circumstances. This is rare, however, possibly two or three per year per CARES representative.

FirstEnergy CARES reps do not have a tracking system to monitor the outcomes of CARES customers in the dunning lock. After the referral is made to the CBO's follow-up with the customer is the responsibility of the agency. The customer becomes part of the agency caseload and according to CARES rep interviews, "FirstEnergy does not usually hear back from agencies as to customer status."

The CARES Representatives are readily available to all contracted CBO's that implement FirstEnergy's CAP. They provide scheduled agency trainings approximately twice per year and are available by phone and email at all times. The CARES representatives also attend and staff senior and health fairs and provide handouts to CBO's for distribution to customers in support of community efforts. They attend Inter-Utility CARES Networking Meetings that work towards developing more effective programs. The CARES representatives support area managers in their work with local governmental bodies and attend PUC Roundtable Meetings. They also assist in the design of bill inserts and the FirstEnergy Customer Care web site.

The FirstEnergy supervisor in Human Services continually provides updates and training to internal Customer Service Reps., managers, team leads and Credit and Collections regarding the full range of programs under Universal Services. Complete program details are also located on FirstEnergy's internal reference "C-Net".[85]

---

[85] C-Net is an on-line help system tha is part of the Lotus Notes Database. It provides detailed on-line information on Federal programs, State programs, and FirstEnergy Universal Service programs. All FirstEnergy employees with computer access have access to C-Net.

FirstEnergy currently uses the knowledge and expertise of fifty-nine community based organizations (CBO's) in their service territory in Pennsylvania, a geographic area containing all or part of forty-five counties. The knowledge of information these agencies provide, plus the coordination of services between the FirstEnergy CARES representatives and the Human Services Departments within each of the three utilities is an on-going strength in the CAP/CARES link. The five FirstEnergy CARES representatives are assigned to specific counties to coordinate the CAP program, training of CBO staff, community outreach and intervention for customers with special needs.

FirstEnergy utilizes "Chronicles," a web based case management system tool. The system is installed at each CBO and maintained by the utility company. It automatically fills out the CAP application, the LIHEAP application and the Dollar Energy Fund grant application. Chronicles improves program effectiveness by eliminating duplication, reduces the amount of paperwork and administrative costs associated with processing customers. Penn Power installed Chronicles at their sole CBO, Community Action Partnership of Mercer County, in September 2004. The CARES representatives provide refresher training twice annually; generally prior to termination season and again in the fall. CARES reps. also e-mail program enhancements to the CBO's on a regular basis.

Chronicles has a link on its site that helps the CBO's locate social services in their geographic area. Called "Community Resource Locator", it provides the names, scope of services and location of other multi-service groups. It includes the weatherization application to WARM and CURE and the application for LIHEAP, Dollar Energy Fund and the Salvation Army's Project Reach.

Another feature on Chronicles, called "Case Notes", has the capability of documenting any notes specific to the customer's situation or status in the CAP application process. This feature can be viewed on the Chronicles database, recorded during the intake visit or any customer contact and can be viewed by FirstEnergy staff as well as the CBO's.

Agencies have access to FirstEnergy Human Services web site, which is password protected and enables the agency intake worker to view the customers past three months billing & payment history, their history with CAP and Kwh usage history. The CARES representatives continually provide training and program information updates to the CBO's on a regular basis.

Most of the intake workers interviewed said they knew of a FirstEnergy program called CARES and that the FirstEnergy Human Service Administrator assigned to their county was called a CARES representative. All agency workers were well aware that when a potential CAP customer is in their office for the intake, that customer would also be given the appropriate referrals based on need. Many of the agencies receive PA State DCED funding and are mandated to complete a referral assessment form with the customer. All potential needs and referrals to match those needs are reviewed with the client by the intake worker. These referrals include energy assistance (LIHEAP) when available, and

the Fuel Funds (Dollar Energy Fund for MetEd and Penelec and Project Reach through the Salvation Army for Penn Power).

The agencies were also aware that customers in sudden crisis might be over the 150% income eligibility for CAP, but would still be eligible for referrals under CARES. Referrals such as the Area Agency on Aging, Meals on Wheels, job search and Career Links, do not require an income threshold. According to the agencies, these sorts of referrals are done on a routine basis, and the client may or may not be a FirstEnergy customer. These clients are serviced by the CBO and would probably not be known as a FirstEnergy CARES referral. There is no reporting mechanism back to the FirstEnergy CARES representatives in reference to these customers. The customers may be on the "three month dunning lock" as was previously mentioned, and may have been told to call the appropriate agency in their county. The CBO will deliver services to that customer but there is no reporting loop back to the FirstEnergy CARES representative regarding the outcome.

The FirstEnergy CARES representative would be notified of the "special circumstances" surrounding a CAP customer with special needs. This would not, however, be called a CARES referral, according to the CBO workers. As one agency intake worker reported, "I make a special call to our FE CARES representative if there is something she needs to be alerted to regarding a CAP customer. But as far as I know, this process is not called CARES…if it is, I don't know about it termed that way." Two other agencies said they had never heard CARES termed in this way. Another had recognition of the term, in fact said, "I think we are considered the CARES representatives, but I don't know how that works."

The Chronicles system is not used for a traditional CARES referral. The FE CARES representatives frequently make a referral to a social service entity directly without a CBO referral first. For example, a senior over 150% income may be experiencing some sort of hardship. The FirstEnergy CARES representative can call the Area Agency on Aging directly and alert them to the need. Once the referral is made, the CARES representative does not usually hear back from the agency or social service entity and does not know the outcome. This is due to confidentiality issues.

b) Reporting CARES Activity to BCS

There are no specific CARES reporting requirements to BCS. CAP and CARES are now so intertwined that the company has been given permission by BCS to combine the CARES/CAP reporting requirements into one report. The CARES report does not have to be answered and reported separately from CAP. CARES is an integral part of CAP reporting for the annual Universal Services report to BCS.

c) The CARES/CAP Link

Recently, a FirstEnergy CARES representative stated, "CARES was developed as a stepping stone to our existing programs." Indeed, it is an obvious and logical "fit" that chronic, payment troubled and long-term, "special needs" customers be put immediately into the CAP program. As the FirstEnergy CARES program overview and objectives state, "Over the years, CARES has evolved into a component of CAP. The majority of CARES Program participants are immediately enrolled into CAP and do not continue as part of the casework load of the CARES representative. To a large extent, CARES representatives now serve as local administrators and caseworkers in support of CAP, which includes a program component know as CARES."[86]

But as traditional utility CARES representatives are given additional duties and even title and job description changes, it is imperative that these special needs customers enrolled in CAP, sometimes termed "CAP-vulnerable", are given extra assistance. These customers need reminders and appropriate referrals to stay within compliance of CAP rules and continue to receive the benefits of CAP.

d) The "9/11" Downstream Constraints Problem

The major recent change in the ability of traditional social services agencies to respond to people in need was the terrorist attacks on the United States in September 2001. Federal and State funding priorities were never strong in the social services area,[87] and the US has been engaged in a long-term devolution of social welfare responsibilities away from the federal level to the states, counties, cities, and communities and the private sector. Since the "9/11" attacks, social welfare has become even less well funded as attention has had to be focused on internal security or what has been termed "homeland security." Many social service groups are struggling to provide services. Due to frozen or decreased budgets, increased caseloads and longer wait-periods to receive services, social service agencies, Area Agencies on Aging and advocacy groups are having difficulty meeting increased needs, especially for the elderly.

What the "9/11" problem means is that a "hand holding" step and an "accountability/follow-up" step have to be added back into CARES if CARES is to work as intended. For example, where before September 2001 a referral to the Agencies on Aging would result in an immediate follow-up from that agency, now there are likely to be numerous delays and bureaucratic problems the come in part from too few staff and too few resources. It is recognized that CAP guidelines can be strict and confusing for some customers. In the past customers received special "hand-holding" from CARES departments within the utility that often provided intense case management and

---

[86] Ibid.

[87] The exceptions were the Roosevelt years in which stabilizing the country and emerging from the depression were the focus of government and the early Johnson years before the Viet Nam war drained resources and attention from the "War on Poverty.".

oversight. With the under-funding of helping services, and increasing backlogs in providing casework or solutions, the companies need to look at providing a tracking mechanism for CARES staff to follow customers who come to their attention and need services. At least a few of the old casework-type positions at each company should be added for the following reasons:

- To insure these vulnerable customers succeed in CAP, their potential failure in program compliance needs to be identified.

- Without effective handholding, isolated seniors with mental confusion and early-stage dementia present challenges to success in these programs. Customers with MH/MR conditions and those with serious debilitating illness, especially with limited mobility, are also in threat of "falling through the cracks".

- When someone's mental, intellectual, or physical condition diminishes their capacity to take care of basic needs, manage finances, make sound decisions or interact with the outside world, we should be raising a 'red flag' for extra support. This is especially true for those customers who are isolated with little or no social support.

When asked if the CAP/CARES link provided a safeguard-trigger for the "CAP-vulnerable" population, the CARES representatives' response was, "The CAP program is explained to customers prior to enrollment. FirstEnergy's computer system generates a CAP past due reminder notices that include telephone numbers for Dollar Energy Fund and Credit and Collections where customers can receive consumer credit counseling. All FirstEnergy companies refer customers to emergency hardship funds and energy assistance, when programs are available." This is probably a fair description of current service capabilities. However, the customer profiled under "CAP-vulnerable" may not have the mental acuity, may not have the ability to manage household finances, and in many cases may not have the mobility and/or means of transportation to meet the requirements as stated above.

Therefore, a vital CAP/CARES programmatic coordination link has to exist as a valuable safety net for such customers. Strengthening this aspect of the program assures that missed opportunities will be found and addressed. Missed opportunities in the "CAP/CARES" link perpetuate delinquencies, shut-offs, uncollectibles and customer distress, including potential health and safety issues.

Recommendation: For these reasons we recommend addition of a minimum of one additional CARES person per utility, with the new position designated to work solely on casework and follow-up of customers designated for CARES.

2. The Gatekeeper Program

FirstEnergy's Gatekeeper program is a direct link with the FirstEnergy CARES Representative and is a good example of CARES at work. "Gatekeeper is an internal program that teaches and recruits company employees in the field to recognize and report customers who may be in need of help" or who are in distress. Recognizing that FirstEnergy field personnel come in contact with many people on a daily basis, these workers are encouraged to make keen observations and to "make a difference in someone's life." They are asked to report situations such as persons who appear confused or disoriented, suspected hardship economic conditions and difficulty in paying bills, older persons living alone or isolated from social contact, physical limitations and a home in need of repair. If the field representative encounters this type of situation they make an immediate referral to the Human Services Department and the call will be forwarded to the appropriate CARES representative in that county.

3. CAP and the Agencies

The Evaluation Team conducted 15-20 minute phone interviews to ten CBOs in early September 2004. The interviews were conducted with four agencies that deliver CAP to Met-Ed customers, five agencies that deliver CAP to Penelec customers and one (the only) agency that delivers CAP services to Penn Power customers. Dollar Energy Fund was also interviewed but is not included in the table responses below. Dollar Energy's responses are provided in a separate paragraph. OSI was also interviewed.

a) Community Based Organizations

The Evaluation Team's primary goal was to determine how well the out-sourced CBOs understand how CAP works. As a secondary goal, we also wanted to determine how agencies saw themselves as interfacing with the CAP/CARES link for customers with special needs. So besides asking what each agency does in their role with CAP, we also wanted to know how they make referrals and what communication feedback loop exists back to the FE CARES representatives. We also asked about the function of Chronicles and how the system increases their communication with FirstEnergy.

Of the ten agencies interviewed, all of the intake workers we spoke to were very engaged in the CAP process and dedicated to doing what was best for the customer. They had a thorough understanding of CAP, the intake process, the expectations of FirstEnergy and helpfulness in agency referrals.

The agency generally receives a cold call from the customer inquiring about CAP. The customer may also be a walk-in. The customer knows to call or walk into the agency in their county, because if they call the number for customer service help at one of the companies, they are told how to contact the agency.

Each agency receives CAP updates and training on Chronicles at least twice per year. The FirstEnergy CARES representative assigned to specific counties gives this training. Sometimes the CBO intake workers travel for a regional training meeting. And sometimes the CARES representatives come to each agency to give training and updates.

(1) No CAP Waiting Period

All agencies interviewed said there was no waiting period or waiting list for CAP enrollment. The customer calls and is prescreened on the phone. If eligible, an appointment is scheduled immediately. The only reason a customer would be turned away is that they do not meet all the eligibility requirements.

(2) The CAP face-to-face Appointment

All CBO's have access to FirstEnergy's Human Services Web site. There they can pull up the customer's address, phone, and their billing and payment history for the last three months. They can also pull up the customer's history with CAP, if any, and their electricity usage.

When a new CAP customer first applies to CAP and has a termination notice, the term is stopped for 60 days. It takes six to eight (6-8) weeks to get into CAP.

Most agencies said the appointment usually takes up to an hour in most cases. If the customer has a shut-off notice they have to have a receipt in hand showing how much was paid on the arrears before enrollment in CAP can be completed. If the customer does not have a receipt, the intake worker must call OSI to see if they have made the required payment to get into CAP. If they have not made the required payment, they cannot be enrolled in CAP at that time.

The Human Services web site is accessed to check payment history and also to see if the customer has been in CAP before. There is a wait-out period of six months for MetEd and Penelec and one year wait-out period for Penn Power. If a customer has been in CAP previously, there is a catch-up amount due before they can re-enroll. The intake worker checks the average monthly bill on the web site screen while the customer is on the phone, before the intake appointment is scheduled. If the arrears are less than $1000 the average is multiplied times 3 minus any payments they have made in the last three months. This is the catch-up amount that must be paid before the re-enrollment is done. If over $1000, the average monthly bill is multiplied times 6 minus any payments made in the last three months. For customers who have never been in CAP before, there is no catch-up amount due unless there is a shut-off notice.

Part of the application process for CAP includes a monthly accounting of the customer's household expenses. The intake worker at the CBO uses a screen on Chronicles to record the monthly household expenses.

(3) Chronicles Feature—CAP Adjusted payment:

Most of the nine Met-Ed and Penelec agencies interviewed mentioned that the CAP payment on the Chronicles screen is frequently too high, often higher than the projected regular consumption budget. This is especially true for those customers who heat their homes with total electric heat. (The exception is Penn Power which has a two-tiered CAP discount program and not a PIPP.) The agencies added that in some cases the only incentive to go on CAP is because there is arrearage forgiveness of 1/36th per month for Met-Ed and Penelec customers.

Several mentioned that there is an "over-ride" feature on Chronicles that enables them to go into the payment screen and over-ride the payment that Chronicles chooses. This tab is known as the "CAP Adjusted Payment" (Table 40).

Chronicles Feature—Do you utilize the CAP Adjusted Payment feature to change a customer's CAP payment?	Number

Table 40: Use of Adjustment Feature.

Yes, I use it to lower CAP payments under special hardship cases.	4
Yes, I use it to increase CAP payments so Bill Subsidy limit is delayed.	1
No, I know about it but do not use it.	3
No, I do not know about this feature on Chronicles.	1

An intake worker gave a description of CAP Adjusted payment:

> "We do an income/expense screen on Chronicles on each customer. Often times there are extenuating circumstances going on in the household such as the "heat-not-eat-senior" [that] always pay their bills but are going without proper food. Or [there are] those who have high out-of-pocket non-reimbursed prescription costs. Or the single mother who is trying to better herself by going back to school but now has high student loans, or the father who has high child support payments going out that is not reflected in his gross, etc….
>
> These are considered extenuating circumstances where the expenses eat up the income. We can over-ride the CAP payment that Chronicles chooses if it's not doable for the customer. There is a feature on Chronicles called "CAP-Adjustment" where you can

change the initial payment to a lower payment. It's been on the Chronicles system for about a year.

First getting into this screen was a little shaky, the new payment wasn't fixed, it would change and would show up on the bill to be a different amount. But now it's fixed and it seems to go through OK."

Penn Power's sole CBO, Community Partnership of Mercer County, does not use this CAP-Adjustment Payment feature because Penn Power's CAP is a two tiered rate-discount program and not a PIPP. Because of the way the program is designed, there is no way to over-ride the system and the percentage of rate discount to actually lower a payment. However, in most cases the Penn Power rate discount is not higher than the customers regular consumption budget.

Met-Ed and Penelec's CBOs did report that the CAP payment is sometimes higher than the actual consumption budget, especially in total electric heat homes.

The safeguard here is that CAP rules allow for the customer to always pay whichever is lower that month, consumption usage that month or the CAP payment.

Another positive incentive to being on CAP is that the pre-CAP arrearage is forgiven over a 3-year period. The CBOs for Met-Ed and Penelec have a very good understanding of this process and positive message to the customer enrolling in CAP. In contrast, currently for Penn Power customers there is no provision for an arrearage forgiveness option.

For those agencies that do not use "CAP Adjusted" payment function, some were told not to use it without permission from the CARES representative because a lower payment will use up the total fund for CAP credits (bill subsidy) at a faster rate. A few said they do not lower payments because if lowering for one, then it's hard to know where to objectively draw the line. One agency said CAP payment adjustment is used to increase payment, thus increasing the chances that the customer will not run out of the bill subsidy before the end of the year.

Others mentioned they know they may use it at their discretion, and they do not have to get permission first from their CARES rep.

(4) Chronicles Feature—Case Notes

The Evaluation Team reviewed what type of inter-utility/agency format is used on Chronicles to alert all key players to hardship situations (the "CAP-vulnerable population").

Such a format is featured on Chronicles and allows for documentation and narrative by the FirstEnergy CARES representative and the CBO intake workers. Any particular

notation about a hardship situation, referral given, follow-up, or the like is noted in Case Notes. Table 20 shows how the agencies responded to a question how they used the Case Notes feature.

Table 41: Case Notes.

Chronicles Feature—Do you utilize the Case Notes tab?	Number
Yes, I use it to document outcomes, referrals given, follow-up needed, a red-flag for hardship and extenuating circumstances.	5
No, I know about it but do not use it; was told that FirstEnergy staff does not see these entries.	2
No, I do not know about this feature on Chronicles.	3

Of those saying they did not know about CASE notes and do not use this feature, they mentioned they contact the CARES representative directly by phone or by e-mail regarding hardship cases. A few agencies said they were not trained on this feature of Chronicles and have never utilized it. Few agencies described this function as a 'red-flag' for customers with special needs. Some felt this feature was very "under-utilized" and could be valuable in the referral process. Some agencies were under the impression that all FirstEnergy departments could view Case Notes, including Credit and Collections. Others said that the CBOs and the FirstEnergy CARES representative could only view it internally.

About half the agencies reported that the CARES representative would utilize Case Notes as an alert or special message to the intake worker. Said one: "Sometimes I make notes on a particular customer and I notify the CARES representative that I've made the note." And sometimes the CARES representative will refer a special case to me and she will call or email me to say, "Check the Case Notes section."

One agency that delivers CAP services to Met-Ed said, "Yes, I use the Case Notes a lot and it is a sort of red-flag for hardship cases. Hit "public notes" on Chronicles and all can see what you have entered, the CARES representatives, the MetEd Customer Service Representatives., Credit & Collections, etc. I use case notes for hardship cases, vulnerable seniors, those who have rep-payee, Power of Attorney, etc. I can hit "private notes" on Chronicles and just make notes to myself about that customer, something I can pull up later to refer to, like at the time of recertification or other points of contact."

Recommendation: The FirstEnergy companies should train the CBO staffs in use of the Case Notes facility in Chronicles and watch performance to see that use is standardized across the agencies. For extreme hardship situations, and for those customers defined as the CAP-vulnerable population, all CBO intake workers should utilize Case Notes. Public Case Notes should be used to document the referrals made, the customer understanding of what is taking place, and the referral agency's outcome and action taken. FirstEnergy CARES representatives, and call centers such as OSI and Dollar Energy should be able to observe the actions taken for vulnerable customers.

(5) Chronicles Feature—Social Service Resource Locator

Agency comments about the Social Service Resource locator within the Chronicles system were varied. Few said it was helpful. It seems reasonable and practical, most said they knew the services in their area, had worked in this field for years and gave the customer their own agency lists.

One agency intake worker said, "This new Resource Locator is more accurate than the old one, but I don't use it. I've been working in the social service business in my county for a long time and I know what's out there for folks locally."

Table 42: Resource Locator Feature.

Chronicles Feature—Do you utilize the Resource Locator?	Number
Yes, I use it as the main source for finding social service referrals in my area	0
Yes, I use it occasionally and find some aspects helpful (like printing LIHEAP applications) but mostly make referrals from our own lists	1
No, I rarely use/do not use it—I don't find it very helpful. We have our own lists that are more specific and adapted to our county	8
No, I do not know about this feature on Chronicles	1

An intake worker said, "Training was provided with the changes in Chronicles about the new Resource Locator tab, but I rarely use it. It's not always geared to our locale; it's more a Federal & State reference, [like] Medicare, Medicaid, Food Stamps, HUD, Nursing Homes and PA Compass. I make social service referrals in our counties directly from our lists because I know the programs and have been working with them a long

time." Another intake work said, "No, I don't use it—I find it to be irrelevant. I use the form that's customized to our counties that we work in."

(6) Customer Call-backs

To see what issues and concerns are pressing on the minds of customers, the question was asked, "What are the main reasons for customers calling you back after the CAP application is completed in your office?"

Responses are from ten agencies (Table 44). Several gave two reasons. As indicated in the table, the number one reason for customers calling the agency back after initial intake is that customers get concerned when they do not see "Customer Assistance Program" on the first or second bill. Says an intake worker, "It can go two months without seeing 'CAP' on their bill, so they call us asking what happened, are they still on CAP? I tell them it takes up to two months sometimes for it to show up on the CAP bill and it also says six to eight weeks on the Customer Agreement Form, but I suppose they just need reassurance."

What are the main reasons for customers calling you back after the CAP application is completed?	**Number**
Reason Number 1: The first bill does not say "CAP," sometimes the second bill does not say it either. Customers become concerned and call.	9
Reason Number 2: Confusion about 'bill subsidy limit' and the comment on the bill that says, 'you may reach the maximum credit granted…'	5
Reason Number 3: 'I'm going to be late on my payment' or 'I missed my payment this month' or,' why am I off CAP?'	4
Reason Number 4: Those with term notices call Credit and Collections to tell them they have been to the agency for CAP. Credit and Collections does not accept our CBO ID # and tells the customer to have us call back to Credit and Collections directly.	2
Tie for Number 5: I'm not seeing my pre-CAP balance go down, why?	1
Tie for Number 5: Why didn't I hear from WARM yet?	1

One CBO intake worker said, “The FirstEnergy CSR’s pass the buck. The customer calls them to say, ‘why am I off CAP?’ They say, call the agency. We have nothing to do with taking them off CAP…but the customer thinks we do. They get real angry with us and we have to field all those calls. We shouldn’t have to do this. I go into the Human Services Web site and can see that they missed payments, but they think we are the ones who took them off. If they are really irate and I can’t calm them down I tell them to call the FirstEnergy CARES representative.”

(7) Chronicles System Downtime

A few agencies interviewed reported frustration over the Chronicles system going down frequently— two or three times per month. These same agencies reported that the system becomes terribly slow at times. When the system becomes slow, an appointment that usually takes twenty minutes can take an hour due to waiting for the system responses. Those who said they experience frequent down time with Chronicles also reported that FirstEnergy did not give notification when the system was going down. They say that when they call the CARES representative about the system not working, the CARES representatives are not aware of the system problems either.

However, in contrast, most of the agencies said downtime is rare, less than once per year, some reporting it’s been over a year.

Table 43: Reasons for Call-Backs.

Those who’ve experienced Chronicles going down have paper copies of the Chronicles application. During the appointment all the necessary data is gathered from the customer but cannot be entered until the system is back up and operable. When this happens, the customer leaves the office before knowing what their CAP payment will be. This means calling the customer later to tell them what Chronicles says their CAP payment will be.

(8) The Customer Agreement Form and Bill Subsidy Limit

The Customer Agreement Form is a two-page form generated by Chronicles. It is now used by all three FirstEnergy Companies. It includes the customer’s information, CBO ID number, and the amount of the CAP payment. The Total Arrears and CAP Forgiveness are also included. The remainder of the Form includes the rules to stay in CAP and be successful in the program.

The intake workers reportedly explain this form and "check-off" each point during the discussion with the client.

All agencies said the Customer Agreement Form is copied and given to the customer. Most agencies said the form was easy to explain and simple enough to understand and did not have suggestions for improvement or change. However, one agency worker remarked, "There needs to be a clear, separate list of all the reasons you can be taken off CAP…list them all out…'failure to do this, failure to do that.' Our main reason for call-backs from upset customers is 'I've been taken off CAP.…Why?"

Another felt that the point on the Customer Agreement Form that says the customer cannot pay ahead, was confusing. According to the intake worker, "Most customers are accustomed to thinking they should pay ahead if they are behind on their bill."
Several agencies mentioned one exception as to the ease of understanding the rules for CAP. The exception is the "Bill Subsidy Limit." Some said they spent extra time explaining this point because it seemed to be the one CAP rule that customers understood the least.

Most agencies doubted that the customers ever understand this provision, even after explaining it.

According to one intake worker:

> "I'd like to see the wording changed on the Bill Subsidy Limit to emphasize that this is an incentive to save energy. I do not think it's linked enough to conservation.
>
> Also, 'bill-subsidy' is a hard concept to understand. Maybe it would be helpful if FirstEnergy would present something more colorful, eye-catching, with a visual graphic to give a math example of how that works.
>
> By the time we get to this part in the intake process, the Customer Agreement Form and all the rules, they have been given so much information they feel a little overwhelmed and probably are not remembering what we are telling them. Seeing something visual helps."

One agency noted that they routinely give only the first page of the form to the customer. The intake worker felt that there was too much information for the customer to absorb, "…and they probably would not remember it anyway." However, the Bill Subsidy Limit is explained only on the second page of the form, thus making this an important 'take-home' piece of information that is otherwise not available to the customer.

Skipping for a moment back to the customer surveys, the concept of the "bill subsidy" seemed to evade most customers included in the customer phone surveys. When asked if they had heard of "bill subsidy" very few customers recognized the term. Several

customers stated during the survey that they were taken off CAP because they were unable to make the payment when their CAP bill suddenly became very high.[88]

Other observations on the Customer Agreement Form:

- A helpful reminder should be added, "A LIHEAP grant does not take the place of your full CAP payment—you must pay your CAP payment every month on time."

- The form uses only the term 'reapply' rather than recertify or reverify. However, most agency contacts use the term "recertify". The language should be standardized and a consistent term used.

- The form lacks information on what to do, who to notify and what happens to CAP status if the customer moves.

- The form should mention how much the pre-program arrears will be reduced, and if the customer has any responsibility for paying it.

- This material should be in a vivid, larger print, possibly a colorful booklet/brochure that repeats the content they just signed up for on the Chronicles document.

Having a sample of the utility's CAP bill to demonstrate at the time of intake would also be helpful. Highlighting the important points on the sample bill would alert customers and increase awareness of important aspects of CAP. Specifics on the bill, such as where 'CAP' appears are on the bill, the arrearage forgiveness, the monthly shortfall (the difference between the actual consumption bill and the CAP amount due), and the warning about 'bill subsidy limit' will help increase memory.

(9) Recertifications

Nine agency intake workers for Met-Ed and Penelec reported they no longer receive recertification lists from the utility. Most reported that they stopped receiving the lists last summer, in July or August of 2003. The agencies report that they are no longer required to make calls or send out letters to customers informing them it is time to recertify.

- MetEd/Penelec now automatically recertifies customer's whose incomes are below 135% FPIG by using the LIHEAP/DPW Life-line Certified phone number.

- If and when a customer whose income is over 135% calls to voluntarily report a change in income or household size and if they have not been recertified, the intake worker will then set up an appointment for recertification.

[88] See the phone survey results for discussion of customer perceptions of the bill subsidy.

- If a customer calls to report they have moved, they are considered off CAP until they come in to re-apply. At that time the CAP application is considered a new application, and the customer is required to submit income verification again.

One agency reported that they were told they would eventually be given recertification lists again of customers not verified by the Life-line certified number. FirstEnergy will be giving them letters with FirstEnergy letterhead and lists of customers above 135% who need to be recertified. Most agencies said they did not know if and when the recertification would start. One agency said, "That's really out of our hands…we have no idea if recertification will start again."

One agency said they understood that FirstEnergy would be doing all the recerification [89]from now on, and this would no longer be an agency function. Another agency said they were told recertification lists would be starting again in March 2004. However, they still had not received the lists in September 2004.

Community Action Partnership of Mercer County, the sole CBO for Penn Power, says the recertification lists never stopped. They have continued to get a weekly list of customer's needing recertification. As of September 1, 2004, all customers now come into the office in Sharon. Previously, when intake workers did the initial CAP intake in the home, the recertification was done by mail. Now customers will be expected to come into the office in Sharon annually for their recertification.

(10) CBO Home Visits

Home visits may be conducted for CAP intakes if the customer cannot get out to the agency due to health or mobility problems. Agencies may also deliver home visits as part of their total case-management programs, of which CAP may be a part.

Over half of the agencies interviewed (6 out of 10) stated they can do home visits for CAP, but do this only if absolutely necessary. The agencies stated they are paid a set fee for each completed application. One hour for a CAP application *vs.* three hours in the field to complete the same application is not cost effective, they mentioned. Many of the agencies are in very rural areas and are not reimbursed for travel mileage.

Dollar Energy Fund in Pittsburgh can do the CAP application by phone and mail for customers who cannot get into the agency. If the agency does not do home visits, Dollar Energy is notified by the agency.

Some agencies did not know that Dollar Energy functions in the capacity of doing phone and mail applications for customers who cannot physically get into the agency.

---

[89] The FirstEnergy policy is to reimburse mileage according to the current IRS rate, so this assertion apparently represents a misunderstanding of the billing arrangement at one agency.

(11) Community Outreach Efforts by the CBO's

Most of the Community Based Organizations go out into their communities for Outreach and Education efforts. Several reported participating in Senior Fairs, Health Fairs, visits to senior centers, energy/utility awareness events, etc. The average number of times reported by agencies as participating in these events was 3-6 times per year. Those who do not go into the community directly have ample literature and posters about CAP, LIHEAP, Dollar Energy Fund, etc. on display in their building.

(12) Community Action Partnership of Mercer County

The Community Partnership of Mercer County is the sole agency to deliver CAP services to Penn Power customers. Previous to September 1, 2004, intake workers completed all CAP intake applications in the customer's home. At the height of high volume for CAP applications, five intake workers were employed full time to accomplish this task. More recently, two intake workers were doing CAP applications in the home. Chronicles was not used in the application process during this phase.

As of September 1, 2004, all home visit intakes for CAP have stopped. CAP intakes are now done in the office in Sharon. The intake workers are in the process of learning Chronicles. They report that the process is going very well, they are pleased with the ease of the system and have just started the face-to-face- appointments with CAP customers in their office.

Since CAP customers are now expected to go into the agency office for intake, it should be noted that getting to Sharon, PA, for many customers in Penn Power's service territory may not be easy or convenient. The agency in Sharon is quite a travel distance for some customers in surrounding counties. When looking at the distance to the agency from points such as Mars, PA, this is 64 miles one way, approximately an hour and a quarter to an hour and one-half travel time each way. Customers from Cranberry have slightly less travel time at 55 miles one way. Beaver Falls is 38 miles one way.

Apparently there are long-range plans to open a Community Partnership satellite south of the Sharon location. Penn Power should encourage this expansion and help facilitate this new location. The long distance to the Sharon agency presents multiple complications for low-income customers: rising cost of gasoline, sub-standard vehicles, working multiple minimum wage jobs to make ends meet, no transportation, customers without driving licenses, problems of child care for single parents while taking a half-day or more to go to Sharon and deal with the interview, and possible problems with employers or welfare sanctioning if they get even slightly off.

(13) Agency Wish List—"If there were something I could change, it would be…":

Six agencies reported this request:

"My wish list is that FirstEnergy customer service reps who first take the customer calls are frequently setting up the wrong expectations of what we can do for the customers. Maybe the CSR's do not know how CAP works. It seems like there is no initial explanation of what CAP can and cannot do for customers. There does not seem to be any explanation that this is an income-guided program and that they may not qualify if over-income. Customers think that we provide the money directly here at this agency and that they will get money for their bill right here. FirstEnergy Customer Service needs to give a better explanation of the scope of CAP before they are referred to us. We end up having to turn so many people away and they are angry and frustrated with us then."[90]

"Wish list? If there was anything I could change? Yes, OSI does not get back to me on a timely basis. If the customer has a shut-off notice, I can't put them into CAP until I know they've paid or I have to talk to OSI to tell them how much to pay. I was putting them in automatically because OSI was not getting back and it's kind of hard when the customer is sitting there in your office and waiting for you to finish the application. Anyway, I was reprimanded for doing this. I can't put them in until I hear back from OSI. *It can be days then until I can reach them by phone and the customer finds out whether they are in CAP and what they're payment is*."

"Wish list? Yes, I wish the Customer Agreement Form were in Spanish. The WARM application is, but not the other form that is so important to be able to follow through with CAP requirements. We have a lot of Spanish speaking clients in York County and it would show respect for their needs."

"If I had a 'wish list', I think the income guidelines should be a little higher so more people would qualify. Also, there should be more flexibility in how income is determined. For example, if a single mother is to get $XXX in child support and has a letter from Domestic Relations stating she is to receive this much, whether she gets it or not from the father, we have to record it as income received. Maybe she hasn't received the amount for months, but we have to show it like she is getting it if there is a letter from Domestic Relations."[91]

---

[90] The FirstEnergy policy is that CAP calls are to be referred from the Customer Information Center (CIC) to Human Services, or to the appropriate CBO. The CIC is not encouraged to field CAP calls. Thus, there would not generally be an explanation from the call center and the CBOs are expected to field the calls connected through the call center.

[91] The FirstEnergy policy is that income guidelines are fixed and need to remain in place. The need indicated in this case should be handled through discussion of extenuating circumstances with the CARES rep. That is the point at which flexibility could be applied to the case.

"A wish list? Yes, I wish customers had a two to three month warning about nearing their bill subsidy limit instead of just one month. I can see their Kwh usage annually on the Human Services Website and I can see they are going to have difficulty based on their previous usage. They need more than one month to prepare for the higher bills. It would be nice if there was a running monthly tally to let them know in $$ how much they've used."

"A wish list? Yes, I wish that those customers on CAP with higher usage would be given priority in getting services on WARM WX first. This would especially help those customers who are struggling with bill pays. Rather than just yank them off CAP we should be helping them manage their high usage by getting them WARM first."

"A wish list? Yes, I wish the CARES representative would call me back on a timely basis when I have to know whether I can put a customer returning to CAP back on the program. We have to get her OK first. When she doesn't call me back right away, I go ahead and schedule the appt. anyway and then if I'm not allowed to put them in I have to call and cancel their appointment and deal with their expectations of maybe getting back into CAP."

(14) Bill Wording vs. Customer Agreement Form

Consistent, understandable and recognizable language is important if customers are going to remember the rules of CAP. In reviewing the wording on the CAP bills of the three FirstEnergy Companies, several points are worth mentioning.

First, in the Customer Agreement Form, section C, "bill subsidy limit" is defined and mentioned several times.. However, on Penn Power's bill, first page (under the first box) it refers to the subsidy limit as "…YOUR CAP MAXIMUM…" On page 3 (first box) it refers to the bill subsidy as "…the MAXIMUM CREDIT GRANTED…." Nowhere on the Penn Power CAP bill does it refer to the "bill subsidy limit" as stated in the Customer Agreement Form received and signed at the agency.

The CAP bill for Met-Ed and Penelec customers uses consistent language when referring to the CAP subsidy limit. This language is also consistent with the written message on the Customer Agreement Form. When CAP customers are half way through their bill subsidy limit it says, "ALERT!! You have used half of your allotted bill subsidy. If you reach the limit you will be required to pay your consumption bill." The second bill alert, Message Two, when the customer is about to reach the subsidy limit also uses the same wording. Likewise, "Message Three, you have exceeded your bill subsidy limit" is also consistent wording.

However, on the Met-Ed/Penelec bill, there is mention of a "True Up Balance…" under the first box on page 1. This could be very puzzling to customers because this term is not used anywhere else in the CAP Customer Agreement Form. The FirstEnergy CARES representative said "True Up" refers to the arrearage reduction/forgiveness while in CAP. Neither "True Up" nor "Arrearage Reduction/Forgiveness" is explained in the

Customer Agreement Form. One, consistent term should be used to provide understanding of Arrearage Reduction/Forgiveness.

b) The Dollar Energy Call Center

When a customer gets a first warning letter for failure to pay the CAP bill, there is a phone number on the letter to call for assistance. This number goes to Dollar Energy. The Dollar Energy function is described as payment and counseling services, or "dunning, but with hand-holding."[92] A goal of the Dollar Energy counseling is to try to help people move from a mode of dealing with crisis to crisis to moving ahead and planning financially. Dollar Energy can give an extra 30 days to make a CAP payment. If the Dollar Energy Fund grant season is open, a grant can also be given to help the customer become current on their CAP bill.

Dollar Energy is set up as a call center to receive incoming calls only. Of course, the can and do make some outbound calls also when needed. Call representatives have access to the FirstEnergy Human Services Web site and can pull up a three-month payment history and review the CAP history.

They have ten call representatives for FirstEnergy (in this case for Penelec and Met-Ed, as they do not act as a call center for Penn Power). They do outbound calls only if the customer has left a message for a supervisor or if all call reps are all in a meeting and a message goes on the voicemail.

Customers call Dollar Energy when they are referred by the utility because they got a warning letter. Usually this letter says they are late on their CAP bill payment and it gives the Dollar Energy phone number for them to call. Dollar Energy gets calls from customers who are about to be terminated of service, those with shut-off notices, those on CAP and those not on CAP. If customers are two months behind and the third due date arrives without a payment, they are removed from CAP.

Dollar Energy describes their service as "payment counseling". The Dollar Energy call representative said, "We tell customers, 'you are on the best possible payment plan with the lowest possible payment for your income and household size—don't mess it up by dropping out'." They then offer a grant if possible.

---

[92] In earlier CAP programs, a major focus was placed on budget counseling and other forms of social service to the low-income payment troubled household. This direct interaction of local community customer service staff and customers could build customer trust and cooperation as well as provide some sound information and technical help to make it more possible for the household to plan payments and use money more wisely. Over time, this focus along with the parallel emphasis on detailing household income sources and expenses has largely disappeared. This change occurred along with the downsizing of the formerly large customer service staffs, and the closing of local offices that were typical up until the beginning of deregulation. "Payment counseling" today is not the earlier form of payment counseling.

For people who have fallen behind while on CAP, a catch-up amount can be offered over a specific time period. They can give a catch-up arrangement on CAP, a CAP payment arrangement. This consists of dividing the missed payments in thirds, "pay 2/3rds by such and such a date and then pay the remainder by the rest by the XX of next month."

Dollar Energy can also put a 30-day hold on the account to prevent shut-off if there are extenuating circumstances such as illness, death in the family, or a severe crisis.

This call center can also do phone applications for shut-ins or those who cannot get into an agency. Dollar Energy completes about twenty-five to forty FirstEnergy CAP applications per month. Dollar Energy uses Chronicles for the application, but does not use the CASE Notes feature on Chronicles. Further, "Dollar Energy does not "red flag" the account in any way. We do not have that capability. If there is a particular problem we alert the FirstEnergy CARES Representative for that county, verbally -- we call."

Dollar Energy does not use the Adjusted CAP payment feature on Chronicles; they said the system would over-ride any adjustment.

When a new CAP customer first applies to CAP and has a termination notice, the term is stopped for 60 days. It takes six to eight weeks to get into CAP.

Below are some of the Dollar Energy results over the 2003 calendar year. The monthly volume of calls ranged from 852 in September to 1769 in March with 11 of the 12 months having a volume over 1100 calls.

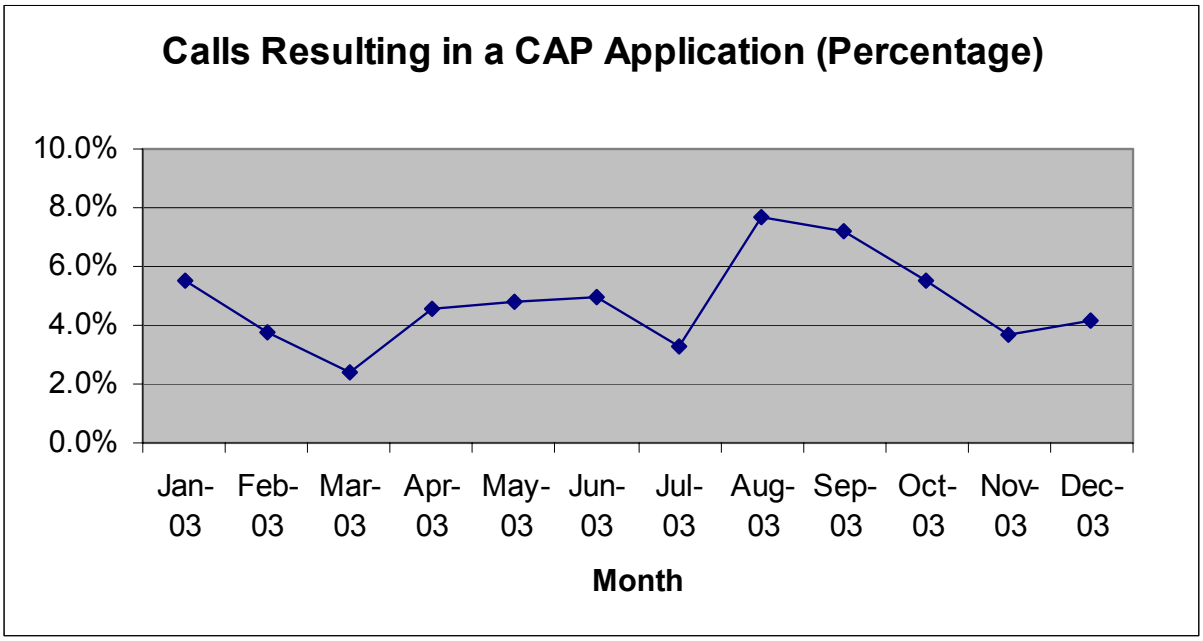


Figure 27 shows the percentage of the total calls that resulted in a CAP application. The number ranged between two and eight percent. Figure 2 shows the number of calls regarding general billing questions. Most months show between 40 and 60 percent.

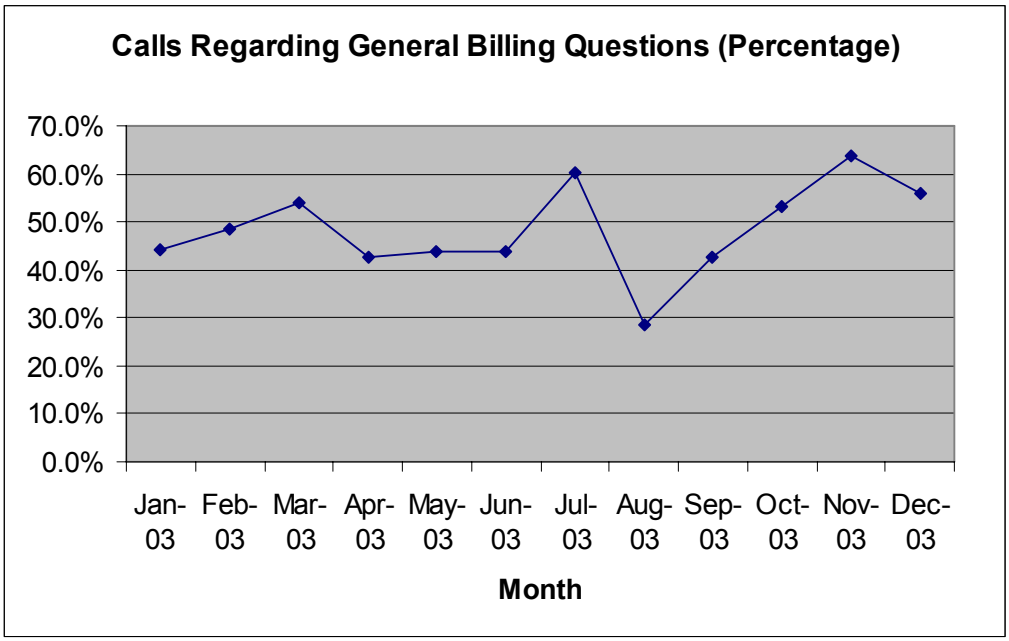


Figure 27: Calls Resulting in a CAP Application.

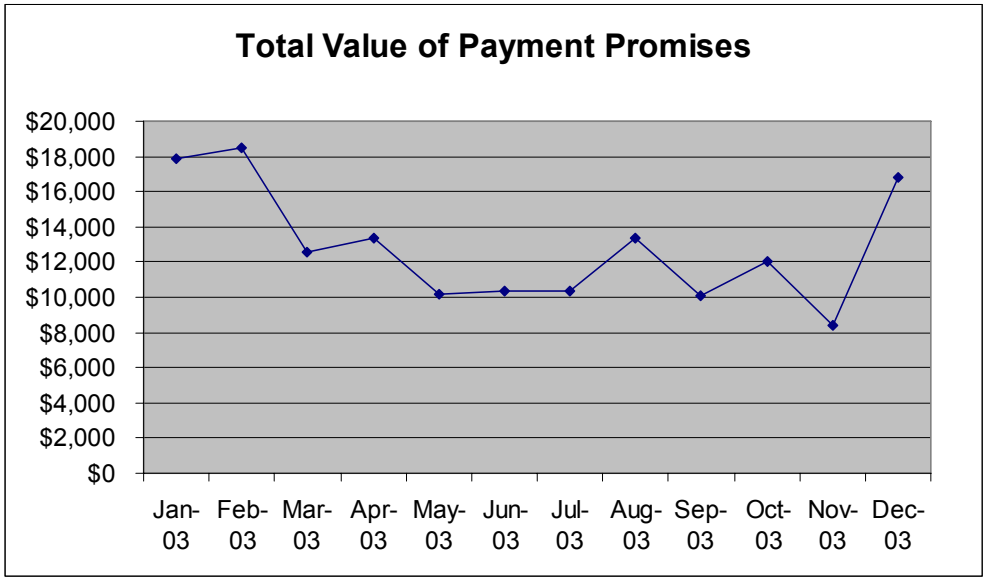


Figure 28: Calls Regarding General Billing Questions.

Figure 29 shows the total value of payment promises in dollars. Most months showed more than $10,000 in payment promises with a minimum of $8,408 and a maximum of $18,539.

Figure 29: Total Value of Payment Promises.

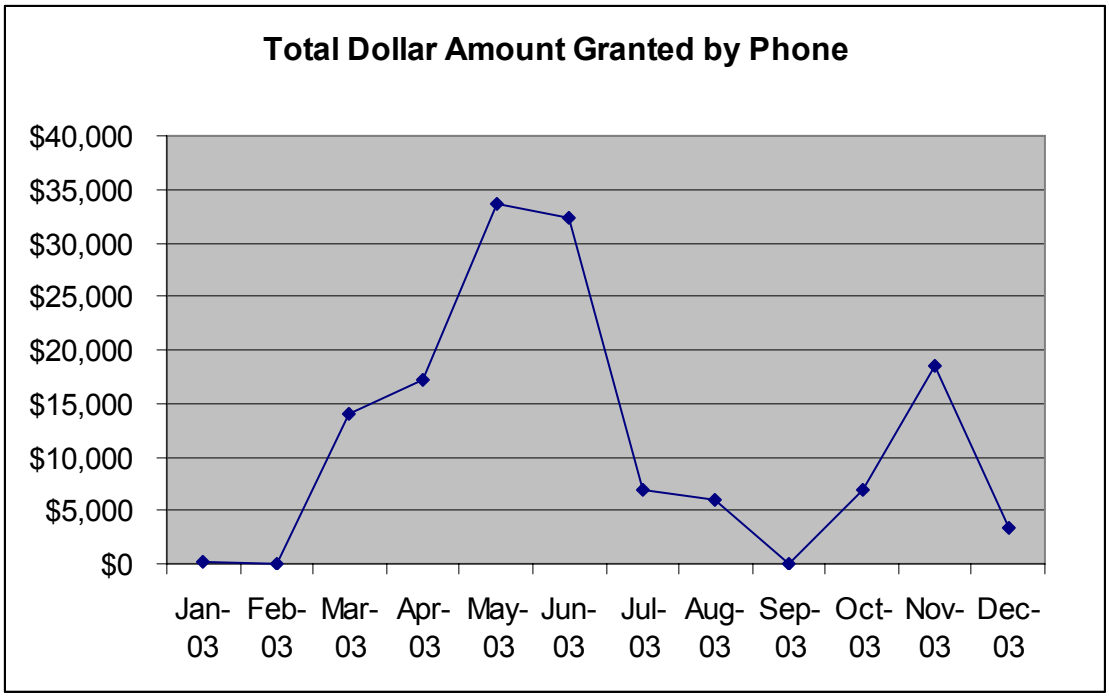


Figure 30 shows the grant amounts given over the phone in each month. The amounts ranged from $0 to $33,680.

Figure 30: Total Dollar Amount Granted by Phone.

Evaluation Perspective: The value of the Dollar Energy payment counseling to both the companies and to customers is quite high. The value is not simply in terms of the number and amount of payment promises secured. Without the large customer service departments of the past, and without the career long experiential training in customer service that occurred in face to face conversations with customers in the informal setting of community offices, it is unlikely that utilities will be able to maintain an in-depth sense of their customers and communities as older staff members leave. That is, it is not clear where the new staff will gain the experience with customers and sense of community/customer relationship that was previously a hallmark of utilities.

Most of the customer functions that would previously have been handled in a local office, often by people who had gone to local schools and grown up in the community are now handled by distant call centers. Company call centers are generally well run and they not "boiler rooms." However, corporate call centers and boiler rooms, while different in kind, share common aspects. One of these is nearly complete monitoring and intricately detailed reporting of staff activities as was typically of the early factor efficiency programs of the 1920's (Taylorism). This feature is associated with the deskilling of formerly complex and semi-autonomous jobs when they are broken down into rote activities with

almost no possibilities of independent scope or any form of local autonomy. Another is the abstract and rote nature of the work which is carried out from codifications and scripts. Generally, call center staff have no real exposure to communities in their work, as they are often in a distant location from the customers. Yet, this community understanding was perhaps the core experience of their local customers service office predecessors. Futher, direct face-to-face interaction with customers to resolve customer problems is becoming rare (payment problems and payments are often not longer handled by staff on an in-person basis -- even if a customer comes in to the corporate offices they are typically given a phone number to talk with someone in a distant call center and sent back out on the street). There is also a very different quality to the interaction with local staff in a local office who have career positions and career commitment with the utility and voices on the phone operating from scripts (who may only know what the scripts tell them, who have no real authority independent of scripts, and might move between call centers but are likely neither to have a career commitment to the utility or to understand the business.

What Dollar Energy provides in this context is very important. It combines talk on the phone to encourage a positive payment response with the possibility of providing a hardship grant to cover part of the cost of the current bill. Together, this can provide both good information and strong motivation.[93] In addition, Dollar Energy staff tends to be recruited from customers who have had low-income experience and often payment problems in the past. They can provide insight, understanding, and motivation that would have been more typical of old customer service staff. Given that it is not possible to bring back the former customer service system, Dollar Energy plays an invaluable role both for customers and the companies.

c) OSI Call Center

OSI is an outsourced Credit & Collections call center with two locations in the Pittsburgh area, Canonsburg and Robinson. OSI does inbound and outbound calls for all FirstEnergy customers, Met-Ed, Penelec and Penn Power. They get a file from FirstEnergy, called a Regulatory File, of all customers who have shut-off notices. They follow the Chapter 56 PUC regulations regarding giving customers the opportunity to pay the amount due to prevent termination. Customers are also given proper notification by phone at intervals before service is terminated.

If a CAP customer has already dropped off of CAP due to non-pay and is proceeding to termination, they may be in the Regulatory File and get a call from OSI at that point. Or, a low-income customer who has a shut-off notice may call FE and get an agency referral for CAP. Generally, before getting into CAP a payment is due to prevent termination based on BCS guidelines. The customer will get a call from OSI at this point.

---

[93] Dollar Energy is well known and it is likely that customers know when they call that Dollar Energy can often help with a small grant.

CAP customers who become delinquent while on CAP will get a delinquency letter that has Dollar Energy's number listed for help through "payment counseling". Dollar Energy can also offer a CAP "catch-up" amount to prevent being removed from CAP. OSI's number does not appear on the CAP delinquency letter.

OSI's number does appear on every customer's bill, including CAP bills. The entry on the bill is called Credit & Collections at 1-800-962-4848. OSI only receives inbound calls from CAP customers. Call representatives do not make outbound calls for CAP. CAP customers, as well as all customers, use this number to make payments over the phone. They also use this number to tell FirstEnergy they may be late on a CAP payment. OSI allows for special extensions and gives a new payment due date under special circumstances. If the CAP payment is late by one billing cycle, then a delinquency letter is mailed and Dollar Energy's number appears in the letter at that point, not OSI's.

OSI call representatives have an average handle time goal (AHT) of 3 minutes, 40 seconds on all calls, CAP and non-CAP. They do a "financial summary" over the phone at the time the customer calls to help determine what the minimum payment should be before getting back on CAP and to stop the termination. If the customer has not made the required payment, they cannot be enrolled in CAP at that time.

If the Dollar Energy Fund or LIHEAP grants are open, OSI will refer the customer to LIHEAP or the closest agency that completes the Dollar Energy application. This grant often helps with the minimum payment owed and facilitates the customer getting back into CAP.

If a potential CAP customer has a shut-off notice when they call or walk into the agency, they have to have a receipt in hand showing how much was paid on the arrears before enrollment in CAP can be completed. If the customer does not have a receipt, the intake worker at the agency must call OSI to see if they have made the required payment to get into CAP. OSI has a designated line just for the CAP CBO's so they do not have to wait on OSI's general number. This number is known as the "Collection Center CBO Ring Down". Met-Ed and Penelec CBO agencies have two phone lines (1-866-860-6151/6182) and Penn Power has one line for CBO calls (1-800-720-3600).

After completing the CAP application the CAP customer will be given the appropriate take-home information including the CBO's site ID number. To stop any termination after the customer is newly enrolled in CAP, they are told to call OSI and tell them that they have been successfully enrolled in CAP. At that time OSI will ask the customer what agency they went to and what the site ID number is that was given to them at the agency. By providing this site ID #, OSI knows that the customer has indeed been to the agency identified and is not fabricating to prevent shutoff.

The call representatives at the OSI CBO Ring Down numbers do not have a call time limit, but the agencies call this number, not the customers. This Ring-Down number is

only for agencies. Customers are told to call the Credit & Collections number that appears on their bill.

Most of the agencies said they could get through to OSI immediately when a customer has a shutoff notice. The agencies also said that if they had to leave a message in the OSI CBO Ring Down number voicemail, their call was returned within an hour or two. When it was reported to OSI that one agency complained about not being able to get through on a timely basis, the OSI supervisor said he was not aware that this was happening at all. He hoped that the occurrence was rare. He said they are staffed well and have a policy that all CBO calls should be returned within one hour.[94]

OSI does not have access to Chronicles and cannot view Case Notes entries make by CBO's in the event that a customer has special needs. When OSI call representatives sense they are speaking with a vulnerable customer who may not remember the details of the phone conversation, they immediately notify the appropriate FirstEnergy CARES representative in the customer's geographic area. OSI does have access to the FirstEnergy website, C-Net, and can refer the customer directly to the appropriate agency. In the event that they do not feel the customer could follow through with the referral, a FirstEnergy CARES representative is notified.

The CAP-CARES link for vulnerable customers seems to be adequately addressed in the referrals made directly to the FirstEnergy CARES representatives and the agencies.

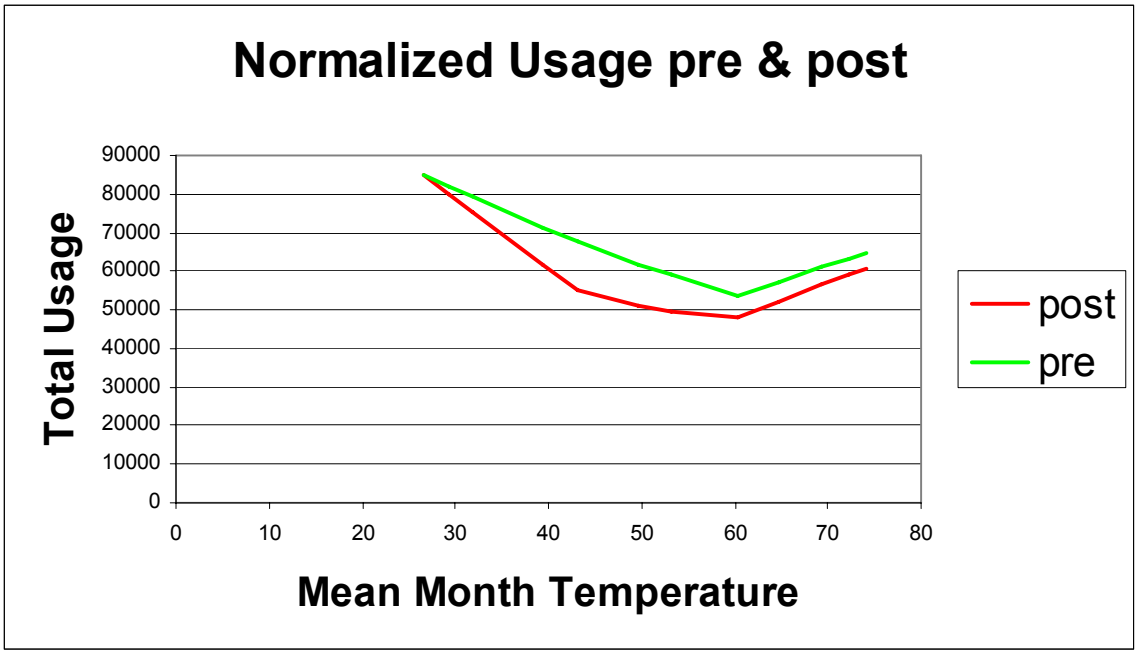
[94] Phone conversation with OSI Supervisor for FirstEnergy CAP, October 27, 2004.

B. CAP & LIURP (Q16)

How effective is the CAP and LIURP link?

In Pennsylvania, the Low Income Usage Reduction Program (LIURP) preceded Universal Service Customer Assistance Programs (CAPs). In early years, LIURP recruitment was independent of CAP. Since the late 1990's CAP has "fed" LIURP to the extent that almost all LIURP solicitation efforts have been discontinued because they are not longer needed. Almost all LIURP recruitment is currently from the CAP.

Figure 31: LIURP/WARM Treated Homes.



As discussed earlier in the report (Q 14), LIURP/WARM homes save energy. This evaluation is not focused on the LIURP (WARM) program, but it is useful to reaffirm in a graphical overview that the program is working as expected. This analysis (Figure 27) is based on 68 cases from the WARM customer database. In the figure, the LIURP (WARM) treated homes show a very good curve of energy savings. Savings occur over the full range of mean monthly temperatures (these are all LIURP/WARM cases, they may or may not not be on CAP). The period studied included a pre-weatherization range of February to December 2001 and a post period from February to December 2002. The analysis shows an average savings of 1064 kWh per household during this period even though 2002 was, on average, a colder year than 2001.[95]

[95] It is reasonable that the savings would have been larger if a similar year had occurred in 2002, indicated by the nearly identical starting point for both graphs at the coldest temperatures.

It was shown in earlier analysis (Table 38, Page 97) that LIURP/WARM accounts are statistically from a different population of customers than LIURP/WARM plus CAP accounts. This result indicates that the expected screening is occurring between LIURP/WARM and CAP.

VI. Appendix I -- Surveys: General Results

Appendix I provides summary information on the evaluation surveys.

Vulnerable: Of the 228 customers with completed surveys, four were recognized as vulnerable in the sense that they would have a hard time initiating the call to the CBO to check their CAP eligibility for re-enrollment. This category includes customers who sounded to be semi-confused seniors, those with severe health problems, mentally handicapped, and otherwise vulnerable. These four were seniors with transportation problems due to illness and more general mobility problems. One said she could not get back into the agency to recertify because she was too sick to make the phone call and had been taken off CAP. Another said she had been too ill to find the piece of paper with the agency number on it make the phone call. These four customers were referred by the evaluation team to the appropriate FirstEnergy CARES representative in the customer's county of residence. The CARES representative was able to immediately re-enroll some of them into CAP.

Program Information: Table 45 shows responses when customers asked if they were given the contract and the energy tip sheet.

Information Given					
Survey Group		**Given the Contract?**		**Given the Energy Tip Sheet?**	
Participation	Yes	49	54.4%	63	70.0%
	No	21	23.3%	14	15.6%
	I don't know	20	22.2%	13	14.4%
Recertification	Yes	20	41.7%	17	35.4%
	No	15	31.3%	16	33.3%
	I don't know	8	16.7%	15	31.3%
Retention	Yes	49	54.4%	60	66.7%
	No	16	17.8%	16	17.8%
	I don't know	25	27.8%	14	15.6%
Total	Yes	118	52.9%	140	61.4%
	No	52	23.3%	46	20.2%
	I don't know	53	23.8%	42	18.4%

Table 44: Customer Recall on Information Provided.

- As shown in the last set of rows table, about fifty-three percent (53%) said that they had received a copy of the contract. [This copy lists the benefits of the program and what customers need to do to stay in the CAP.] Approximately forty-seven percent (47%) did not recall being given the contract. About one-half of these said they were not given the contract and the other half could not remember.

- About sixty-one percent (61%) remembered that they were given a copy of the Energy Tip Sheet, and thirty-nine percent (39%) said either that they had not been given the sheet or that they could not remember.

Another question asked of all respondents captured the types of heating systems employed by the customers. Table 45 presents the results.

Heating Systems				
Type	**Participation**	**Recertification**	**Retention**	**Total**
Gas Furnace	50	27	44	**121**
Oil Furnace	17	8	24	**49**
Electric Furnace	4	1	4	**9**
Electric Baseboard	9	7	7	**23**
Electric Space Heater	22	11	24	**57**
Propane Space Heater	1	1	2	**4**
Kerosene Space Heater	4	1	2	**7**
Other	13	6	13	**32**
Number Surveyed	**90**	**48**	**90**	**228**

Table 45: Heating Systems.

A summary of survey activity and numbers of completed surveys is provided in Table 47.

FE CAP PHONE SURVEY Δ CONTROL SHEET

Survey Progress

Task 3 Barriers to CAP PARTICIPATION	Target	Complete	To Go
FE MetEd	30	30	0
FE Penelec	30	30	0
FE Penn Power	30	30	0
	90	**90**	**0**

Task 9 Barriers to CAP RECERTIFICATION	Target	Complete	To Go
FE MetEd	30	30	0
FE Penelec	30	5	25
FE Penn Power	30	13	17
	90	**48**	**42**

Task 10 Barriers to CAP RETENTION	Target	Complete	To Go
FE MetEd	30	30	0
FE Penelec	30	30	0
FE Penn Power	30	30	0
	90	**90**	**0**

Cumulative Contact Outcomes (Totals for Evaluation Surveys)

Surveys Completed	Left Message on Answering Machine	WN & D/C	Call back/ Reschedule	Refusals at First Contact & Hang-ups	Gave Agency # in A1 (No CAP)	Gave Agency #in A12 (Yes, Interested)
228	390	187	154	26	1	128

<u>Additional stats based on total cumulative customer contacts</u>:

Referrals to CARES: 4
Other referrals: Gas CAPs, WX: 9
No answers/busy: 244

SUMMARY BY Marcia L. Lehman for HGPA FE Evaluation, Summer '04

Table 46: Surveys Summary.

VII. Appendix II – Self Sufficiency vs. Percent of Poverty

Real need is much higher than the official definition of need. The "official" statistics are out of calibration. This appendix shows why percent of poverty is a poor metric and where poverty, defined in terms of self sufficiency, actually ends in terms of the federal poverty metric.

There are at least three ways to measure poverty. The one most used in the US is the federal poverty level. A better standard is the assessment of self-sufficiency developed by the Ford Foundation and a number of women's groups. The EU approach to poverty is much different in that it deals more generally with social exclusion and tries to create balance to moderate inequality. In this section, we look briefly at each.

(1) Federal Poverty Level: The current standard used to calculate eligibility for participation in low income programs is the Federal Poverty Level (FPL). The poverty level is based on the concept that food is one-third of the income expenditure of American households. This was not a bad estimate in the mid-1960's when the metric was created based on the social context of life in the late 1950's. Since that time, although the poverty level is updated each year, it has gone out of calibration and severely under-represents actual poverty.

The existence of program guidelines based on 150%, 175%, 185%, 200%, or 250% of the poverty level indicates the failure of the poverty level metric. For programs to be practical in trying to meet actual need, they have to be set to define eligibility as a multiple of the official poverty level. For example, the federal standard for LIHEAP is set at 150% of poverty or 60% of state median income, rather than at the official poverty level, a recognition by the government that its own official definition of poverty is deeply flawed..

Generally recognized problems with the official Federal Poverty Level calculation include:[96]

- Overweighting of food costs.
- Being based on low-value food that is no longer available, and if it were available would require someone at home all day to do the cooking.

96 These problems are discussed in detail in Alwitt & Donley, Chapter 3, "The Definition of Poverty." Alwitt, Linda F. & Thomas D. Donley, The Low-Income Consumer, Adjusting the Balance of Exchange. Thousand Oaks, California: Sage Publications, 1996. Also see: Gutfeld, Rose, "The Real Cost of Living," Ford Foundation Report, Winter 2001.

- Inability to incorporate increased costs of health care, housing, and transportation. Medical costs, housing, and energy are increasing in price with no relief in sight. The simple mid-1960's formula based on a multiple of the cost of low-end food cannot handle this.

- Inability to incorporated geographic cost differences.

- Exclusion (plus and minus) of taxes.

- Assumption of 1950's style two-parent families with one spouse at home taking care of children, and the other trying to find a "family wage" job when single-parent families are prevalent today and jobs offering a living wage are greatly diminished compared to the late 1950's and 1960's.

- Inadequate adjustment for size of family.

- Inability to take children's needs and costs at different ages into account.

- No adjustment for disabilities or serious accidents or illnesses.

- Many normal costs of families not included, such as child care for a single-parent family or a two-parent family trying to piece together between them the equivalent of a family wage job from the jobs actually available.

- Globalization had not occurred when the system designed.

As noted in this list, the food component on which the poverty metric is based assumes availability of low-cost, low-quality food that is unattainable in most of the country and, if it could be found, would require many hours of food preparation. The assumption of someone at home who can devote most of day to prepare meals from primitive materials does not pass a straight face test today, although two-parent families were much more common in the late 1950's which is the social context the designers of the poverty metric had in mind. Today, single-parent families are the norm and even when there are two parents in the household, both piecing together multiple low-end jobs (usually without health insurance, disability insurance, life insurance, defined benefit pension, or job security) that together produce a fraction of a living wage, there is not time to convert primitive sub-optimal foodstuffs into nourishing meals..

In general, the federal poverty level Levels does not accurately indicate need in terms of how households understand and experience poverty. The only thing the federal poverty level is used for is to provide the government's rosy-vision official counts of "the poor." These counts produce official statistics that lack good faith to the real of incidence of experience household social and economic of poverty. Programs that try to meet actual need have to be defined in ways that set eligibility higher than the official poverty level.

(2) Multiples of the Poverty Level: The correction offering the least administrative burden is to set program eligibility levels at multiples of the official federal poverty level. In Pennsylvania, Universal Service Customer Assistance Programs generally are at 150% of poverty, in conformance with the Pennsylvania Code. Pennsylvania mandates weatherization in the Low-Income Usage Reduction Program (LIURP) at 200% of poverty. In 2004, the Philadelphia Gas Works, the largest municipal gas utility in the US, set its Senior Citizen Discount eligibility at 250% of poverty, which is approximately the median household income in the city. California LIHEAP has run at 250% of poverty in some years, and California raised its mandated utility low-income rate discount program to 250% of poverty beginning in 2004. As a final example, one component of the low-income weatherization program in Massachusetts, the Good Neighbor Program, goes to 275% of poverty to be able to provide services to households in which one or more persons are working full time at less than a living wage.

(3) The Self-Sufficiency Standard: With a much higher administrative burden, the family budget approach used by the Self-Sufficiency Project is much more accurate that the poverty metric or multiples of the poverty metric. The self-sufficiency standard was originally developed with funding from the Ford Foundation, and the methodology is currently being used in several states to provide a better estimate of need than is provided by the federal poverty level system of measurement. A different metric, the self-sufficiency standard allows for an alternative definition of eligibility. The sufficiency standard is relatively new and comes much closer to representing the needs of families. It is based on study of the actual needs of actual families of different compositions, and with measuring the actual costs of children of different ages. It is built up from as set of such case-by-case family studies and then generalized for a given county or city or state. It is based not on the basket of sub-standard food but on measuring the actual costs of families participating in a normal family life.

(4) The EU Alternative: In the EU, poverty is defined as a relationship of the top to the bottom income groups and studied as a problem of social exclusion, that is, the exclusion of household from the normal participation of civil society for whatever reason, including income as one cause of social exclusion. This is very different from how poverty is defined in the US, which looks at poverty in terms of a minimal basket of hard to prepare substandard food and completely misses the relationship of the top and bottom income groups and the problem of social exclusion. Because the EU understanding of this area is one of relationships, there is a strong effort to try to ensure that all households can participate normally in society. As example, in Sweden there is a child allowance that pays pretty much the actual cost of a child until they the child is ready to go from high school to work or college, there is an excellent socialized medical system with a small per visit charge, free education through college for those who are willing to do the work and desire to go to college (although, since the general pattern of income and costs is set up to provide a secure living wage for high school graduates there is really no need to attend college), and a coordinated social security system that prevents people who work from falling out of their social and economic relationships in retirement and old age, except as occurs naturally. Generally, all primary social activities, including even admission to

amusement parks are keyed to require some payment but with payment adjusted to income to promote social inclusion and a civil society that is both fair and vibrant.

(5) Summary: For the middle 1960s, when the poverty metric was put forward it was a positive step. However, from the beginning it lacked completeness. It lacked the carefulness of the self-sufficiency approach with its incorporation of actual family budgets and costs for different kinds of families. Basing the definition on a hard to obtain basket of sub-standard foodstuffs that would all day to turn in nourishing meals showed utter disrespect, although at the time it was not to do so. Besides failing to incorporate the real needs of children of different ages, it did not incorporate the concept of balance to deal with inequality and the problem of social exclusion. Inherently, due to the severely flawed nature of the poverty metric, it would start poorly and quickly go out of calibration.

In the mid-1990's a mathematical recalibration of the poverty level to its original relation to median income required that a criterion of 150% of poverty be used to indicate roughly the same level of poverty that was indicated by 100% of poverty in the middle 1960's.[97] Today, a recalibrating of the FPL to its original relation to median income would lead to a criterion of 200% of the current FPL.[98] Conservatively, fairness in terms of constancy of calibration to median income would require that all programs be set with an eligibility level of at least 200% of poverty in 2004.

However, 250% of poverty is the level at which poverty is no longer experienced. Because 150% of poverty is the current operative criterion for Universal Service Customer Assistance Program in Pennsylvania, we use it in the analysis. However, using the relationship to the median income or the family studies, 200% is the minimum to which these programs should now be set. Our best current estimate is that 250% of poverty is currently the break point between lacking the ability to deal with the range of normal family expenses over the life course, and having that ability.[99] In use of a 250% criterion, the life cycle expenses of a family are figured in. The EU has this level of living, showing (to apply Amory Lovins' concise statement of principle to achievement of a civil level of living) that "since it has been done, it can be done."

---

[97] The mathematics of this calculation can be found in the discussion of poverty level and median income in Brower, Steve, Sharing the Pie, *A Citizen's Guide to Wealth and Power in America*. New York: Henry Holt & Company, 1998. Note that the government updates the poverty level each year, but the calculation does not take the relationship to the median income into account, nor is it based on actual family studies. It just updates the multiple of the sub-standard food basket and assume this food could be found and the ability of poor families to have someone home full-time to prepare it.

98 Calculation performed based on data presented in Figure 2, P. 11. Pearce, Diana & Jennifer Brooks, "The Self-Sufficiency Standard for Pennsylvania, Summary Report." Swarthmore, Pennsylvania: Women's Association for Women's Alternatives: 1998.

[99] The Self-Sufficiency calculation of 200% of the Federal Poverty Level does not allow for purchase of a car or other major items, provision for retirement, or ability to deal with family emergencies.

VIII. Appendix III – The Definition of Energy Burden

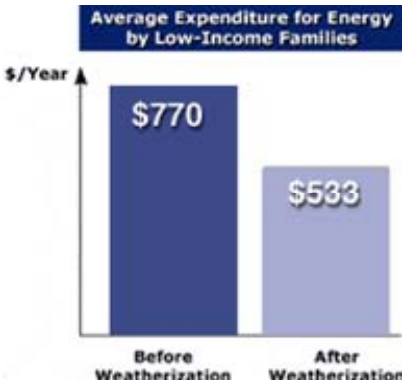
Real energy burden is based on the real “Please Pay” amount of real utility bills.

The definition of energy burden is given by the US DOE, Weatherization Assistance Program as follows:[100]

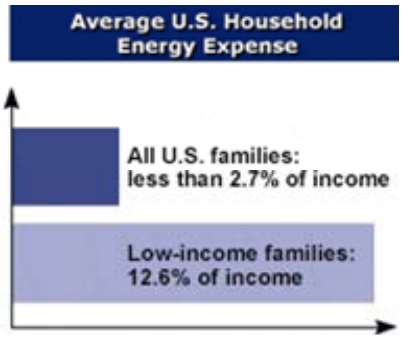
Weatherization is very simple — it improves energy efficiency and permanently reduces energy bills. Weatherization serves low-income American families that pay the highest percentage of their incomes for energy bills, producing long-lasting benefits for them and an economic boost for their communities.

Low-income households spend much more of their income on energy bills than do families with median incomes (see chart). This percentage of income spent on energy is called the "energy burden," and it is substantial for some weatherization recipients. For example, some elderly recipients who live on fixed incomes pay as much as 35% of their annual incomes for energy bills.

[100] The insert is from the US DOE Weatherization Assistance Program at http://www.energy.gov/weatherization/reducing.html.



Weatherization reduces heating bills an average of 31%.



Low-income families pay much more for energy in relation to their total income than do the rest of the population.

As defined by US DOE, energy burden is the percentage of income spent on energy. However, note that in the above example, “energy” is used interchangeably with “energy bills.” Substantively in this field energy burden is a matter of energy bills. Also, as any household struggling with bills can tell you, the relevant feature of the bill to the low-income household is the “Please Pay” amount. Low-income customers tend to receive substantial “fee” and “penalty” charges, but these are simply a matter of billing philosophies which have generally turned to the concept of Pareto optimality over the last decade. Under this system, charges are loaded onto less affluent customers and removed from affluent customers, who are considered the better customers.