



FirstEnergy
Universal Service Programs
Final Evaluation Report

January 2017

Table of Contents

Executive Summary i

 Introduction..... i

 Evaluation Questions ii

 Pennsylvania Customer Assistance Program (PCAP) ix

 Hardship Fund.....x

 CARES Program..... xi

 WARM Program..... xi

 PCAP Customer Feedback..... xiii

 Program Impact.....xv

 PCAP Recommendations..... xviii

 WARM Recommendations..... xviii

I. Introduction 1

 A. Evaluation Overview 1

 B. Evaluation Questions 2

 C. Organization of the Report..... 9

II. Pennsylvania Customer Assistance Program 11

 A. Goals and Resources 11

 B. Program Management and Administration..... 13

 C. Eligibility and Benefits 16

 D. Enrollment and Referrals 17

 E. Customer Payments and Grants 18

 F. Recertification..... 18

 G. Removal 19

 H. Non-Payment Procedures..... 19

 I. PCAP Statistics 20

 J. Program Coordination..... 25

 K. Changes..... 25

L. Challenges and Successes	25
III. Hardship Fund Program	27
A. Goals and Resources	27
B. Operations	28
C. Eligibility and Benefits	28
D. Hardship Fund Statistics	29
IV. CARES Program.....	34
A. Goals and Resources	34
B. Operations	34
C. Eligibility and Benefits	34
D. CARES Statistics	35
V. WARM Program	38
A. Goals and Resources	38
B. Program Management and Administration.....	39
C. Outreach	39
D. Targeting and Referrals.....	40
E. Eligibility	40
F. Contractor Training.....	41
G. Service Delivery.....	41
H. Measures	43
I. Program Coordination and Referrals	45
J. Data and Reporting	45
K. Quality Control	46
L. Program Statistics	47
M. Program Changes	49
N. Challenges and Successes	50
VI. PCAP Customer Feedback	53
A. Methodology	53
B. Demographics	53
C. Participation	56

D. PCAP Benefits	58
E. Bill Payment Problems	60
F. PCAP Continued Participation	67
G. PCAP Satisfaction and Recommendations	68
H. Summary	69
VII. Transactions Analysis.....	71
A. Methodology.....	71
B. Full Bills.....	74
C. PCAP Credits	76
D. Affordability Impacts.....	84
E. Payment Statistics and Coverage Rates	87
F. Arrearage Forgiveness	95
G. Collections Analysis	99
H. Summary.....	104
VIII. Findings and Recommendations	108
A. PCAP.....	108
B. WARM.....	109

Executive Summary

The FirstEnergy Companies implemented Universal Service Programs to help low-income customers maintain electric service and protect customers' health and safety. The programs include the CAP (LIPURP/PCAP) Program, which provides reduced payments and arrearage forgiveness; LIURP/WARM, which provides energy efficiency and energy education services; CARES, which provides outreach and referral services; the Hardship Fund, which provides emergency assistance; and Gatekeeper, where field personnel recognize and report customers who may be in distress.

FirstEnergy is required to conduct an evaluation of the performance of these programs and their ability to help low-income customers maintain affordable service, and to assess the integration among the different programs. This report presents the results from the evaluation activities and recommendations for the programs.

Introduction

The goals of FirstEnergy's Universal Service Programs are as follows.

1. Protect consumers' health and safety by helping low-income customers maintain affordable utility service.
2. Provide affordable utility service by making payment assistance available to low-income customers.
3. Help low-income customers conserve energy and reduce residential utility bills.
4. Operate in a cost-effective and efficient manner.

The following evaluation activities were implemented.

1. *Evaluation planning and background research*
2. *Program database analysis*
3. *FirstEnergy manager and staff interviews*
4. *PCAP CBO and WARM Contractor interviews*
5. *PCAP participant surveys*
6. *Billing data retrieval and analysis*

Evaluation Questions

The Evaluation of FirstEnergy's Universal Service Programs answered the following questions.

- 1. Is the appropriate population being served? Does the enrollment level meet the needs in the service territory? Are the participants eligible for the programs as defined in the Universal Service Plan? Is re-certification completed according to the Universal Service Plan?*

The evaluation analyzed the number of PCAP participants enrolled, re-certified, and dismissed. While the number of participants declined from 2012 through 2015, the decline was due to implementation of auto-recertification which ensures that program participants are eligible for the program. Approximately 13 percent of FirstEnergy's projected eligible population participated in 2015, as shown in the table below. However, these eligibility estimates usually overstate the number eligible due to customers who do not directly pay for their electric bill, so it is probable that a higher percentage of eligible customers participated. Additionally, the table shows the large number of enrollments and re-certifications that are conducted on an annual basis.

2015							
Company	FirstEnergy Eligibility Calculation	Projected Participants	Actual December Participants	Percent of Projected Eligible	Participation Activities		
					Enrollments	Re-certifications	Dismissals
Met-Ed	118,468	18,000	14,974	13%	10,030	10,592	10,619
Penn Power	37,607	5,700	4,558	12%	2,432	3,320	2,584
Penelec	166,438	24,850	21,195	13%	12,271	15,725	12,931
Total	322,513	48,550	40,727	13%	24,733	29,637	26,134

The appropriate population is being served. While 23 percent had income below 50 percent of the poverty level, 43 percent had income between 51 and 100 percent of the poverty level, and 34 percent had income above 100 percent of the poverty level. While 47 percent had a household member over 62, 19 percent had a child under 18 in the home.

Recertification is completed according to FirstEnergy's Universal Service plan. PCAP participants are required to recertify annually or when there is a change in gross household income, household size, or heating source. A recertification notice is mailed to participants 60 days prior to the benefit end date. The notice provides information on when the benefits will expire and contact information to complete the recertification process. If the customer does not recertify, a message is printed on the participant's electric bill 30 days prior to the benefit end date. If the participant does not recertify prior to the benefit end date, automatic dismissal will occur for failure to recertify.

Following removal, the customer is mailed a letter that explains the account has been removed from CAP and provides instructions on how to reapply.

2. *What is the customer distribution by CAP payment plan? Do participants' energy burdens comply with the CAP Policy Statement? How many and what percent of customers have a minimum payment?*

FirstEnergy provides a three percent of income payment to customers with non-electric heat and a nine percent of income payment to customers with electric heat. The table below shows that 74 percent of the PCAP participants had the three percent of income plan and 23 percent had the nine percent of income plan. The table also shows that these levels provide a burden that is below the top of the target for all poverty level groups, and comply with the CAP Policy Statement.

Account Type	FirstEnergy Payment (Percent of Income)	Percent of FirstEnergy Participants	Poverty Level	PUC Target Burden
Non-Electric Heat	3%	74%	≤50%	2%-5%
			51%-100%	4%-6%
			101%-150%	6%-7%
Electric Heat	9%	23%	≤50%	7%-13%
			51%-100%	11%-16%
			101%-150%	15%-17%

The table below shows the percent of PCAP participants included in the transactions analysis who had the minimum payment. In 2015, two percent of the non-electric heat customers had the minimum payment (\$12/month) and nine percent of the electric heat customers had the minimum payment (\$45/month).

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
Number with Minimum Payment	528	436	566	296	333	247
Percent with Minimum Payment	4%	18%	4%	12%	2%	9%

3. *What are the CAP retention rates? Why do customers leave CAP?*

While there were 40,727 CAP participants in December 2015, there were 29,637 re-certifications throughout the year, indicating that approximately 73 percent remain on the program for a year or more.

The table below displays the number of 2015 dismissals and the reasons for dismissal. The table shows that the most common dismissal reason was a failure to re-verify. Other common reasons were moves, income that exceeded the guideline, and that the home was not the customer's primary residence.

	Met-Ed	Penelec	Penn Power	Total
Number of 2015 Dismissals	10,619	12,931	2,584	26,134
Failure to Re-verify	64%	62%	63%	63%
Moved	16%	17%	16%	17%
Income Too High	8%	7%	8%	8%
Not Primary Residence	6%	7%	7%	7%
Energy Burden Too Low	5%	4%	4%	4%
Customer Request	1%	1%	1%	1%
Failure to Participate in Weatherization	<1%	<1%	1%	<1%
Customer Deceased	<1%	<1%	<1%	<1%
Fraud	<1%	<1%	<1%	<1%
High Energy Usage	<1%	<1%	0%	<1%
Failure to Apply for LIHEAP	<1%	<1%	<1%	<1%
Deemed Ineligible by the State	<1%	<1%	0%	<1%
Exceeded Program Time Limit	<1%	0%	0%	<1%
Total	100%	100%	100%	100%

4. *Is there an effective link between CAP and energy assistance programs (LIHEAP, hardship, and other grants)?*

FirstEnergy employs technological-based solutions to assist with the coordination of services to low-income customers. These resources include the following.

- **C-Net On-Line Help System:** This system provides FirstEnergy's customer Information Center, Collection Center Vendor, Expert Global Solutions, and Human Services Department employees with detailed information on Federal, State, and FirstEnergy Universal Service Programs.
- **Chronicles Case Management Software:** FirstEnergy provided this tool to Community Based Organizations, WARM contractors, the Dollar Energy Fund, and FirstEnergy's Human Services Department employees. The software matches household demographic and financial information with available Federal, State, and utility human services programs. FirstEnergy's Universal Service and Energy Conservation Program applications, and the LIHEAP applications are automatically produced by Chronicles.

- FirstEnergy’s Human Services Website: This site allows CBOs that administer FirstEnergy’s low-income programs to obtain current customer billing, payment, energy usage, and other information without FirstEnergy contact.

5. *How effective are the CAP control features at limiting program costs? What are the number and percent of customers with minimum payments? What are the number and percent of customers who exceed the maximum CAP credits?*

The CAP control features of minimum payments and maximum credits are helping to control PCAP costs. The table below shows that two percent of 2015 non-electric heat participants had the minimum payment and nine percent of 2015 electric heat participants had the minimum payment. While 18 percent of 2015 non-electric heat participants had the maximum credit of \$960, three percent of 2015 electric heat participants had the maximum credit of \$2,400. The minimum payment is more likely to affect the electric heat customers and the maximum credit is more likely to affect the non-electric heat customers.

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
Number with Minimum Payment	528	436	566	296	333	247
Percent with Minimum Payment	4%	18%	4%	12%	2%	9%
Number with Maximum Credit	2,678	77	2,720	97	2,695	86
Percent with Maximum Credit	20%	3%	20%	4%	18%	3%

6. *How effective is the CAP and LIURP link? Is the company’s procedure for dealing with excessively high usage effective? If not, how can it be improved?*

FirstEnergy has an effective link between PCAP and LIURP. WARM applications are automatically generated by FirstEnergy’s Chronicles Case Management System for customers eligible for WARM when they meet with CBOs to enroll in PCAP. The majority of WARM participants also participate in PCAP.

FirstEnergy chose the fixed credit approach because it teaches the customers to manage their bills, conserve energy, and provides increased incentive to participate in WARM. If the customer’s usage increases, the customer is responsible for the cost rather than the ratepayers.

Customers who are eligible for WARM and refuse to participate are removed from PCAP. FirstEnergy sends PCAP suspension warning letters and suspends the customer before removal from PCAP. This provides the customer with another chance to

participate in WARM. (If the landlord does not agree to participation, FirstEnergy does not hold the customer responsible.)

7. *Has collection on missed CAP payments been timely? Has the company followed its own default procedures in its Universal Service Plan for CAP customers?*

The evaluation included an analysis of the number of collections actions faced by the PCAP participants. The table below shows that FirstEnergy has continued to pursue collections actions for CAP participants.

Total Number of Collections Actions – PCAP Participants						
	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
No Actions	37%	33%	39%	31%	38%	34%
1-4 Actions	15%	14%	15%	15%	16%	16%
5-8 Actions	8%	10%	8%	11%	9%	10%
9-12 Actions	12%	11%	13%	13%	15%	14%
13-16 Actions	8%	9%	8%	9%	8%	8%
>16 Actions	21%	22%	17%	20%	15%	17%
Total	100%	100%	100%	100%	100%	100%

Most PCAP participants have had good payment coverage rates following enrollment. The table below shows that approximately 60 percent covered at least 90 percent of their bill in 2015 and about 80 percent covered at least 80 percent of their bill with cash and assistance payments.

Total Bill Coverage Rate for PCAP Participants						
	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
≥ 100%	52%	33%	65%	53%	30%	36%
90%-99%	17%	16%	15%	19%	33%	23%
80%-89%	11%	15%	8%	10%	22%	19%
< 80%	20%	36%	12%	18%	15%	22%

The CAP responsibility total coverage rate is the total credits minus CAP credits, divided by the discounted bill.

8. *Does participation in Universal Service Programs reduce service terminations?*

The table below displays the mean number of each type of collection action experienced by PCAP customers. The table shows that the average number of disconnection notices per participant was less than 0.1, indicating that fewer than ten percent of these customers were disconnected. Non-electric LIHEAP recipients who did not participate in PCAP were more likely to be disconnected.

Mean Number of Collections Actions for PCAP Participants						
	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
Outbound Dialing	3.3	3.7	2.8	3.3	2.5	2.7
Inbound Calls	2.6	2.6	2.7	2.8	2.9	3.0
Letter	1.8	1.8	1.4	1.6	1.4	1.4
Mailed Termination	0.6	0.9	0.5	0.8	0.4	0.7
Notices	0.3	0.4	0.2	0.3	0.2	0.3
Disconnection	<0.1	0.1	<0.1	0.1	<0.1	0.1
Total	8.7	9.4	7.8	9.0	7.4	8.2

9. *Does participation in Universal Service Programs decrease collections costs?*

The table below displays the mean total cost of collections actions for PCAP participants and LIHEAP participants. While it was not possible to perform a difference-in-differences analysis to compare the change for participants after entering PCAP (due to data limitations), the table does show that the cost was lower for PCAP participants than for non-PCAP LIHEAP recipients.

Mean Cost of Collections Actions						
	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
PCAP Participants						
Number	13,508	2,466	13,440	2,461	15,086	2,769
Total Collections Cost	\$12.11	\$13.56	\$12.47	\$14.31	\$14.05	\$15.88
Non-PCAP LIHEAP Recipients						
Number	1,701	1,993	1,962	2,529	1,838	2,315
Total Collections Cost	\$22.71	\$16.11	\$29.00	\$20.85	\$28.15	\$21.42

10. *Is the CAP program cost-effective?*

The CAP provides large subsidies to participants, averaging several hundred dollars each year, to improve the affordability of their energy bills. Given the size of these subsidies, it is not possible for the program to be cost-effective, defined as a subsidy cost that is less than the amount saved on collections costs and termination costs. However, there is evidence that the program reduces collections costs and the program provides important benefits to participants to improve their health and well-being, many of which cannot be quantified.

11. How can Universal Service Programs be more cost-effective and efficient?

Based on our review of program documents, interviews with program managers and staff, and analysis of participant and nonparticipant data, we have the following recommendations to improve the effectiveness and efficiency of the PCAP.

- *Maximum Credit Amount:* Consider an increase in the maximum non-electric PCAP credit to improve affordability for these customers.
- *Education:* Train CAP CBOs to provide additional education about the maximum credit at the time of enrollment and re-certification.
- *Enrollment:* Consider allowing mail-in recertification for customers on fixed incomes.
- *Impact:* Continue PCAP with few changes from current design. PCAP has large positive impacts on customers who remain in the program for a full year.
- *Data:* Assess how more complete data can be provided in future evaluations to allow for improved assessment of the impact of PCAP for all customers who enrolled.

We have the following recommendations to improve the effectiveness and efficiency of LIURP.

- *Measure Coding:* Consider a revised approach to the coding of WARM measures in the program database with broader categories to describe the measures installed.
- *Data on Coordination:* Develop a system that provides a small reward to contractors for coordination to encourage coordination and improve contractor reporting on coordination.
- *Jobs Ready for Inspection:* Develop a new program reporting feature with a list of completed jobs and the total invoiced amount for WARM inspectors.
- *Contractor Communication:* Require inspectors to discuss key findings with installation contractors on a timely basis to develop agreement on inspection findings, ensure that missed opportunities or substandard work is addressed and corrected as soon as possible, and verify that learnings are applied to new jobs on an ongoing basis.

- *Inspection Findings:* Instruct inspectors to focus on key issues that impact health and safety or energy savings.
- *Highlight Quality Work:* Train inspectors to commend contractors for high quality work seen in the field, as well as pointing out areas of concern.

12. Is the program sufficiently funded?

The table below shows that the program was sufficiently funded in 2015. Across the three companies, 86 percent of the budget was spent.

2015			
Company	Budget	Expenditures	Percent of Budget Spent
Met-Ed	\$17,820,000	\$15,119,162	85%
Penn Power	\$4,770,900	\$3,971,068	83%
Penelec	\$20,501,250	\$18,130,146	88%
Total	\$43,092,150	\$37,220,376	86%

Pennsylvania Customer Assistance Program (PCAP)

FirstEnergy's Pennsylvania Customer Assistance Program (PCAP) provides a reduced bill to low-income participants to help them maintain electric service and provides arrearage forgiveness to eliminate past due balances.

The objectives of PCAP are as follows.

- Improve payment ability and consistency.
- Reduce electricity consumption.
- Eliminate debt.

Community Based Organizations (CBOs) are responsible for the daily administration of the programs. FirstEnergy has contracts with the CBOs for intake and recertification activities. CBO staff have remote access to FirstEnergy's Human Services website and Chronicles Case Management system to access customer data and enter application information.

Eligibility Criteria

Customers who meet the following criteria are eligible for PCAP.

- Total gross household income at or below 150 percent of the Federal Poverty Income Guidelines.
- Residential account with active account status.
- Total energy burden (most recent 12 months) greater than three percent (non-electric heat) or nine percent (electric heat) of total gross household income.
- Reside at the service address.

- Only have one residential account in their name.
- Participate in WARM if eligible.
- Participate in LIHEAP if eligible.
- Agree to an Equal Payment Plan (implemented in May 2016).

PCAP Subsidy

PCAP participants pay the difference between their total monthly bill and their monthly PCAP bill subsidy credit, applied at the time of billing. The monthly subsidy credit is based on total gross household income, the primary heating source, and energy burden (based on previous twelve months of bills).

Debt Forgiveness

Customers who enter PCAP for the first time have all pre-program debt deferred and included in the PCAP Debt Forgiveness Component. When re-entering or recertifying for PCAP following the first enrollment, only the remaining pre-program debt from the first PCAP enrollment is re-deferred and included in the PCAP Debt Forgiveness Component. Debt forgiveness payments of 1/36 of the pre-program arrearage are awarded following full monthly payment of the PCAP bills.

Enrollment and Referrals

There are three different intake processes for PCAP.

1. Community Based Organization (CBO) Interviews: The CBOs process participant enrollments and re-certifications by appointment in their offices.
2. Telephone Interviews: Dollar Energy processes participant enrollments and re-certifications by telephone. The customer faxes in the documentation, waits three days, and then is notified if something is missing. The customer can fax the additional information that is needed if necessary. The customer is not required to make an appointment and can enroll any time Dollar Energy is open.
3. WARM Program Referrals: WARM participants are referred to the appropriate CBO who will process participant enrollments and re-certifications.

Recertification

PCAP participants are required to recertify annually (this is a new provision in the 2015-2018 plan) or when there is a change in gross household income, household size, or heating source. Participants are required to be current on their PCAP payments to recertify for PCAP.

Hardship Fund

Dollar Energy Fund is an emergency hardship fund to help residential customers who have faced a recent financial hardship and need temporary help to pay their electric bill.

The Dollar Energy Fund is predominantly funded by contributions from FirstEnergy stockholders, employees, and customers, and the Dollar Energy Fund.

The application for hardship fund grants is administered by community-based organizations throughout the service territory.

Eligibility

Customers must meet the following criteria to be eligible for a hardship fund grant.

- Residential single home or apartment.
- Adult resident name on the account (exceptions for active military duty).
- Total household income at or below 250 percent of the Federal Poverty Income Guidelines (exceptions may be made based on circumstances).
- Minimum paid amount of \$150 within the past 90 days (\$100 if over age 62).
- Account balance of at least \$100 (senior citizens may have a \$0 balance but not a credit, exceptions may be made based on circumstances).
- Customer must provide income information.

- Customers must first apply for LIHEAP when available and participate in PCAP when eligible.

A customer may receive one grant, up to a maximum of \$500, during a program year.

CARES Program

CARES provides assistance on a short-term basis to payment-troubled residential customers. Many of these customers are enrolled in PCAP, but not all are eligible.

Customers who have experienced a recent hardship are eligible for CARES. The hardship may include one of the following.

- Serious illness or injury to household member
- Death of a wage earner
- Marital or family problems
- Handicapped or disabled household member
- Sudden loss of income in the household
- 60 years of age or over requiring special assistance

CARES representatives make referrals to social service agencies and provide information on FirstEnergy and external programs. Many are enrolled in PCAP. However, these customers are tracked and additional follow-up is provided in cooperation with social services agencies when needed.

WARM Program

FirstEnergy refers to its Low-Income Usage Reduction Program as WARM. The program provides energy conservation measures and education to low-income customers, with a

primary goal of ensuring that low-income, payment-troubled customers have access to affordable energy.

The objectives of WARM are as follows.

1. Reduce energy use, bills, and arrearages of low-income customers.
2. Increase health, safety, and comfort in the home.
3. Make personalized referrals to Universal Service Programs and other assistance programs.

FirstEnergy contracts with agencies and contractors to perform program intake and measure installation. Some subcontract part of the work to specialists such as electric, plumbing, and HVAC contractors.

West Penn Power contracts with the Dollar Energy Fund (DEF) to provide administration, field support, marketing support and manage their 17 installation contractors.

WARM applications are automatically generated by FirstEnergy's Chronicles Case Management System for customers eligible for WARM when they meet with CBOs to enroll in PCAP. The majority of WARM participants also participate in PCAP. Chronicles also generates a report of potential WARM participants at 151 to 200 percent of the Federal Poverty Income Guidelines.

Eligibility

Customers must meet the following criteria to be eligible for WARM.

- Household income at or below 150 percent of the Federal Poverty Income Guidelines.
- Special needs customers with household income between 151 and 200 percent of the Federal Poverty Income Guidelines. This has always included customers with overdue account balances. FirstEnergy also includes households with medical problems, personal crisis situations, and loss of income. Up to 20 percent of the WARM budget may be used for these customers over 150 percent of poverty.
- Annual electric usage of 6,500 kWh or more (lowered from 7,200 in the 2015-2018 plan).
- No annual usage requirement for those whose services are coordinated with the PA Weatherization Assistance program (WAP) or a Natural Gas Distribution Company when most services are being provided at the same time (new in the 2015-2018 plan).
- Customer must reside at the service address.
- Must have at least six months of consecutive service.
- Must secure landlord approval if renting.
- Homes previously served may receive WARM services again within five years if the home continues to have significant electric use (this was reduced in the 2015-2018 plan from the previous requirement of seven years).

Contractors are required to install as many eligible measures as possible in customers' homes using the WARM Policy and Procedures Manual. Services usually include an initial visit where testing and assessment of opportunities is conducted and education is provided,

and subsequent visits where contractors reinforce energy education and install measures that could not be completed during the initial visit.

FirstEnergy classifies measures into Seasonal Measures, Baseload and Water Heat Measures, and Health and Safety Measures.

- **Seasonal Measures:** The contractor is required to use the WARM Program Seasonal Allowance Spreadsheet or the Default kWh Seasonal Spending Guideline Table to calculate the spending guideline for each customer's home. If there are major opportunities for additional work that exceed the spending guideline, the contractor must contact FirstEnergy to request additional funding.
- **Baseload and Water Heat Measures:** These measures are installed using standard WARM Program procedures and testing; there are no spending limits, and they are not part of the seasonal spending allowance.
- **Health and Safety Measures:** These measures typically do not save energy, but are completed to remove barriers so energy saving measures can be installed. The costs for health and safety measures cannot exceed 50 percent of the seasonal spending allowance.

PCAP Customer Feedback

APPRISE conducted a survey with West Penn Power Customer Assistance Program (PCAP) participants as part of the evaluation. We conducted telephone interviews with 149 West Penn Power PCAP participants. This section provides a summary of findings from those surveys.

- **Demographics:** Participants' demographic characteristics provide explanation for their need for assistance.
 - **Disabilities:** 58 percent reported that someone in the home was disabled.
 - **Unemployment:** 24 percent reported that someone in the home had been unemployed in the past 12 months.
 - **Education:** The highest level of education was most likely to be a high school diploma, or some college or an Associate Degree.
 - **Income Source:** Only 28 percent reported that their household had employment income and 28 percent reported that someone in their household had retirement income.
 - **Public Assistance:** 38 percent stated that they received public assistance and 81 percent stated that they received food stamps or lived in public or subsidized housing.
 - **Income:** 38 percent reported that their annual household income was less than or equal to \$10,000. Only seven percent reported that the household's income was above \$30,000.

- **Participation:** Respondents were most likely to report that they heard about PCAP through a West Penn Power customer service representative, followed by an agency. When asked why they decided to enroll in PCAP, customers were most likely to state it was to reduce their energy bills.

Most respondents reported that the enrollment and the recertification process were very or somewhat easy. While 58 percent said the enrollment process was very easy and 33 percent said it was somewhat easy, 63 percent of those who re-certified stated that re-certification was very easy and 29 percent said it was somewhat easy.

- **PCAP Benefits:** Eighty-seven percent reported that they felt they had a good understanding of the benefits provided by the program.

When asked what their responsibility was in the program, respondents were most likely to report that it was to keep up with payments. Some reported that their responsibility was to report income information or to conserve energy.

Respondents were most likely to report that the benefits of PCAP were lower energy bills, followed by even monthly payments or maintaining their electric service.

When asked if they were aware that there was a limit on the amount of benefits that they could receive in a year on PCAP, only 26 percent said that they were aware.

- **Bill Payment Problems:** While 56 percent said it was very difficult to pay the West Penn Power bill prior to participating in PCAP, only 13 percent said that it was very difficult while participating in the program.

While 62 percent reported that their electric bill was lower while participating in PCAP, 25 percent said that their electric usage was lower. Most respondents stated that there was no change in their electric usage. Those customers who reduced their usage were most likely to state that it was because they were trying to reduce usage or conserve.

Respondents were asked about difficulties paying for food, medicine, medical or dental expenses, mortgage or rent, the telephone bill, credit card or loan payments, and car payments. Respondents were less likely to state that they had to delay or skip paying these bills while participating in PCAP than they were before participating in the program.

When asked whether there was a time that they were unable to use their heat because it was broken and they could not pay for the repair or replacement, 29 percent said that they had this problem prior to participating in PCAP and 14 percent said they had this problem while participating in PCAP.

Eighty percent of respondents stated that PCAP had been very important in helping them meet their needs and 18 percent said it had been somewhat important.

When asked whether they felt they needed additional assistance to pay their electric bill, 47 percent of respondents stated that they did.

- **PCAP Continued Participation:** When asked how likely they were to continue to participate in PCAP, 95 percent said they were very likely and four percent said they were somewhat likely. Most participants stated that they would continue to participate in the program as long as the assistance was needed.
- **PCAP Satisfaction and Recommendations:** When asked about satisfaction with PCAP, 77 percent stated that they were very satisfied and 16 percent stated that they were somewhat satisfied. Only six percent said that they were somewhat or very dissatisfied.

Respondents provided some recommendations when they were asked how they thought the program could be improved. They were most likely to suggest a higher level of assistance, more explanation of the program, or even monthly payments.

Program Impact

Billing, payment, and collections data were analyzed for customers who participated in PCAP in 2013, 2014, and 2015. The analysis focused on PCAP participants who were in the program for the full year, as data on bills and payments were not available when customers were not participating in PCAP. Given the seasonal nature of bills and payments, it is important to analyze these data over the full year to get an accurate picture of affordability and payment compliance.

Between 19 and 26 percent of the PCAP participants were included in the analysis. Many PCAP customers do not remain on the program for the full year, either because they enrolled after the beginning of the year or they exited prior to the end of the calendar year.

- **Full Bills:** The mean bill for non-electric heat customers was \$1,248 in 2015 and the mean bill for electric heat customers was \$2,058 in 2015. In all years, Met-Ed customers had the highest bills. In 2015, the mean Met-Ed bill was \$1,357 for non-electric heat customers and \$2,204 for electric heat customers.

About 25 percent of non-electric heat customers and about 30 percent of electric heat customers had an alternate supplier for at least one month. Non-electric heat customers with an alternate supplier had higher bills in all years. In 2015, the mean bill was \$1,221 for non-electric heat customers without an alternate supplier and \$1,330 for customers with an alternate supplier. Electric heat customers with an alternate supplier did not have higher bills in 2013, but they did in 2014 and 2015. In 2015, the mean bill was \$2,036 for electric heat customers without an alternate supplier and \$2,121 for customers with an alternate supplier.

- **PCAP Credits:** The mean PCAP credit was \$592 in 2015 for non-electric heat customers and \$914 in 2015 for electric heat customers. Many non-electric heat customers, about

20 percent, received the maximum PCAP credit, while just 3 percent of electric heat customers received the maximum PCAP credit.

Met-Ed non-electric customers had the highest mean PCAP credit and the highest percentage of customers who received the maximum PCAP credit. Penn Power had the lowest mean PCAP credit for non-electric heat customers, while Penelec had the lowest mean PCAP credit for electric heat customers.

In 2015, non-electric heat customers received a mean percent discount of 48 percent while electric heat customers received a mean percent discount of 41 percent.

Non-electric heating customers who received the maximum credit had an average discount of 51 percent of their bill, while customers who did not receive the maximum credit had an average discount of 48 percent in 2015. This difference was much larger for electric heat customers, but only three percent of these customers received the maximum PCAP credit. In 2015, electric heating customers who received the maximum PCAP credit had an average discount of 61 percent, while those who did not receive the maximum credit had an average discount of 40 percent.

Customers at lower poverty levels received a higher percent discount on their bill. In 2015, customers at or below 50 percent of the poverty level received a 54 percent discount on their bill, while customers between 101 and 150 percent of the poverty level received a 40 percent discount.

- *Affordability:* In 2015, the PCAP discount lowered customers' energy burden (or percent of income spent on electricity) from 11 percent to 6 percent for non-electric heat customers, and from 19 percent to 11 percent for electric heat customers. This indicates that the PCAP program has a large impact on the affordability of electric bills for customers who remain in the program for a full year.

Customers who received the maximum credit had much higher energy burdens both before and after receiving the PCAP discount. In 2015, non-electric heat customers who received the maximum credit had a full burden of 17 percent and a discounted burden of 9 percent, while those who did not receive the maximum credit had a full burden of 9 percent and a discounted burden of 5 percent.

This trend was more pronounced for electric heat customers, though only three percent of electric heat customers received the maximum credit. In 2015, electric heat customers who received the maximum credit had a full burden of 40 percent and a discounted burden of 18 percent, while those who did not receive the maximum credit had a full burden of 18 percent and a discounted burden of 10 percent.

- *Customer Payments, Credits, and Coverage Rates:* In 2015, PCAP participants made an average of 9.8 cash payments and received an average of 11 PCAP credits.

The payments made by PCAP participants covered a high percentage of their payment responsibility. In 2015, they covered 88 percent of their responsibility. The total coverage rate was also very high. In 2015, 94 percent of the discounted charges were covered on average. Coverage rates for Met-Ed customers were somewhat lower and coverage rates for Penn Power customers were somewhat higher.

The average shortfall, defined as total charges minus total credits, was \$52 for non-electric heat customers and \$80 for electric heat customers in 2015.

A high percentage of customers at or below 50 percent of the federal poverty level had coverage rates below 80 percent. In 2015, 25 percent of non-electric heat customers at or below 50 percent of the poverty level had coverage rates below 80 percent, and 28 percent of electric heat customers did. By comparison, just 11 percent of non-electric heat customers between 101 and 150 percent of the poverty level had coverage rates below 80 percent, and just 17 percent of electric heat customers did.

- *Arrearage Forgiveness:* The percent of non-electric heat customers who received any arrearage forgiveness was 29 percent in 2013, and fell to 23 percent in 2015. The percent of electric heat customers who received arrearage forgiveness also fell from 37 percent in 2013 to 33 percent in 2015. Non-electric heat customers received an average of \$40 in arrearage forgiveness in 2015 and electric heat customers received an average of \$95. Met-Ed had the highest percent of customers who received arrearage forgiveness, while Penn Power had the lowest.

When only examining customers who received arrearage forgiveness, these customers received an average of 8.9 arrearage forgiveness payments in 2015. Non-electric heat customers received a mean of \$171, while electric heat customers received a mean of \$290.

- *Collections Actions and Costs:* The mean total number of collections fell from 8.7 in 2013 to 7.4 in 2015 for non-electric heat PCAP customers, and from 9.4 in 2013 to 8.2 in 2015 for electric heat PCAP customers.

PCAP customers had fewer of almost all collection actions than LIHEAP recipients. This was especially true for non-electric heat customers. In 2015, non-electric heat LIHEAP participants had an average of 12.0 total collection actions compared to 7.4 for PCAP customers. Electric heat LIHEAP participants had an average of 8.6 collection actions compared to 8.2 for PCAP customers.

The mean collections cost per customer increased for non-electric heat PCAP customers from \$12.11 in 2013 to \$14.05 in 2015. The mean cost of collections actions for electric heat PCAP customers rose from \$13.56 in 2013 to \$15.88 in 2015.

PCAP Recommendations

PCAP recommendations relate to the maximum credit amount, CBO education for PCAP applicants, mail-in enrollment, the positive impact of the program, and data availability.

- 1. Maximum Credit Amount: Consider an increase in the maximum non-electric PCAP credit to improve affordability for these customers.*
- 2. Education: Train CAP CBOs to provide additional education about the maximum credit at the time of enrollment and re-certification.*
- 3. Enrollment: Consider allowing mail-in recertification for customers on fixed incomes.*
- 4. Impact: Continue PCAP with few changes from current design. PCAP has large positive impacts on customers who remain in the program for a full year.*
- 5. Data: Assess how more complete data can be provided in future evaluations to allow for improved assessment of the impact of PCAP for all customers who enrolled.*

WARM Recommendations

WARM recommendations relate to measure coding in the WARM data, program coordination, data on jobs ready for inspection, contractor communication, and communication about high quality contractor work.

- 1. Measure Coding: Consider a revised approach to the coding of WARM measures in the program database with broader categories to describe the measures installed.*
- 2. Data on Coordination: Develop a system that provides a small reward to contractors for coordination to encourage coordination and improve contractor reporting on coordination.*
- 3. Jobs Ready for Inspection: Develop a new program reporting feature with a list of completed jobs and the total invoiced amount for WARM inspectors.*
- 4. Contractor Communication: Require inspectors to discuss key findings with installation contractors on a timely basis to develop agreement on inspection findings, ensure that missed opportunities or substandard work is addressed and corrected as soon as possible, and verify that learnings are applied to new jobs on an ongoing basis.*
- 5. Inspection Findings: Instruct inspectors to focus on key issues that impact health and safety or energy savings.*
- 6. Highlight Quality Work: Train inspectors to commend contractors for high quality work seen in the field, as well as pointing out areas of concern.*

I. Introduction

The FirstEnergy Companies implemented Universal Service Programs to help low-income customers maintain electric service and protect customers' health and safety. The programs include the CAP (LIPURP/PCAP) Program, which provides reduced payments and arrearage forgiveness; LIURP/WARM, which provides energy efficiency and energy education services; CARES, which provides outreach and referral services; the Hardship Fund, which provides emergency assistance; and Gatekeeper, where field personnel recognize and report customers who may be in distress.

FirstEnergy is required to conduct an evaluation of the performance of these programs and their ability to help low-income customers maintain affordable service, and to assess the integration among the different programs. This report presents the results from the evaluation activities and recommendations for the programs.

A. **Evaluation Overview**

The goals of FirstEnergy's Universal Service Programs are as follows.

1. Protect consumers' health and safety by helping low-income customers maintain affordable utility service.
2. Provide affordable utility service by making payment assistance available to low-income customers.
3. Help low-income customers conserve energy and reduce residential utility bills.
4. Operate in a cost-effective and efficient manner.

The objectives of the Evaluation of FirstEnergy's Universal Service Programs are listed below.

1. Determine if the programs meet the goals of universal service.
2. Develop standard questions so that utilities evaluate the same measures.
3. Comply with Commission orders that direct BCS to collaborate with the EDCs and Non-Generating Distribution Companies in developing guidelines for evaluation.

The following evaluation activities were implemented.

1. *Evaluation planning and background research:* APPRISE collected and reviewed documents related to FirstEnergy's Universal Service Programs.
2. *Program database analysis:* APPRISE collected and analyzed information from PCAP, WARM, CARES, and Hardship Fund program databases.

3. *FirstEnergy manager and staff interviews:* APPRISE conducted interviews with FirstEnergy's managers and staff that run their Universal Service Programs.
4. *CAP and Contractor interviews:* APPRISE conducted telephone interviews with caseworkers and managers at six agencies who administer PCAP FirstEnergy's service territories, with eight contractors who implement WARM, and with three contractors who inspect WARM jobs.
5. *Customer surveys:* APPRISE conducted telephone surveys with current West Penn Power PCAP participants.
6. *Billing data retrieval and analysis:* APPRISE obtained billing, payment, and collections data from FirstEnergy for customers who participated in PCAP. We analyzed affordability, bill coverage rates, arrearage forgiveness, and collections actions and costs.

B. Evaluation Questions

Key information from the evaluation questions is presented below.

1. *Is the appropriate population being served? Does the enrollment level meet the needs in the service territory? Are the participants eligible for the programs as defined in the Universal Service Plan? Is re-certification completed according to the Universal Service Plan?*

The evaluation analyzed the number of PCAP participants enrolled, re-certified, and dismissed. While the number of participants declined from 2012 through 2015, the decline was due to implementation of auto-recertification which ensures that program participants are eligible for the program. Approximately 13 percent of FirstEnergy's projected eligible population participated in 2015, as shown in the table below. However, these eligibility estimates usually overstate the number eligible due to customers who do not directly pay for their electric bill, so it is probable that a higher percentage of eligible customers participated. Additionally, the table shows the large number of enrollments and re-certifications that are conducted on an annual basis.

2015							
Company	FirstEnergy Eligibility Calculation	Projected Participants	Actual December Participants	Percent of Projected Eligible	Participation Activities		
					Enrollments	Re-certifications	Dismissals
Met-Ed	118,468	18,000	14,974	13%	10,030	10,592	10,619
Penn Power	37,607	5,700	4,558	12%	2,432	3,320	2,584
Penelec	166,438	24,850	21,195	13%	12,271	15,725	12,931
Total	322,513	48,550	40,727	13%	24,733	29,637	26,134

The appropriate population is being served. While 23 percent had income below 50 percent of the poverty level, 43 percent had income between 51 and 100 percent of the

poverty level, and 34 percent had income above 100 percent of the poverty level. While 47 percent had a household member over 62, 19 percent had a child under 18 in the home.

Recertification is completed according to FirstEnergy's Universal Service plan. PCAP participants are required to recertify annually or when there is a change in gross household income, household size, or heating source. A recertification notice is mailed to participants 60 days prior to the benefit end date. The notice provides information on when the benefits will expire and contact information to complete the recertification process. If the customer does not recertify, a message is printed on the participant's electric bill 30 days prior to the benefit end date. If the participant does not recertify prior to the benefit end date, automatic dismissal will occur for failure to recertify. Following removal, the customer is mailed a letter that explains the account has been removed from CAP and provides instructions on how to reapply.

2. *What is the customer distribution by CAP payment plan? Do participants' energy burdens comply with the CAP Policy Statement? How many and what percent of customers have a minimum payment?*

FirstEnergy provides a three percent of income payment to customers with non-electric heat and a nine percent of income payment to customers with electric heat. The table below shows that 74 percent of the PCAP participants had the three percent of income plan and 23 percent had the nine percent of income plan. The table also shows that these levels provide a burden that is below the top of the target for all poverty level groups, and comply with the CAP Policy Statement.

Account Type	FirstEnergy Payment (Percent of Income)	Percent of FirstEnergy Participants	Poverty Level	PUC Target Burden
Non-Electric Heat	3%	74%	≤50%	2%-5%
			51%-100%	4%-6%
			101%-150%	6%-7%
Electric Heat	9%	23%	≤50%	7%-13%
			51%-100%	11%-16%
			101%-150%	15%-17%

The table below shows the percent of PCAP participants included in the transactions analysis who had the minimum payment. In 2015, two percent of the non-electric heat customers had the minimum payment (\$12/month) and nine percent of the electric heat customers had the minimum payment (\$45/month).

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
Number with Minimum Payment	528	436	566	296	333	247
Percent with Minimum Payment	4%	18%	4%	12%	2%	9%

3. *What are the CAP retention rates? Why do customers leave CAP?*

While there were 40,727 CAP participants in December 2015, there were 29,637 re-certifications throughout the year, indicating that approximately 73 percent remain on the program for a year or more.

The table below displays the number of 2015 dismissals and the reasons for dismissal. The table shows that the most common dismissal reason was a failure to re-verify. Other common reasons were moves, income that exceeded the guideline, and that the home was not the customer's primary residence.

	Met-Ed	Penelec	Penn Power	Total
Number of 2015 Dismissals	10,619	12,931	2,584	26,134
Failure to Re-verify	64%	62%	63%	63%
Moved	16%	17%	16%	17%
Income Too High	8%	7%	8%	8%
Not Primary Residence	6%	7%	7%	7%
Energy Burden Too Low	5%	4%	4%	4%
Customer Request	1%	1%	1%	1%
Failure to Participate in Weatherization	<1%	<1%	1%	<1%
Customer Deceased	<1%	<1%	<1%	<1%
Fraud	<1%	<1%	<1%	<1%
High Energy Usage	<1%	<1%	0%	<1%
Failure to Apply for LIHEAP	<1%	<1%	<1%	<1%
Deemed Ineligible by the State	<1%	<1%	0%	<1%
Exceeded Program Time Limit	<1%	0%	0%	<1%
Total	100%	100%	100%	100%

4. *Is there an effective link between CAP and energy assistance programs (LIHEAP, hardship, and other grants)?*

FirstEnergy employs technological-based solutions to assist with the coordination of services to low-income customers. These resources include the following.

- C-Net On-Line Help System: This system provides FirstEnergy’s customer Information Center, Collection Center Vendor, Expert Global Solutions, and Human Services Department employees with detailed information on Federal, State, and FirstEnergy Universal Service Programs.
 - Chronicles Case Management Software: FirstEnergy provided this tool to Community Based Organizations, WARM contractors, the Dollar Energy Fund, and FirstEnergy’s Human Services Department employees. The software matches household demographic and financial information with available Federal, State, and utility human services programs. FirstEnergy’s Universal Service and Energy Conservation Program applications, and the LIHEAP applications are automatically produced by Chronicles.
 - FirstEnergy’s Human Services Website: This site allows CBOs that administer FirstEnergy’s low-income programs to obtain current customer billing, payment, energy usage, and other information without FirstEnergy contact.
5. *How effective are the CAP control features at limiting program costs? What are the number and percent of customers with minimum payments? What are the number and percent of customers who exceed the maximum CAP credits?*

The CAP control features of minimum payments and maximum credits are helping to control PCAP costs. The table below shows that two percent of 2015 non-electric heat participants had the minimum payment and nine percent of 2015 electric heat participants had the minimum payment. While 18 percent of 2015 non-electric heat participants had the maximum credit of \$960, three percent of 2015 electric heat participants had the maximum credit of \$2,400. The minimum payment is more likely to affect the electric heat customers and the maximum credit is more likely to affect the non-electric heat customers.

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
Number with Minimum Payment	528	436	566	296	333	247
Percent with Minimum Payment	4%	18%	4%	12%	2%	9%
Number with Maximum Credit	2,678	77	2,720	97	2,695	86
Percent with Maximum Credit	20%	3%	20%	4%	18%	3%

6. *How effective is the CAP and LIURP link? Is the company's procedure for dealing with excessively high usage effective? If not, how can it be improved?*

FirstEnergy has an effective link between PCAP and LIURP. WARM applications are automatically generated by FirstEnergy's Chronicles Case Management System for customers eligible for WARM when they meet with CBOs to enroll in PCAP. The majority of WARM participants also participate in PCAP.

FirstEnergy chose the fixed credit approach because it teaches the customers to manage their bills, conserve energy, and provides increased incentive to participate in WARM. If the customer's usage increases, the customer is responsible for the cost rather than the ratepayers.

Customers who are eligible for WARM and refuse to participate are removed from PCAP. FirstEnergy sends PCAP suspension warning letters and suspends the customer before removal from PCAP. This provides the customer with another chance to participate in WARM. (If the landlord does not agree to participation, FirstEnergy does not hold the customer responsible.)

7. *Has collection on missed CAP payments been timely? Has the company followed its own default procedures in its Universal Service Plan for CAP customers?*

The evaluation included an analysis of the number of collections actions faced by the PCAP participants. The table below shows that FirstEnergy has continued to pursue collections actions for CAP participants.

Total Number of Collections Actions – PCAP Participants						
	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
No Actions	37%	33%	39%	31%	38%	34%
1-4 Actions	15%	14%	15%	15%	16%	16%
5-8 Actions	8%	10%	8%	11%	9%	10%
9-12 Actions	12%	11%	13%	13%	15%	14%
13-16 Actions	8%	9%	8%	9%	8%	8%
>16 Actions	21%	22%	17%	20%	15%	17%
Total	100%	100%	100%	100%	100%	100%

Most PCAP participants have had good payment coverage rates following enrollment. The table below shows that approximately 60 percent covered at least 90 percent of their bill in 2015 and about 80 percent covered at least 80 percent of their bill with cash and assistance payments.

Total Bill Coverage Rate for PCAP Participants						
	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
≥ 100%	52%	33%	65%	53%	30%	36%
90%-99%	17%	16%	15%	19%	33%	23%
80%-89%	11%	15%	8%	10%	22%	19%
< 80%	20%	36%	12%	18%	15%	22%

The CAP responsibility total coverage rate is the total credits minus CAP credits, divided by the discounted bill.

8. *Does participation in Universal Service Programs reduce service terminations?*

The table below displays the mean number of each type of collection action experienced by PCAP customers. The table shows that the average number of disconnection notices per participant was less than 0.1, indicating that fewer than ten percent of these customers were disconnected. Non-electric LIHEAP recipients who did not participate in PCAP were more likely to be disconnected.

Mean Number of Collections Actions for PCAP Participants						
	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
Outbound Dialing	3.3	3.7	2.8	3.3	2.5	2.7
Inbound Calls	2.6	2.6	2.7	2.8	2.9	3.0
Letter	1.8	1.8	1.4	1.6	1.4	1.4
Mailed Termination	0.6	0.9	0.5	0.8	0.4	0.7
Notices	0.3	0.4	0.2	0.3	0.2	0.3
Disconnection	<0.1	0.1	<0.1	0.1	<0.1	0.1
Total	8.7	9.4	7.8	9.0	7.4	8.2

9. *Does participation in Universal Service Programs decrease collections costs?*

The table below displays the mean total cost of collections actions for PCAP participants and LIHEAP participants. While it was not possible to perform a difference-in-differences analysis to compare the change for participants after entering PCAP (due to data limitations), the table does show that the cost was lower for PCAP participants than for non-PCAP LIHEAP recipients.

Mean Cost of Collections Actions						
	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
PCAP Participants						
Number	13,508	2,466	13,440	2,461	15,086	2,769
Total Collections Cost	\$12.11	\$13.56	\$12.47	\$14.31	\$14.05	\$15.88
Non-PCAP LIHEAP Recipients						
Number	1,701	1,993	1,962	2,529	1,838	2,315
Total Collections Cost	\$22.71	\$16.11	\$29.00	\$20.85	\$28.15	\$21.42

10. *Is the CAP program cost-effective?*

The CAP provides large subsidies to participants, averaging several hundred dollars each year, to improve the affordability of their energy bills. Given the size of these subsidies, it is not possible for the program to be cost-effective, defined as a subsidy cost that is less than the amount saved on collections costs and termination costs. However, there is evidence that the program reduces collections costs and the program provides important benefits to participants to improve their health and well-being, many of which cannot be quantified.

11. *How can Universal Service Programs be more cost-effective and efficient?*

Based on our review of program documents, interviews with program managers and staff, and analysis of participant and nonparticipant data, we have the following recommendations to improve the effectiveness and efficiency of the PCAP.

- *Maximum Credit Amount:* Consider an increase in the maximum non-electric PCAP credit to improve affordability for these customers.
- *Education:* Train CAP CBOs to provide additional education about the maximum credit at the time of enrollment and re-certification.
- *Enrollment:* Consider allowing mail-in recertification for customers on fixed incomes.
- *Impact:* Continue PCAP with few changes from current design. PCAP has large positive impacts on customers who remain in the program for a full year.
- *Data:* Assess how more complete data can be provided in future evaluations to allow for improved assessment of the impact of PCAP for all customers who enrolled.

We have the following recommendations to improve the effectiveness and efficiency of LIURP.

- *Measure Coding:* Consider a revised approach to the coding of WARM measures in the program database with broader categories to describe the measures installed.
- *Data on Coordination:* Develop a system that provides a small reward to contractors for coordination to encourage coordination and improve contractor reporting on coordination.
- *Jobs Ready for Inspection:* Develop a new program reporting feature with a list of completed jobs and the total invoiced amount for WARM inspectors.
- *Contractor Communication:* Require inspectors to discuss key findings with installation contractors on a timely basis to develop agreement on inspection findings, ensure that missed opportunities or substandard work is addressed and corrected as soon as possible, and verify that learnings are applied to new jobs on an ongoing basis.
- *Inspection Findings:* Instruct inspectors to focus on key issues that impact health and safety or energy savings.
- *Highlight Quality Work:* Train inspectors to commend contractors for high quality work seen in the field, as well as pointing out areas of concern.

12. Is the program sufficiently funded?

The table below shows that the program was sufficiently funded in 2015. Across the three companies, 86 percent of the budget was spent.

2015			
Company	Budget	Expenditures	Percent of Budget Spent
Met-Ed	\$17,820,000	\$15,119,162	85%
Penn Power	\$4,770,900	\$3,971,068	83%
Penelec	\$20,501,250	\$18,130,146	88%
Total	\$43,092,150	\$37,220,376	86%

C. Organization of the Report

Seven sections follow this introduction.

- 1) *Section II – PCAP Program Description:* Provides a detailed description of the Pennsylvania Customer Assistance Program.
- 2) *Section III – Hardship Fund Program Description:* Provides a detailed description of the Hardship Fund Program.

- 3) *Section IV – CARES Program Description:* Provides a detailed description of the CARES Program.
- 4) *Section V – WARM Program:* Provides a detailed description of the WARM Program.
- 5) *Section VI – PCAP Customer Feedback:* Provides a summary of the findings from the telephone surveys with WPP PCAP participants.
- 6) *Section VII – Transactions Analysis:* Provides a description of the methodology and findings from the analysis of PCAP affordability, payment, and collections actions and costs.
- 7) *Section VIII – Summary of Findings and Recommendations:* Provides a summary of the findings and recommendations from all of the evaluation activities.

APPRISE prepared this report under contract to FirstEnergy. FirstEnergy facilitated this research by furnishing program data to APPRISE. Any errors or omissions in this report are the responsibility of APPRISE. Further, the statements, findings, conclusions, and recommendations are solely those of analysts from APPRISE and do not necessarily reflect the views of FirstEnergy.

II. Pennsylvania Customer Assistance Program

FirstEnergy's Pennsylvania Customer Assistance Program (PCAP) provides a reduced bill to low-income participants to help them maintain electric service and provides arrearage forgiveness to eliminate past due balances.

This section describes FirstEnergy's PCAP. The information in this section of the report was obtained from review of FirstEnergy's program, discussion with FirstEnergy managers and staff, and in-depth interviews with PCAP agency staff.

A. Goals and Resources

The objectives of PCAP are as follows.

- Improve payment ability and consistency.
- Reduce electricity consumption.
- Eliminate debt.

Budgets and expected participants for 2015 through 2018 are shown in the table below. The budgets and number of projected participants increase by about four to five percent from 2015 to 2018.

**Table II-1
FirstEnergy PCAP Budgets 2015-2018**

Met-Ed					
Year	Projected Participants	Budget			
		Administration	Bill Subsidy Credits	Debt Forgiveness	Total
2015	18,000	\$1,674,000	\$13,914,000	\$2,232,000	\$17,820,000
2016	18,200	\$1,692,600	\$14,068,600	\$2,256,800	\$18,018,000
2017	18,500	\$1,720,500	\$14,300,500	\$2,294,000	\$18,315,000
2018	18,800	\$1,748,400	\$14,532,400	\$2,331,200	\$18,812,000

Penn Power					
Year	Projected Participants	Budget			
		Administration	Bill Subsidy Credits	Debt Forgiveness	Total
2015	5,700	\$530,100	\$3,710,700	\$530,100	\$4,770,900
2016	5,800	\$539,400	\$3,775,800	\$539,400	\$4,854,600
2017	5,900	\$548,700	\$3,840,900	\$548,700	\$4,938,300
2018	6,000	\$558,000	\$3,906,000	\$568,000	\$5,022,000

Penelec					
Year	Projected Participants	Budget			
		Administration	Bill Subsidy Credits	Debt Forgiveness	Total
2015	24,850	\$2,112,250	\$16,276,750	\$2,112,250	\$20,501,250
2016	25,200	\$2,142,000	\$16,506,000	\$2,142,000	\$20,790,000
2017	25,600	\$2,176,000	\$16,768,000	\$2,176,000	\$21,120,000
2018	26,000	\$2,210,000	\$17,030,000	\$2,210,000	\$21,450,000

PCAP expenditures for 2012 through 2015 are shown in the table below. Enrollment declined due to the requirement for annual PCAP recertification that was initially implemented in 2013.

**Table II-2
FirstEnergy PCAP Expenditures 2012-2015**

Met-Ed					
Year	December Participants	Expenditures			
		Administration	Bill Subsidy Credits	Debt Forgiveness	Total
2012	28,773	\$1,510,582	\$23,078,157	\$3,768,240	\$28,356,979
2013	17,517	\$2,193,003	\$17,891,068	\$2,900,835	\$22,984,901
2014	16,290	\$1,602,975	\$13,697,339	\$2,224,884	\$17,525,199
2015	14,974	\$1,339,439	\$11,828,872	\$1,950,851	\$15,119,162

Penn Power					
Year	December Participants	Expenditures			
		Administration	Bill Subsidy Credits	Debt Forgiveness	Total
2012	9,246	\$480,459	\$7,259,967	\$1,121,227	\$8,861,652
2013	5,590	\$683,143	\$4,753,838	\$679,982	\$6,116,965
2014	4,872	\$467,144	\$3,408,431	\$412,214	\$4,287,789
2015	4,558	\$420,034	\$3,201,445	\$349,589	\$3,971,068

Penelec					
Year	December Participants	Expenditures			
		Administration	Bill Subsidy Credits	Debt Forgiveness	Total
2012	36,848	\$1,852,852	\$24,984,498	\$3,314,953	\$29,810,033
2013	24,244	\$2,672,945	\$20,024,230	\$2,606,113	\$25,303,288
2014	22,378	\$2,024,595	\$16,167,036	\$2,044,862	\$20,236,492
2015	21,195	\$1,867,556	\$14,439,900	\$1,822,690	\$18,130,146

B. Program Management and Administration

Community Based Organizations are responsible for the daily administration of the programs. FirstEnergy has contracts with the CBOs for intake and recertification activities. FirstEnergy has been working with the majority of the current agencies since 2008 when the program was implemented.

CBO staff have remote access to FirstEnergy's Human Services website and Chronicles Case Management system to access customer data and enter application information. The agencies have the following responsibilities.

- Fielding customers' calls
- Conducting pre-screening interviews with potential applicants to determine if an enrollment interview should be conducted
- Conducting in-person intake and completing the online application using the Chronicles Case Management Software. This interview will include the following steps.
 - Gathering demographics, income, and expense data
 - Collecting proof of income
 - Explaining program rules and requirements
 - Making referrals to other programs
 - Completing WARM applications
 - Completing LIHEAP applications
- Home visits may be required for homebound clients
- Conducting re-certification interviews in the same manner as the initial application
- Providing monthly invoices and reporting on activities performed

Each year FirstEnergy audits the CBOs to verify their proper administration of PCAP applications and recertifications. The audit includes review of applications, referrals, case files, and Chronicles data. FirstEnergy keeps a detailed tracking of the results of these audits that includes the following key statistics (among several others).

- Percent of requested documents that were sent to FirstEnergy.
- Percent that performed the prescreening when appropriate.
- Percent that had the CAP application completed when applicable.
- Percent that had the CAP recertification completed when applicable.
- Percent of clients referred to other programs when applicable.

- Percent with proper documentation retained.
- Percent successfully enrolled in CAP when applicable.

They also had an overall quantitative assessment based on percent of points awarded across all scored categories. Most of the agencies had an overall score above 95 percent.

Tables II-3A through II-3C summarize the 2015 CBO activities. The tables show the large number of enrollments, re-certifications, and interviews conducted.

**Table II-3A
Met-Ed PCAP 2015 CBO Activities**

	Enrollments		Re-Certifications		Total Customers Interviewed
	New	Unsuccessful	Successful	Unsuccessful	
Boyertown Area Multi Services	139	5	172	4	320
Caring Company - York	220	3	148	8	379
Community Progress Council - Lewisberry	62	1	43	1	107
Community Progress Council - Red Lion	53	0	72	0	125
Community Progress Council - York	124	2	83	0	209
Dollar Energy Fund	4237	75	8457	1950	14,719
East Stroudsburg Salvation Army	53	0	91	0	144
Easton Area Neighborhood Center	172	28	251	53	504
Families First	75	4	90	5	174
Hamburg Salvation Army	54	3	78	1	136
Hanover Community Progress Council	183	32	171	5	391
New Hope Ministries	83	17	139	11	250
Pike County Comm Plan & Human	23	2	121	2	148
Reading Salvation Army	667	27	516	14	1224
South Central Community Action	155	29	249	20	453
Spring Valley Church of God	130	7	225	13	375
York Salvation Army	273	7	358	13	651
Total	6,703	242	11,264	2,100	20,309

**Table II-3B
Penelec PCAP 2015 CBO Activities**

	Enrollments		Re-Certifications		Total Customers Interviewed
	New	Unsuccessful	Successful	Unsuccessful	
Blair County Community Action	554	22	974	22	1572
Catholic Charities - Altoona	31	0	63	1	95

	Enrollments		Re-Certifications		Total Customers Interviewed
	New	Unsuccessful	Successful	Unsuccessful	
Catholic Charities - Johnstown	48	2	118	1	169
Center for Community Action	92	0	346	3	441
Central PA Community Action	408	14	760	31	1213
Community Action - Punxsutawney	101	92	323	203	719
Com. Action Partnership of Cambria Co.	211	83	153	72	519
Dollar Energy Fund	4599	89	11201	2081	17,970
Erie County Housing Authority	79	37	135	28	279
Greater Erie Community Action	154	21	102	4	281
Indiana County Community Action	240	78	328	63	709
Northern Tier Community Action	29	11	101	7	148
Northwest PA Weatherization, Inc.	90	11	254	33	388
Saint Martin Center, Inc.	535	312	461	169	1477
Shelter Services - Lewistown	84	32	135	3	254
Tableland Services	315	44	396	16	771
TREHAB Center	287	72	438	32	829
Venango-Crawford OEO	27	0	38	1	66
Warren-Forest EOC	103	9	108	1	221
Weatherization, Inc.	121	4	465	17	607
Total	8,108	933	16,899	2,788	26,892

**Table II-3C
Penn Power PCAP 2015 CBO Activities**

	Enrollments		Re-Certifications		Total Customers Interviewed
	New	Unsuccessful	Successful	Unsuccessful	
Dollar Energy Fund	985	19	2,536	516	4,056
Greenville Salvation Army	104	12	270	23	409
New Castle Salvation Army	99	12	534	57	702
Sharon Salvation Army	209	0	249	22	480
Total	1,397	43	3,589	618	5,647

C. Eligibility and Benefits

This section provides information on the PCAP eligibility criteria and program benefits.

Eligibility Criteria

Customers who meet the following criteria are eligible for PCAP.

- Total gross household income at or below 150 percent of the Federal Poverty Income Guidelines.
- Residential account with active account status.
- Total energy burden (most recent 12 months) greater than three percent (non-electric heat) or nine percent (electric heat) of total gross household income. Accounts with lower burdens do not qualify for the credit, but do qualify for debt forgiveness.
- Reside at the service address.
- Only have one residential account in their name.
- Participate in WARM if eligible.
- Participate in LIHEAP if eligible.
- Agree to an Equal Payment Plan (implemented in May 2016). The equal payment plan is calculated on a quarterly basis based on a full year of usage, and the calculation may occur at a different time than the PCAP credit calculation. The full amount that the customer owes FirstEnergy or that FirstEnergy owes the customer at the time of true-up is applied to the following month's bill.

Customers who report zero income must complete a no-income form that requires the household to report how long they have been living without income and how certain household expenses are met. Applicants claiming zero income for the first time must recertify for PCAP after 90 days and then on an annual basis.

PCAP Subsidy

PCAP participants pay the difference between their total monthly bill and their monthly PCAP bill subsidy credit, applied at the time of billing. The monthly subsidy credit is based on total gross household income, the primary heating source, and energy burden (based on previous twelve months of bills). The credits are calculated on a quarterly basis based on the previous year's usage, or if a new customer, are based upon the previous invoiced history at the premise. FirstEnergy chose the fixed credit approach because it teaches the customers to manage their bills, conserve energy, and provides increased incentive to participate in WARM. If the customer's usage increases, the customer is responsible for the cost rather than the ratepayers.

Credits and maximum credits are shown in the table below. The percentage of income amounts are targets but customers may have burdens that are not exactly at this level if they have usage over the quarter that differs from the previous year or if they reach the maximum annual credit. If the customer increases usage over the past year, the customer is responsible for the higher bill that remains after the CAP credit is applied.

**Table II-4
PCAP Subsidies**

Account Type	Payment Calculation (Percent of Income)	Maximum Annual Credit	Minimum Monthly Payment
Non-Electric Heat	3%	\$960	\$12
Electric Heat	9%	\$2,400	\$45

Debt Forgiveness

Customers who enter PCAP for the first time have all pre-program debt deferred and included in the PCAP Debt Forgiveness Component. When re-entering or recertifying for PCAP following the first enrollment, only the remaining pre-program debt from the first PCAP enrollment is re-deferred and included in the PCAP Debt Forgiveness Component. All other past due asked-to-pay amounts must be paid prior to re-enrollment or recertification.

Debt forgiveness payments of 1/36 of the pre-program arrearage are awarded following full monthly payment of the PCAP bills.

Other Benefits

Security deposits are not assessed on PCAP accounts.

D. Enrollment and Referrals

There are three different intake processes for PCAP.

1. Community Based Organization (CBO) Interviews: The CBOs process participant enrollments and re-certifications by appointment in their offices.
2. Telephone Interviews: Dollar Energy processes participant enrollments and re-certifications by telephone. The customer faxes in the documentation, waits three days, and then is notified if something is missing. The customer can fax the additional information that is needed if necessary. The customer is not required to make an appointment and can enroll any time Dollar Energy is open.
3. WARM Program Referrals: WARM participants are referred to the appropriate CBO who will process participant enrollments and re-certifications.

Customers who are not in the Dollar Energy service territory are only permitted to mail in their application if they are homebound and not able to come into the agency. The mailed applications must be approved by a CARES analyst.

Agency caseworkers must review the customer's most recent 30 days of income and enter only documented information into Chronicles. Documentation that is not listed in FirstEnergy's guide must be approved by a CARES analyst.

Agency caseworkers are required to document in their case notes that referrals are being made.

E. Customer Payments and Grants

Customer payments are applied to their FirstEnergy account in the following order.

1. Payments are first applied against delinquent bills (the customer payment obligation).
2. Payments are next applied against the current bill.
3. Payments are next applied against future bills.

FirstEnergy provides bill inserts, letters, and customer referrals to encourage customers to pursue LIHEAP funds. All eligible electric heating customers are required to apply for and receive LIHEAP to participate in PCAP.

LIHEAP grants are applied to the account in the following order.

1. LIHEAP is first applied against delinquent bills (the customer payment obligation).
2. LIHEAP is next applied against the current bill.
3. LIHEAP is next applied against future bills.

Emergency Hardship Fund grants are applied against delinquent bills to avoid service termination.

F. Recertification

PCAP participants are required to recertify annually (this is a new provision in the 2012-2014 amended plan) or when there is a change in gross household income, household size, or heating source. Participants may be required to be current on their PCAP payments to recertify for PCAP. The customer must pay off the balance minus their deferred arrearages and current charges that are not yet due to recertify for PCAP.

A recertification notice is mailed to participants 60 days prior to the benefit end date. The notice provides information on when the benefits will expire and contact information to complete the recertification process. If the customer does not recertify, a message is printed on the participant's electric bill 30 days prior to the benefit end date. If the participant does not recertify prior to the benefit end date, automatic dismissal will occur for failure to recertify. Following removal, the customer is mailed a letter that explains the account has been removed from CAP and provides instructions on how to reapply.

G. Removal

Customers may be removed from PCAP for any of the following reasons.

1. Refusal to participate in WARM if eligible. FirstEnergy sends CAP suspension warning letters and suspends the customer before removal from CAP. This provides the customer with another chance to participate in WARM. (If the landlord does not agree to participation, FirstEnergy does not hold the customer responsible.)
2. Failure to recertify as scheduled or upon request.
3. Establishment of multiple residential service accounts.
4. Theft of service (re-entry prohibited for six months).
5. Other intentional and fraudulent actions (re-entry prohibited for six months).
6. Failure to apply for LIHEAP and direct benefits to FirstEnergy when main source of heating is electric.
7. Failure to permit scheduled meter readings.
8. Unreasonable and/or increased consumption post-LIURP.
9. Failure to make monthly CAP payments or pattern of returned checks.
10. Refusal to participate in Equal Payment Plan.

Following removal, customers may only re-enter PCAP if their account balance is current except for the original remaining pre-program debt amount. This amount is re-deferred for future debt forgiveness upon PCAP reentry.

H. Non-Payment Procedures

Dunning and termination notices are issued for any unpaid current bills. The deferred pre-program debt balance is not included in these notices. PCAP participants who do not make payments remain in the program but are subject to collections actions and service termination.

In addition to all steps required in Chapter 56, Standards and Billing Practices for Residential Utility Service, and Chapter 14, Responsible Utility Customer Protection Act, customers receive the following calls.

- 5 Days Following First Invoice Due Date – Payment counseling telephone call.
- 6 Days Following First Invoice Due Date – Payment counseling follow-up letter mailed.

After these two collections actions, the account will fast-track to the 10-day termination notice process if the overdue bill is \$100 or greater or greater than 60 days in arrears. If the overdue bill is less than 60 days in arrears, the account will proceed to the second invoice payment counseling telephone call and follow-up letter process.

- 5 Days Following Second Invoice Due Date – Payment counseling telephone call to customers less than 60 days in arrears.
- 6 Days Following Second Invoice Due Date – Payment counseling follow-up letter mailed to customers less than 60 days in arrears.

- 8 Days Following Second Invoice Due Date – 10-Day service disconnection notice issued if customer arrears are greater than \$25 and 60 days past due, or if \$100 or greater.

In order to avoid service termination, customers must pay all outstanding PCAP bills. Following termination of service, customers must bring PCAP bills current and pay reconnection fees for restoration of service.

I. PCAP Statistics

APPRISE requested data on program benefits and customer characteristics for all customers who participated in the PCAP in 2013, 2014, and 2015. The West Penn Power program was not included in the PCAP data analysis because West Penn Power is transitioning their PCAP program and was thus excluded from this analysis.

APPRISE analyzed these data to provide key statistics for program participants in the analysis timeframe. Numbers may not match those provided in Universal Service reports provided by FirstEnergy to the Pennsylvania Public Service Commission because of differences in definitions and time periods for inclusion.

Table II-5 displays the number of active PCAP participants from 2013 through 2015. There were 140,108 unique customers who participated in PCAP during this time period. The number of participants declined over this time period because FirstEnergy implemented auto recertification. Many customers never responded to the re-certification request and were dropped from PCAP after adequate warning of such removal. FirstEnergy began with re-certification for accounts that had not been re-certified and then automated an ongoing annual process to automatically trigger re-certification in 2014.

**Table II-5
Number of Active PCAP Participants 2013-2015**

Met-Ed	Penelec	Penn Power	Total
56,492	68,692	14,924	140,108

Table II-6 displays the number of unique customer enrollments by company. Each customer was only counted as enrolling once during the year. The table shows that Met-Ed had over 10,000 enrollments in 2015, Penelec had over 12,000, and Penn Power had approximately 2,400. Enrollments declined significantly from 2014 to 2015.

**Table II-6
Number of PCAP Enrollments**

Year	Met-Ed	Penelec	Penn Power	Total
2013	12,209	14,995	3,382	30,586
2014	12,636	14,578	2,804	30,018
2015	10,030	12,271	2,432	24,733

Table II-7 displays the number of unique customer re-certifications by company. Each customer was only counted as re-certifying once during the year. The table shows that Met-Ed had over 10,000 re-certifications in 2015, Penelec had nearly 16,000, and Penn Power had approximately 3,300. Re-certifications declined significantly from 2013 to 2015.

**Table II-7
Number of PCAP Re-Certifications**

Year	Met-Ed	Penelec	Penn Power	Total
2013	12,831	18,295	4,399	35,525
2014	11,184	16,622	3,654	31,460
2015	10,592	15,725	3,320	29,637

Table II-8 displays the number of unique customer dismissals by company. Each customer was only counted as being dismissed once during the year. The table shows that Met-Ed had over 10,000 dismissals in 2015, Penelec had nearly 13,000, and Penn Power had approximately 2,600. Dismissals declined significantly over the time period examined.

**Table II-8
Number of PCAP Dismissals**

Year	Met-Ed	Penelec	Penn Power	Total
2013	19,769	23,742	6,279	49,790
2014	12,621	15,672	3,452	31,745
2015	10,619	12,931	2,584	26,134

Table II-9 displays the dismissal reasons for each dismissal recorded in the database. The table shows that the most common dismissal reason was a failure to re-verify. This reason comprised 63 percent of the dismissals in 2013 through 2015. Other common reasons were moves, income that exceeded the guideline, and that the home was not the customer's primary residence.

**Table II-9
PCAP Dismissal Reasons
2013-2015 PCAP Participants**

	Met-Ed	Penelec	Penn Power	Total
Failure to Re-verify	64%	62%	63%	63%
Moved	16%	17%	16%	17%
Income Too High	8%	7%	8%	8%
Not Primary Residence	6%	7%	7%	7%
Energy Burden Too Low	5%	4%	4%	4%
Customer Request	1%	1%	1%	1%
Failure to Participate in Weatherization	<1%	<1%	1%	<1%
Customer Deceased	<1%	<1%	<1%	<1%
Fraud	<1%	<1%	<1%	<1%
High Energy Usage	<1%	<1%	0%	<1%
Failure to Apply for LIHEAP	<1%	<1%	<1%	<1%
Deemed Ineligible by the State	<1%	<1%	0%	<1%
Exceeded Program Time Limit	<1%	0%	0%	<1%
Total	100%	100%	100%	100%

Table II-10 displays statistics on annual household income for the 2013 through 2015 PCAP participants. Each customer was only included once in the table and the most recent income data available for each customer was used. These data were available for all PCAP participants. The table shows that mean income was approximately \$14,000 and 75 percent of participants had annual household income below \$18,540.

**Table II-10
Annual Household Income
2013-2015 PCAP Participants**

	Met-Ed	Penelec	Penn Power	Total
Number of Customers	56,492	68,692	14,924	140,108
% with Data	100%	100%	100%	100%
Mean	\$14,764	\$13,779	\$14,048	\$14,205
Percentile				
25	\$8,592	\$8,550	\$8,688	\$8,592
50	\$12,960	\$11,868	\$12,384	\$12,324
75	\$19,536	\$17,832	\$18,126	\$18,540

Table II-11 displays the poverty level for the 2013 to 2015 PCAP participants. The table shows that 66 percent had income at or below 100 percent of the poverty level, 29 percent

had income between 101 and 150 percent of the poverty level, and five percent had income above 150 percent of the poverty level. Customers were removed from CAP following re-verification of income when their poverty level was above 150 percent. Because the customer's most recent income level was retained in the database and displayed in the table below, some of these PCAP customers were shown to have income above 150 percent of the poverty level.

**Table II-11
Poverty Level
2013-2015 PCAP Participants**

	Met-Ed	Penelec	Penn Power	Total
Number of Customers	56,492	68,692	14,924	140,108
% with Data	>99%	>99%	>99%	>99%
0%-50%	24%	23%	22%	23%
51%-100%	42%	45%	43%	43%
101%-110%	7%	7%	7%	7%
111%-150%	22%	21%	24%	22%
>150%	5%	4%	5%	5%

Table II-12 displays the income source for the 2013 to 2015 PCAP participants. Each participant was only counted once and the most recent income data were used. These data were available for 41 percent of the participants. The most common source of income was disability. While 35 percent had disability income, 23 percent had employment income, 18 percent had a retirement/pension, and 18 percent had an "other" source of income.

**Table II-12
Income Source
2013-2015 PCAP Participants**

	Met-Ed	Penelec	Penn Power	Total
Number of Customers	56,492	68,692	14,924	140,108
% with Data	35%	39%	68%	41%
Disability	31%	38%	36%	35%
Employment	27%	21%	22%	23%
Other	20%	17%	16%	18%
Retirement/Pension	16%	19%	18%	18%
Unemployment Compensation	4%	3%	4%	4%
Public Assistance	2%	2%	4%	3%

Table II-13 displays the percent of PCAP participants that had an elderly household member or a child in the home. While 47 percent had an elderly member, 19 percent had a child in the home.

**Table II-13
Vulnerable Characteristics
2013-2015 CAP Participants**

	Met-Ed	Penelec	Penn Power	Total
Number of Customers	56,492	68,692	14,924	140,108
Over 62	54%	42%	42%	47%
Under 18	17%	21%	17%	19%

Table II-14 displays the heating source for the 2013 to 2015 PCAP participants. The table shows that 26 percent had electric heat and 74 percent had non-electric heat. Met-Ed customers were more likely to have electric heat than the other companies.

**Table II-14
Heating Source
2013-2015 PCAP Participants**

	Met-Ed	Penelec	Penn Power	Total
Number of Customers	56,492	68,692	14,924	140,108
% with Data	>99%	>99%	>99%	>99%
Electric	34%	20%	23%	26%
Non-Electric	66%	80%	77%	74%

Table II-15 shows that 47 percent of the PCAP participants owned their homes and 53 percent rented.

**Table II-15
Home Ownership
2013-2015 CAP Participants**

	Met-Ed	Penelec	Penn Power	Total
Number of Customers	56,492	68,692	14,924	140,108
% with Data	>99%	>99%	>99%	>99%
Own	49%	44%	56%	47%
Rent	51%	56%	44%	53%

J. Program Coordination

FirstEnergy employs technological based solutions that assist with the coordination of services to low-income customers. These resources include the following.

- **C-Net On-Line Help System:** This systems provides FirstEnergy's customer Information Center, Collection Center Vendor, Expert Global Solutions, and Human Services Department employees with detailed information on Federal, State, and FirstEnergy Universal Service Programs.
- **Chronicles Case Management Software:** FirstEnergy provided this tool to Community Based Organizations, WARM contractors, the Dollar Energy Fund, and FirstEnergy's Human Services Department employees. The software matches household demographic and financial information with available Federal, State, and utility human services programs. FirstEnergy's Universal Service and Energy Conservation Program applications, and the LIHEAP applications are automatically produced by Chronicles.
- **FirstEnergy's Human Services Website:** This site allows CBOs that administer FirstEnergy's low-income programs to obtain current customer billing, payment, energy usage, and other information without FirstEnergy contact.

K. Changes

FirstEnergy is assessing their PCAP staffing resources and needs to assess how to structure the department going forward. They are evaluating the customer applications and assessing whether to bring their Chronicles software system in house or build a new system.

FirstEnergy is also considering a restructuring of their PCAP administration with one central agency working as a call center and taking applications by phone. They believe that this would save FirstEnergy from continuous training of CBO staff and provide more consistent information to their customers. Some WPP participants who were surveyed expressed a preference for telephone enrollment, as it saves them from needing to take off from work, visiting the agency, and waiting for their appointment. Customers who need additional assistance would still have other options.

FirstEnergy is changing how customer overpayments are credited so that the overpayments are applied to the next month's bill instead of to the customer's arrearages. FirstEnergy has also begun the process of releasing any security deposits held for PCAP customers.

L. Challenges and Successes

FirstEnergy has faced the following challenges with PCAP.

- Working with many agencies creates additional administrative work for FirstEnergy because some of the smaller agencies have turnover and need frequent assistance with training.
- Obtaining paperwork to document the customer's income is a large amount of administrative work and lengthens the application process.

- Customers with past due balances have been re-enrolled or re-certified. These issues are being considered for IT enhancements.
- Customers shop for generation suppliers, switch for an immediate credit, and then are charged much more by the supplier in the long run.

FirstEnergy has documented the following program accomplishments.

- FirstEnergy enhanced their Human Services Web Site.
- FirstEnergy enhanced Chronicles to operate as a web-based system.
- FirstEnergy created Universal Service Advisory Panels.

III. Hardship Fund Program

Dollar Energy Fund is an emergency hardship fund to help residential customers who have faced a recent financial hardship and need temporary help to pay their electric bill.

A. Goals and Resources

The Hardship Fund is predominantly funded by contributions from FirstEnergy stockholders, employees, and customers, and the Dollar Energy Fund. Tables III-1, III-2, and III-3 display budgets, projected enrollment, and expenditures. West Penn Power has greater enrollment and spending than the other companies because historically there has been stronger outreach in the Pittsburgh area.

**Table III-1
FirstEnergy Hardship Fund Budgets 2015-2018**

Year	Dollar Energy Fund Administration			
	Met-Ed	Penn Power	Penelec	West Penn Power
2015	\$75,000	\$35,000	\$75,000	\$45,000
2016	\$75,000	\$35,000	\$75,000	\$45,000
2017	\$75,000	\$35,000	\$75,000	\$45,000
2018	\$75,000	\$35,000	\$75,000	\$45,000

**Table III-2
FirstEnergy Hardship Fund Projected Enrollment 2015-2018**

Year	Projected Enrollment			
	Met-Ed	Penn Power	Penelec	West Penn Power
2015	750	355	465	1,000
2016	750	355	465	1,000
2017	750	355	465	1,000
2018	750	355	465	1,000

**Table III-3
FirstEnergy Hardship Fund Expenditures 2012-2015**

Year	Hardship Fund Expenditures							
	Met-Ed		Penn Power		Penelec		West Penn Power	
	Admin	Match	Admin	Match	Admin	Match	Admin	Match
2012	\$22,784	\$72,000	\$13,842	\$36,000	\$12,972	\$43,000	\$28,922	\$109,000
2013	\$43,621	\$117,000	\$23,565	\$36,000	\$33,535	\$73,000	\$41,306	\$109,000

Year	Hardship Fund Expenditures							
	Met-Ed		Penn Power		Penelec		West Penn Power	
	Admin	Match	Admin	Match	Admin	Match	Admin	Match
2014	\$42,815	\$142,000	\$18,340	\$36,000	\$34,450	\$103,000	\$34,153	\$109,000
2015	\$33,546	\$117,000	\$13,394	\$36,000	\$24,728	\$73,000	\$35,301	\$109,000

Table III-4 displays the hardship fund benefits provided from 2012 through 2015.

Table III-4
FirstEnergy Hardship Fund Cash Benefits 2012-2015

Year	Cash Benefits			
	Met-Ed	Penn Power	Penelec	West Penn Power
2012	\$144,000	\$57,550	\$85,662	\$152,454
2013	\$233,672	\$58,522	\$146,338	\$170,888
2014	\$284,328	\$99,928	\$206,000	\$330,658
2015	\$234,000	\$72,000	\$146,000	\$218,000

Table III-5 displays the number of customers served through the hardship fund from 2012 through 2015.

Table III-5
FirstEnergy Hardship Fund Cash Participation 2012-2015

Year	Participation			
	Met-Ed	Penn Power	Penelec	West Penn Power
2012	434	171	250	502
2013	727	183	436	505
2014	826	301	610	1,070
2015	713	223	420	715

B. Operations

The application for hardship fund grants is administered by community-based organizations throughout the service territory. Customers can apply by phone for these grants.

C. Eligibility and Benefits

Customers must meet the following criteria to be eligible for a grant.

- Residential single home or apartment.
- Adult resident name on the account (exceptions for active military duty).

- Total household income at or below 250 percent of the Federal Poverty Income Guidelines (exceptions may be made based on circumstances).
- Minimum paid amount of \$150 within the past 90 days (\$100 if over age 62).
- Account balance of at least \$100 (senior citizens may have a \$0 balance but not a credit, exceptions may be made based on circumstances).
- Customer must provide income information.
- Customers must first apply for LIHEAP when available and participate in PCAP when eligible.

Applications are accepted based on customer payment status at various times through the year. The program may be closed between March and September if funds have been depleted.

**Table III-6
Application Timing**

Period	Service Terminated	Pending Termination	All Customers	Closed
Oct 1 – Nov 30	✓	✓		
Dec 1 –Jan 31	✓			
Feb 1 – Feb 28	✓	✓		
Mar 1 – Sep 30	✓	✓	✓	✓
Specific eligibility during this time period depends on funding availability.				

A customer may receive one grant, up to a maximum of \$500, during a program year.

D. Hardship Fund Statistics

This section provides an analysis of the Hardship Fund Data. Table III-7 shows that over 2,000 customers received assistance from the Hardship Fund in 2015.

**Table III-7
Number of Hardship Participants**

Year	Met-Ed	Penelec	Penn Power	West Penn Power	Total
2013	1,130	765	280	750	2,925
2014	633	486	251	1,018	2,388
2015	654	403	231	775	2,063

Table III-8 displays grants awarded to the 2013-2015 Hardship Fund participants. The table shows that the mean grant amount was \$324 and 25 percent received a grant between \$490 and the maximum grant amount of \$500.

**Table III-8
Grant Amount
2013-2015 Hardship Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Grants	2,444	1,662	774	2,598	7,478
% with Data	100%	100%	100%	100%	100%
Mean	\$330	\$336	\$322	\$310	\$324
Percentile					
25	\$210	\$220	\$190	\$184	\$200
50	\$322	\$334	\$314	\$293	\$312
75	\$498	\$500	\$492	\$470	\$490

Table III-9 examines the participant's balance at the time of grant application. The table shows that the mean balance was \$845. While 25 percent had a balance of less than \$385, 25 percent had a balance of more than \$988.

**Table III-9
Balance at Grant Application
2013-2015 Hardship Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Grants	2,444	1,662	774	2,598	7,478
% with Data	>99%	>99%	98%	>99%	99%
Mean	\$916	\$873	\$804	\$774	\$845
Percentile					
25	\$423	\$403	\$366	\$350	\$385
50	\$623	\$608	\$545	\$505	\$566
75	\$1,109	\$1,036	\$944	\$852	\$988

Table III-10 displays the annual household income for the Hardship Fund participants. The table shows that mean income was \$23,545 and that 75 percent had income below \$31,486.

Table III-10
Annual Household Income
2013-2015 Hardship Participants

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	2,339	1,615	726	2,307	6,987
% with Data	96%	95%	96%	96%	96%
Mean	\$25,018	\$23,245	\$23,736	\$22,194	\$23,545
Percentile					
25	\$14,148	\$12,612	\$12,245	\$12,060	\$12,779
50	\$23,604	\$21,439	\$21,510	\$19,289	\$21,432
75	\$33,156	\$31,530	\$31,320	\$29,387	\$31,486

Table III-11 provides the poverty level for the 2013 to 2015 Hardship Fund participants. While 51 percent had income at or below the poverty level, 30 percent had income between 101 and 150 percent, and 19 percent had income above 150 percent of the poverty level.

Table III-11
Poverty Level
2013-2015 Hardship Participants

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	2,339	1,615	726	2,307	6,987
% with Data	98%	98%	98%	98%	98%
0%-50%	20%	21%	23%	15%	19%
51%-100%	28%	31%	32%	38%	32%
101%-110%	6%	6%	6%	6%	6%
111%-150%	25%	21%	21%	25%	24%
151%-200%	16%	15%	12%	12%	14%
>200%	6%	6%	5%	4%	5%

Table III-12 displays the income source for the Hardship Fund participants. The table shows that 51 percent had employment income, 20 percent had disability, and 13 percent had Social Security income.

**Table III-12
Income Source
2013-2015 Hardship Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	2,339	1,615	726	2,307	6,987
% with Data	100%	100%	100%	100%	100%
Employment	54%	53%	48%	46%	51%
Disability	16%	17%	20%	26%	20%
Social Security	12%	13%	14%	13%	13%
No Income	4%	5%	4%	4%	4%
Unemployment	4%	3%	4%	4%	4%
Other	4%	4%	4%	2%	3%
Child Support	3%	3%	2%	2%	3%
Public Assistance	1%	2%	2%	1%	2%
Pension	1%	1%	1%	1%	1%
Veterans Benefits	<1%	<1%	<1%	<1%	<1%
Interest	<1%	0	0	<1%	<1%

Income source is based on the data from the hardship grant application.

Table III-13 shows that 62 percent of the Hardship Fund participants had an elderly household member and ten percent had a child under 18.

**Table III-13
Vulnerable Characteristics
2013-2015 Hardship Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	2,339	1,615	726	2,307	6,987
% with Data	25%	25%	55%	61%	40%
Over 62	64%	62%	63%	61%	62%
Under 18	12%	8%	8%	10%	10%

Table III-14 shows that 26 percent of the Hardship Fund Participants had electric heat and 74 percent had non-electric heat.

Table III-14
Heating Source
2013-2015 Hardship Participants

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	2,339	1,615	726	2,307	6,987
% with Data	99%	98%	99%	>99%	99%
Electric	33%	16%	23%	25%	26%
Non-Electric	67%	84%	77%	75%	74%

Table III-15 displays data on the home ownership status of the 2013 to 2015 Hardship Fund participants. The table shows that 57 percent of these customers owned their homes.

Table III-15
Home Ownership
2013-2015 Hardship Participants

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	2,339	1,615	726	2,307	6,987
% with Data	99%	98%	99%	>99%	99%
Own	50%	51%	64%	68%	57%
Rent	50%	50%	36%	32%	43%

IV. CARES Program

CARES provides assistance on a short-term basis to payment-troubled residential customers. Many of these customers are enrolled in PCAP, but not all are eligible.

A. Goals and Resources

The annual funding for CARES is shown in the table below for 2015 through 2018.

**Table IV-1
FirstEnergy CARES Budgets 2015-2018**

Year	Met-Ed		Penn Power		Penelec		West Penn Power	
	Projected Participation	Budget	Projected Participation	Budget	Projected Participation	Budget	Projected Participation	Budget
2015	50	\$3,500	15	\$1,000	50	\$3,500	50	\$3,500
2016	50	\$3,500	15	\$1,000	50	\$3,500	50	\$3,500
2017	50	\$3,500	15	\$1,000	50	\$3,500	50	\$3,500
2018	50	\$3,500	15	\$1,000	50	\$3,500	50	\$3,500

B. Operations

FirstEnergy employs three CARES analysts. They receive emails from FirstEnergy's call center and human services hotline, and from the CBOs about customers who have stated that they are having a financial difficulty. FirstEnergy checks if the customer is elderly, has a medical issue, or is facing a temporary hardship.

Customers referred to CARES and actions taken to address their issues are tracked in FirstEnergy's Chronicles automated case management system. These customers are tracked separately from PCAP participants.

C. Eligibility and Benefits

Customers who have experienced a recent hardship are eligible for CARES. The hardship may include one of the following.

- Serious illness or injury to household member
- Death of a wage earner
- Marital or family problems
- Handicapped or disabled household member
- Sudden loss of income in the household
- 60 years of age or over requiring special assistance

CARES representatives make referrals to social service agencies and provide information on FirstEnergy and external programs. Many are enrolled in PCAP. However, these customers

are tracked and additional follow-up is provided in cooperation with social services agencies when needed.

Gatekeeper is a separate program where field personnel report a concern about a customer they encountered while working in the field.

D. CARES Statistics

This section provides an analysis of FirstEnergy's CARES program. Table IV-2 shows that the program served 38 customers in 2015.

**Table IV-2
Number of CARES Participants**

Year	Met-Ed	Penelec	Penn Power	West Penn Power	Total
2013	0	3	0	0	3
2014	5	9	1	19	34
2015	8	21	2	7	38

Table IV-3 displays the referrals provided to the CARES participants. The most common referrals were the Dollar Energy Fund, a payment plan, LIHEAP, and a Community Action Agency.

**Table IV-3
CARES Referrals Provided
2013-2015**

Referral Type	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Dollar Energy Fund	1	5	0	13	19
PCAP	3	13	0	0	16
Payment Plan	2	8	1	1	12
LIHEAP	1	1	0	5	7
Community Action Agency	0	3	0	2	5
211	0	1	0	2	3
Aging Agency	0	0	1	2	3
LIURP	0	0	0	3	3
Church Services	0	0	0	2	2
Cancer Services	0	0	0	1	1
No Referral	8	15	2	4	29

Table IV-4 displays the poverty level for the CARES participants. The table shows that 51 percent had income below the poverty level, 41 percent had income between 101 and 150

percent of the poverty level, and eight percent had income above 150 percent of the poverty level.

**Table IV-4
Poverty Level
2013-2015 CARES Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	13	33	3	26	75
% with Data	77%	94%	67%	85%	87%
0%-50%	10%	3%	0%	14%	8%
51%-100%	40%	42%	100%	41%	43%
101%-110%	0%	16%	0%	5%	9%
111%-150%	50%	29%	0%	32%	32%
151%-200%	0%	6%	0%	5%	5%
>200%	0%	3%	0%	5%	3%

Table IV-5 displays the income source for the 2013 to 2015 CARES participants. The table shows that 49 percent had these data available. The most common income sources were disability income, retirement income, and employment income.

**Table IV-5
Income Source
2013-2015 CARES Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	13	33	3	26	75
% with Data	38%	45%	67%	58%	49%
Disability	20%	47%	100%	47%	46%
Retirement/Pension	40%	40%	0%	7%	24%
Employment	20%	7%	0%	33%	19%
Other	20%	7%	0%	13%	11%

Table IV-6 shows that 42 percent of the CARES participants had an elderly household member and 26 percent had a child under 18.

**Table IV-6
Vulnerable Characteristics
2013-2015 CARES Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	13	33	3	26	75
% with Data	38%	45%	67%	62%	51%
Over 62	60%	27%	0%	56%	42%
Under 18	40%	47%	0%	6%	26%

Table IV-7 displays the heating source for the CARES participants. The table shows that 33 percent had electric heat and 67 percent had non-electric heat.

**Table IV-7
Heating Source
2013-2015 CARES Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	13	33	3	26	75
% with Data	77%	94%	67%	100%	92%
Electric	40%	26%	100%	35%	33%
Non-Electric	60%	74%	0%	65%	67%

Table IV-8 shows that 65 percent of the CARES participants owned their homes and 35 percent rented.

**Table IV-8
Home Ownership
2013-2015 CARES Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Number of Customers	13	33	3	26	75
% with Data	77%	94%	67%	100%	92%
Own	20%	58%	50%	92%	65%
Rent	80%	42%	50%	8%	35%

V. WARM Program

FirstEnergy refers to its Low-Income Usage Reduction Program as WARM. The program provides energy conservation measures and education to low-income customers, with a primary goal of ensuring that low-income, payment-troubled customers have access to affordable energy.

A. Goals and Resources

The objectives of WARM are as follows.

1. Reduce energy use, bills and arrearages of low-income customers.
2. Increase health, safety, and comfort in the home.
3. Make personalized referrals to Universal Service Programs and other assistance programs.

The table below provides the budget and participant goals for LIURP for 2015 through 2018. The table shows that participation goals for 2018 ranged from 865 for Penn Power to 2,300 for Penelec. FirstEnergy may need to slightly reduce the number of jobs to accommodate an increase in comprehensive heating jobs with measures that do not meet the current payback period (as approved by the PUC).

**Table V-1
WARM Participation Goal and Budget 2015-2018**

Year	Met-Ed		Penn Power		Penelec		West Penn Power	
	Participation Goal	Budget	Participation Goal	Budget	Participation Goal	Budget	Participation Goal	Budget
2015	1,475	\$4,260,000	835	\$2,167,000	2,255	\$5,114,000	935	\$4,422,000
2016	1,490	\$4,605,000	845	\$2,371,000	2,270	\$5,536,000	970	\$4,573,000
2017	1,505	\$4,996,000	855	\$2,600,000	2,285	\$5,978,000	970	\$4,573,000
2018	1,520	\$5,339,000	865	\$2,822,000	2,300	\$6,387,000	1,020	\$4,649,000

Table V-2 displays WARM participation and expenditures from 2012 through 2014.

**Table V-2
WARM Participation and Expenditures 2012-2014**

Year	Met-Ed		Penn Power		Penelec		West Penn Power	
	Participation	Spending	Participation	Spending	Participation	Spending	Participation	Spending
2012	1,500	\$3,324,683	856	\$1,437,018	2,128	\$4,025,911	781	\$2,547,051
2013	1,490	\$3,360,707	790	\$1,534,568	2,223	\$4,004,785	809	\$2,676,644
2014	1,535	\$3,836,282	899	\$1,976,633	2,173	\$4,174,250	845	\$3,407,210

B. Program Management and Administration

FirstEnergy contracts with agencies and contractors to perform program intake and measure installation. Some subcontract part of the work to specialists such as electric, plumbing, and HVAC contractors.

West Penn Power contracts with the Dollar Energy Fund (DEF) to provide administration, field support, marketing support and manage their 17 installation contractors.

Building Performance Institute (BPI) certification is required for auditors or crew members who make decisions about what measures should be installed in the home and who perform the combustion safety testing procedures. FirstEnergy sponsors agency and contractor attendance at national and regional ACI Home Performance Conferences so that these staff can obtain continuing education credits needed to retain their BPI certification.

FirstEnergy also holds WARM program training specific to procedural issues or to meet the training needs of auditors and crew members.

FirstEnergy has a WARM advisory panel that is comprised of agency and contractor auditors, program managers, and quality assurance inspectors from across Pennsylvania. The advisory panel meets two to three times per year and is on call year round. The members provide suggestions for program improvement, research on new technologies, and testing new measures and products.

FirstEnergy meets with all agencies and contractors on an annual basis to share energy saving results and program changes and to solicit feedback. Contractors are given the energy-saving results for their jobs. Information on Act 129, procedural changes, and other issues such as coordination with PA WAP and gas efficiency programs, smart meters, proposed rate changes, and Customer Choice are discussed. FirstEnergy also holds conference calls throughout the year to review changes to WARM policy and procedures, inspection requirements, and WARM3 system updates.

FirstEnergy managers also meet with individual agencies and contractors to observe audits and crew work in the field. During the field reviews, FirstEnergy staff provide suggestions for process improvement and solicit feedback from the contractors for WARM program improvements. Bi-annual quality assurance conference calls are held with contractors with high failure rates or recurring failures with the same missed opportunities or poor quality installation issues to reinforce procedures and avoid future inspection failures.

C. Outreach

WARM applications are automatically generated by FirstEnergy's Chronicles Case Management System for customers eligible for WARM when they meet with CBOs to enroll in PCAP. The majority of WARM participants also participate in PCAP. Chronicles also generates a report of potential WARM participants at 151 to 200 percent of the Federal Poverty Income Guidelines.

FirstEnergy created an internal committee dedicated to WARM marketing strategies. The committee meets to discuss ways to advertise the program and identify customers who have not previously participated in WARM.

Other sources of outreach include the following.

- Direct mail campaigns.
- Community presentations.
- Annual bill insert that describes the WARM program.
- Information shared during fall and winter collection activities.
- Information distributed in customer winter surveys.
- Cross-marketing with Act 129.
 - Customers can obtain information on FirstEnergy's energysavepa.com website.
 - Program materials are provided when customers participate in Act 129 appliance recycling and Energy Conservation Kit programs.
 - Program advertising is included in customized Home Energy Reports.
 - WARM applications were included in the Act 129 Residential School Education & Kit Program.
- Mass media advertising.
- Social media advertising (Facebook and Twitter).
- Electronic media.
- Alliances in the social service community to help identify and provide applications to customers in need.
- Distributions of CFLs and WARM applications at senior fairs, soup kitchens, foodbanks, and other CBOs.

D. Targeting and Referrals

WARM targets low-income customers who participate in PCAP or LIHEAP. When a surplus of low-income customers exists, FirstEnergy prioritizes customers by highest energy usage first.

E. Eligibility

Customers must meet the following criteria to be eligible for WARM.

- Household income at or below 150 percent of the Federal Poverty Income Guidelines.
- Special needs customers with household income between 151 and 200 percent of the Federal Poverty Income Guidelines. This has always included customers with overdue account balances. FirstEnergy also includes households with medical problems, personal crisis situations, and loss of income. Up to 20 percent of the WARM budget may be used for these customers over 150 percent of poverty.
- Annual electric usage of 6,500 kWh or more (lowered from 7,200 in the 2015-2018 plan).

- No annual usage requirement for those whose services are coordinated with the PA Weatherization Assistance program (WAP) or a Natural Gas Distribution Company when most services are being provided at the same time (new in the 2015-2018 plan).
- Customer must reside at the service address.
- Must have at least six months of consecutive service.
- Must secure landlord approval if renting.
- Homes previously served may receive WARM services again within five years if the home continues to have significant electric use (this was reduced from the previous requirement of seven years in the 2015-2018 plan).

F. Contractor Training

FirstEnergy reimburses the majority of costs for BPI training attended by WARM contractors and covers the core conference fees for the National Affordable Comfort Conference.

FirstEnergy has also contracted with their third party inspectors to provide training on WARM policies and procedures, measure installation specifications, heat pump water heaters, and energy education. FirstEnergy also held a training session for all contractors to provide guidance on continuing work when there may be mold or moisture in the customer's home.

G. Service Delivery

Contractors are required to install as many eligible measures as possible in customers' homes using the WARM Policy and Procedures Manual. Services usually include an initial visit where testing and assessment of opportunities is conducted and education is provided, and subsequent visits where contractors reinforce energy education and install measures that could not be completed during the initial visit. The work may require more than one in-home visit, but the goal is to limit the number of visits and inconvenience to the customer.

Audits

The initial visit includes the following steps.

- Verification of the customer's income eligibility.
- Completion of the FirstEnergy Audit form.
- Establishing a partnership with the customer to achieve energy savings.
- Providing energy education.
- Conducting an in-home assessment to determine appropriate energy reduction measures.
- Identifying and, if possible, correcting health and safety issues based on the spending allowance.
- Obtaining the customer's signatures on all required forms.
- Conducting all Combustion Safety Testing (CST) and diagnostic testing, if applicable.

Energy Education

WARM takes a partnership approach with the customer. WARM provides an energy education notebook to the auditors to engage the customer. The customer is asked to partner with the agency or contractor to develop energy saving strategies designed to address the highest energy use areas of that home. The auditor is required to provide a one-hour minimum and two-hour maximum energy education session utilizing the Energy Education Notebook. The session has the following objectives.

- Improve customer understanding of how energy can be wasted and the associated costs.
- Introduce and reinforce effective methods and customer choices that can be used to reduce bills and make the home more comfortable.

The auditor and the customer sign partnership and savings strategy agreements. The Partnership Agreement Form maintains that both FirstEnergy and the customer have responsibilities in the program. The Energy Savings Strategy Form helps participants understand their energy use and develop a customized energy saving action plan that they can implement.

If the customer's usage had declined by more than five percent as compared to the same months before WARM, FirstEnergy sends the customer a congratulatory letter. If the customer's usage has increased by more than five percent, the agency or contractor provides a follow-up phone call to the customer and visits the customer if necessary. They check if measures are working properly, whether the customer understands how to use the measures, and if lifestyle or structure changes created the increased electric usage. They find that the most common causes of increased usage are increased use of electric supplemental heat, the addition of a major appliance, a problem with an appliance, additional occupants in the home, and increased use of electricity for comfort.

Act 129 Home Energy Reports are also used. These reports provide customized energy education messages and are sent to low-income customers, including WARM participants.

Weatherization

A seasonal allowance is calculated for each home based on past electric consumption and consideration of a seven to twelve year payback requirement. Seasonal allowances are automatically calculated by the Human Services website for each home. The seasonal allowance is increased to align with contractor price increases (new in the 2015-2018 plan).

If the site or customer needs are greater than the calculated budget, the contractor or agency will confer with the FirstEnergy manager after documenting why they propose to exceed the budget. The procedure allows for greater expenditures on higher energy use homes.

LIURP allows for miscellaneous repairs and health and safety measures so that energy saving measures can be installed. Prior to the current USP plan, FirstEnergy allowed up to 30 percent of the total job cost to be spent on health and safety measures. In the 2015-2018 USP Plan, FirstEnergy allowed up to 50 percent of the seasonal allowance to be spent on

health and safety measures contingent upon positive annual evaluation results. This increased the amount of funds available for health and safety and reduced confusion about the calculation.

Baseload electric measures are based upon findings from the audit and monitoring of the energy usage of existing appliances. FirstEnergy updates the replacement thresholds periodically to reflect changes in costs and/or efficiencies.

FirstEnergy has found that more than 50 percent of their WARM participants use supplemental electric heat in the winter even though the primary heating source is not electric. FirstEnergy tries to reduce this usage by coordinating services with the PA WAP and gas LIURP programs to repair gas or oil heating systems. FirstEnergy also performs Combustion Safety Testing to ensure safe use of combustion appliances and provides significant air sealing and insulation when the other programs cannot assist.

H. Measures

Measures provided through WARM depend on the customer's heating type, electric usage, appliance testing results, and diagnostic audit results. Customers have the right to refuse recommended measures but the contractor must encourage the customer to accept all eligible energy-saving measures. Contractors and agencies are required to install measures according to the WARM priority list. Custom measures that meet the seven to twelve year payback requirement are encouraged.

FirstEnergy classifies measures into Seasonal Measures, Baseload and Water Heat Measures, and Health and Safety Measures.

- **Seasonal Measures:** The contractor is required to use the WARM Program Seasonal Allowance Spreadsheet or the Default kWh Seasonal Spending Guideline Table to calculate the spending guideline for each customer's home. If there are major opportunities for additional work that exceed the spending guideline, the contractor must contact FirstEnergy to request additional funding.
- **Baseload and Water Heat Measures:** These measures are installed using standard WARM Program procedures and testing; there are no spending limits, and they are not part of the seasonal spending allowance.
- **Health and Safety Measures:** These measures typically do not save energy, but are completed to remove barriers so energy saving measures can be installed. The costs for health and safety measures cannot exceed 50 percent of the seasonal spending allowance.

FirstEnergy received a waiver from the LIURP regulation that requires a seven or twelve year payback for each installed measure. The waiver applies to heating jobs that the audit indicates should receive comprehensive measures. The overall job must still be cost-effective and otherwise meet LIURP regulations.

Measures that customers may receive through WARM included the following.

Air Sealing and Insulation

- Blower door testing
- Attic, duct, basement, crawlspace, and perimeter air sealing
- Attic, wall, duct, floor, crawlspace, and perimeter insulation
- Attic hatch sealing and insulation
- Boxing and damming of attic heat producing fixtures

Heating and Air Conditioning

- Window/Wall air conditioning unit replacement
- Heating and air conditioning system replacement
- Thermostat replacement/repair
- Air conditioning/heating system filter replacement
- Furnace filter whistle

Appliance Replacement

- Refrigerator replacement
- Freezer replacement

Hot Water Measures

- Water heater replacement
- Heat pump water heaters
- Water heater pipe insulation
- Aerator and showerhead replacement
- Gravity film exchange

Windows and Doors

- Storm and prime window and door repair or replacement
- Reflective window tint

Lighting

- Compact fluorescent light bulbs
- LED night lights

Health and safety

- CO detectors
- Electric dryer venting installation, repair, or replacement
- Repair and replacement of exhaust fans

Custom Measures

- Dehumidifier replacements
- Well pump replacements

- Holding tank replacements

Other

- Reflective roof coating
- Clothes line installation
- Heated waterbed mattress replacement
- Plumbing and electrical repairs
- Appliance and water heater timers
- Smart power strips

Potential New Measures Under Consideration

- Ductless mini split heating and cooling systems
- LED lighting
- Increasing the maximum attic R-value for R38 to R44
- Customized audit and energy education efforts for the highest electric use CAP customers

Extra Measures

Warm Extra Measures is an Act 129 program that allows WARM participants to receive more measures than they traditionally would receive, such as additional CFLs. These measures are typically low cost and are paid for with Act 129 funding.

I. Program Coordination and Referrals

FirstEnergy directs agencies and contractors to coordinate delivery of WARM with other programs including PA WAP and gas LIURP programs. FirstEnergy places customer data into its tracking systems when contractors indicate they are providing services for another program and that the customer is likely to qualify for WARM. FirstEnergy also worked with listings of PA WAP clients and gas customers provided by agencies and contractors to see if coordination opportunities were available. Additional fields were added to their WARM3 tracking system and work management system in 2011 to allow better documentation of coordination efforts. This coordination of services may positively impact savings as the entire home's energy usage is addressed, and also reduce duplication of audit and inspection costs.

J. Data and Reporting

FirstEnergy developed the WARM3 web-based system to assist inspectors, contractors, and FirstEnergy administrators in their management of WARM. The software has the following features.

- Provides for contractor invoicing.
- Reports assist with job tracking, invoices, inspections, and annual evaluations.
- Demographics panel houses Commission-required demographics.
- Automated post-completion customer survey letter.

- Text fields for documentation and communication among contractors, inspectors, and FirstEnergy managers.
- Ability to attach audit, applications, receipts, and photos.

FirstEnergy developed an electronic version of the WARM home energy audit in 2012 to streamline record maintenance, move away from paper files, and allow for electronic attachment of the audit to the WARM3 system for permanent storage.

K. Quality Control

FirstEnergy requires third-party quality assurance inspections on 35 percent of total production. The quality assurance is focused on homes with electric heat, supplemental electric heat, or air conditioning. The quality assurance contractors also provide or coordinate auditor, crew, and group training, as needed, as well as BPI training and testing.

The inspection of 35 percent of total production is a change from previous procedures where 50 percent of electric heat and 15 percent of water heat and baseload jobs were inspected. This new process allows the majority of the inspections to be conducted on homes that have electric heat, supplemental heat, or air conditioning.

The Quality Assurance process was streamlined and strengthened in 2014 with the creation of two standardized forms. The forms provide a standard format with designated categories, checkboxes, and sections for brief comments. Inspectors are also required to document that the materials indicated on the FirstEnergy invoice were installed.

There are five different types of inspections that include various levels of diagnostics. The most common type of inspection does not include diagnostics, but some jobs each year do include blower door testing and health and safety diagnostics. The inspectors are required to conduct the following tasks.

- Assess compliance with program procedures and specifications
- Assess skill and knowledge levels and program problem areas
- Determine specific follow-up training needed
- Observe energy education sessions with the auditor and provide feedback where needed
- Observe the installation of electric energy-saving measures
- Provide technical assistance to contractors, including telephone support on an as needed basis.
- Verify that BPI certifications are current and valid
- Attend FirstEnergy sponsored training and share information with staff members
- Record all customer complaints in FirstEnergy's WARM3 system
- Provide energy education to the customer at the time of the inspection

APPRISE interviewed the three quality control inspectors in March 2016. One common challenge that they faced was that it is currently very difficult to identify jobs that are ready for inspection. The inspectors stated that the list of completed jobs includes jobs that are not

actually completed. The inspectors recommended that a new reporting feature with a list of completed jobs and the total invoiced amount would be helpful.

FirstEnergy also requires each agency or contractor to perform their own inspection prior to submitting a job for payment. These costs are included in the total job costs and are not itemized separately.

L. Program Statistics

This section analyzes WARM program data. Table V-3 displays the percent of customers with each type of measure installed in 2013, 2014, and 2015. The most common measures were the audit, education, CFLs, health and safety work, and refrigerators and freezers. Additionally, approximately half of the customers had a blower door test. While 30 percent had air sealing work done, 22 percent had attic insulation work, and 27 percent had window or door sealing or repair.

**Table V-3
Measures Installed**

	2013	2014	2015
Audit	>99%	>99%	>99%
Blower Door Test	48%	53%	46%
Education	98%	99%	99%
Health & Safety	66%	65%	66%
Ventilation	31%	34%	31%
CFL	78%	72%	74%
LED	0%	<1%	5%
LED Nightlights	34%	37%	45%
Power Strip	19%	20%	31%
Test Refrigerator/Freezer – Not Replaced	53%	48%	47%
Refrigerator/Freezer	41%	50%	50%
Appliance Replacement*	5%	3%	1%
Appliance Efficiency Improvements	1%	<1%	1%
Clothes Line	9%	10%	9%
Mattress Replacement (water bed)	5%	5%	4%
Air Sealing	27%	32%	30%
Attic Insulation	20%	23%	22%
Vapor Barrier	9%	10%	9%
Duct Sealing & Insulation	8%	8%	7%
Mobile Home Insulation	7%	8%	8%
Attic Cover	7%	8%	8%
Perimeter/Wall Insulation	9%	10%	10%

	2013	2014	2015
Drywall	3%	3%	3%
AC Cover	1%	1%	1%
Thermostat	12%	11%	11%
Heat Repair	10%	11%	11%
Furnace Whistle	5%	7%	6%
HVAC Maintenance/Repair/Replace	10%	11%	10%
Water Heater Replacement	13%	15%	16%
Pipe Insulation	9%	23%	9%
Aerator	6%	13%	10%
Showerhead	3%	8%	5%
Tank Temperature Setback	5%	4%	3%
Water Heater Insulation	<1%	<1%	<1%
Window/Door Sealing Repair	29%	32%	27%
Repairs	15%	17%	16%
Plumbing Repair	14%	16%	18%
Mobile Home Floor/Roof	4%	5%	5%

Includes all measures received by more than one percent of participants.

*Appliance Replacement includes dryers, dehumidifiers, air conditioning units, washing machines, and stoves.

Table V-4 displays the poverty level for the LIURP participants. The table shows that 16 percent of LIURP participants had income at or below 50 percent of the poverty level and 10 percent had income above 150 percent.

Table V-4
Poverty Level
2013-2015 LIURP Participants

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
0%-50%	17%	15%	16%	20%	16%
51%-100%	42%	43%	36%	40%	41%
101%-150%	31%	33%	33%	31%	32%
>150%	10%	9%	15%	9%	10%

*18 customers with missing data or outliers were excluded from this table.

Table V-5 shows that 21 percent of the LIURP participants had a household member over 62 and 55 percent had a child in the home.

**Table V-5
Vulnerable Characteristics
2013-2015 LIURP Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Over 62	17%	22%	30%	23%	21%
Under 18	62%	53%	49%	47%	55%

*3,178 jobs had no data on the number of household members over 62. 2,048 jobs had no data on the number of household members under 18.

Table V-6 displays the heating source for the LIURP participants. The table shows that 34 percent had electric heat and 66 percent had non-electric heat. The West Penn Power LIURP participants were much more likely to have electric heat and the Penelec customers were least likely to have electric heat.

**Table V-6
Heating Source
2013-2015 LIURP Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Electric	45%	19%	27%	59%	34%
Non-Electric	55%	81%	73%	41%	66%

Table V-7 shows that 62 percent of the LIURP participants were owners and 38 percent were renters. Customers served by Penn Power were more likely to be owners than those served by the other companies.

**Table V-7
Home Ownership
2013-2015 LIURP Participants**

	Met-Ed	Penelec	Penn Power	West Penn Power	Total
Own	53%	63%	73%	62%	62%
Rent	47%	37%	27%	38%	38%

M. Program Changes

FirstEnergy has continued to refine WARM to improve the program and maximize energy savings. They have made the following changes in recent years.

- Eligibility: FirstEnergy lowered the minimum threshold requirement for WARM participants from 7,200 kWh to 6,500 kWh annually in 2014. FirstEnergy eliminated the minimum usage threshold for customers whose services are coordinated with the PA Weatherization Program or a Natural Gas Distribution Company.

- Stay out: FirstEnergy reduced the stay out period from seven years to five years for customers or properties who previously received WARM services in 2014.
- Refrigerators: The kWh replacement refrigerators was lowered in 2013 to allow for more installations of energy efficient refrigerators, as these replacements have been evaluated to save significant electricity.
- New Measures: FirstEnergy added heat pump water heaters and furnace whistles. In their 2015-2018 plan they added ductless mini split heating and cooling systems, LED lighting, increased the maximum attic R-Value to R44, and customized audit and energy education for CAP customers with the highest electric usage.
- Payback: FirstEnergy will install all appropriate measures regardless of payback provided that the overall job is still cost-effective. FirstEnergy received a temporary partial waiver for the duration of their 2015-2018 program unless terminated sooner by the Commission. FirstEnergy is required to report findings to the BCS as part of the required annual LIURP report to evaluate whether the waiver should be extended. The Commission recognized that FirstEnergy may need to reduce their number of jobs to accommodate the increase in comprehensive heating jobs that may include measures that do not meet the current payback period.
- WPP designated \$350,000 for a pilot to provide whole house program efficiency and conservation measures and to repair or replace non-functioning fossil fuel heating systems. WPP will serve up to 50 homes by April 30, 2017.
- Outreach: FirstEnergy created an internal committee dedicated to program marketing. The committee discussed ways to advertise the program and identify customers who have not previously participated in WARM.
- Quality Control: The Quality Assurance process was streamlined and strengthened in 2014 with the creation of two electronic forms to be used in observations of audits and installations.
- Renters: The landlord agreement was revised to allow for the option of only having baseload measures installed.

N. Challenges and Successes

The following challenges were noted.

- More homes with non-electric main heating are using electric supplemental heat.

- Homes previously classified as water heat or baseload now require attic air sealing, insulation, and combustion safety tests. It takes many more days to serve these homes, so agencies and contractors cannot serve as many homes in a year.
- Some PCAP participants do not qualify for WARM because their electricity use does not meet the annual minimum energy usage.
- Some customers cannot participate because their landlords will not agree to program services at their properties.
- A small number of homes have structural problems, pest infestations, or other health and safety related problems that are beyond the scope of the program and prevent LIURP services from being delivered.
- Contractors face barriers to providing air sealing due to moisture issues, and malfunctions in fossil fuel furnace or water heaters.
- It is difficult for some working low-income customers to be at home for service delivery.
- Language barriers make the provision of services by agencies and contractors more difficult. FirstEnergy contracts with a language translation firm for customer phone calls.

The following successes were achieved.

- FirstEnergy has placed electronic versions of the WARM Policy, Procedures, and Specifications Manual and the WARM Audit on the WARM3 system for quicker up-to-date access.
- FirstEnergy has five Act129 programs that can provide services to low-income customers with low electric usage who do not qualify for WARM.
- WARM3 has been updated to operate as a web-based system.
- FirstEnergy is continuing extensive computer system enhancements to make administrative processes more efficient, including a complete re-write of the WARM tracking system.
- In 2013 FirstEnergy implemented major programming changes that allow the automated transfer of customer information between FirstEnergy's SAP Customer Care System (CCS) and the WARM3 system. Select customer information is automatically

transferred from CCS into WARM3 and a completed job in the WARM3 system automatically documents the information in the CCS system. This reduces time spent on data entry, decreases errors, and improves productivity.

- FirstEnergy required WARM implementation contractors to obtain BPI Certifications.
- FirstEnergy required third-party quality assurance contractors to obtain QCI Certifications.
- FirstEnergy requires Combustion Safety Testing for WARM participants' homes to ensure customer safety when the primary heating system is not electric.
- FirstEnergy has had the WARM Advisory Panel in place for more than 13 years. The panel, comprised of agency and contractor auditors, program managers, and quality assurance inspectors, provide suggestions for program improvement, research new technologies, and test new measures and products. Recommendations they provide may influence changes to the program.
- FirstEnergy added Heat Pump Water Heaters in 2013.
- FirstEnergy revised the landlord agreement with the option to allow only baseload measures to be installed in their properties.

VI. PCAP Customer Feedback

APPRISE conducted a survey with West Penn Power Customer Assistance Program (PCAP) participants as part of the evaluation. This section provides a summary of the survey methodology and the findings from the survey.

A. Methodology

An advance letter was sent to 350 customers to inform them of the survey and request their participation. A phone number was also provided for customers to call in and complete the survey at their convenience. Telephone surveys were conducted by APPRISE staff beginning on May 26, 2016 for PCAP participants. The field period for all surveys closed on June 19, 2016. Customers were called during the day, the evening, and on the weekend.

Table VI-1 displays the final sample disposition, the cooperation rate, and the response rate. Surveys were completed with 43 percent of the sample, the response rate was 61 percent and the cooperation rate was 90 percent.

Table VI-1
WPP PCAP Participant Survey
Final Sample Disposition

Final Disposition	#	%
Complete	149	43%
No Answer	63	18%
Voicemail	45	13%
Non-Working Number	29	8%
Wrong Number or Phone Problem	28	8%
Not Eligible	18	5%
Refusal	18	5%
Total	350	100%
Cooperation Rate	90%	
Response Rate	61%	

B. Demographics

This section provides information on the PCAP participants' demographic characteristics. Table VI-2 shows that about half of the participants reported that they rent their home and about half reported that they own their home.

**Table VI-2
Own or Rent Home**

Do you own or rent your home?	
Respondents	149
Rent	51%
Own	48%
Other	1%
Total	100%

Table VI-3 shows that 48 percent reported that they heat with natural gas, 28 reported that they heat with fuel oil, and 20 percent reported that they heat with electricity.

**Table VI-3
Heating Fuel**

What is your main heating fuel?	
Respondents	149
Natural Gas	48%
Fuel Oil	28%
Electricity	20%
Other	3%
Don't Know	1%
Total	100%

While 58 percent reported that someone in the home was disabled, 24 percent reported that someone in the home had been unemployed in the past 12 months.

**Table VI-4
Vulnerable Household Members**

Is anyone in your home disabled? In the past 12 months, were you or any member of your household unemployed and looking for work?	
Respondents	149
Disabled	58%
Unemployed	24%

Table VI-5 shows that the highest level of education was most likely to be a high school diploma or some college or an Associate Degree.

**Table VI-5
Educational Attainment**

What is the highest level of education reached by you or any member of your household?	
Respondents	149
Less Than High School	11%
High School Diploma or Equivalent	43%
Some College or Associate Degree	30%
Vocational Training	4%
Bachelor's Degree	9%
Master's Degree or Higher	1%
Don't Know / Refused	2%
Total	100%

When asked about source of income, 28 percent reported that their household had employment income and 28 percent reported that someone in their household had retirement income. Additionally, 38 percent stated that they received public assistance and 81 percent stated that they received food stamps or lived in public or subsidized housing.

**Table VI-6
Income and Public Assistance**

In the past 12 months, did you or any member of your household receive...	
<ul style="list-style-type: none"> • Wages and salaries or self-employment income from a business or farm? • Retirement income from Social Security or pensions and other retirement funds? • Benefits from Temporary Assistance for Needy Families (TANF), Supplemental Security Income (SSI), or general assistance or public assistance? • Food Stamps or live in public/subsidized housing? 	
Respondents	149
Employment Income	28%
Retirement Income	28%
TANF, SSI, or General Assistance	38%
Food Stamps or Public Housing	81%

When asked about their annual household income, 38 percent reported that it was less than or equal to \$10,000. Only seven percent reported that the household's income was above \$30,000.

**Table VI-7
Annual Income**

What is your household's annual income?	
Respondents	149
≤ \$ 10,000	38%
\$10,001 - \$20,000	42%
\$20,001 - \$30,000	7%
\$30,001 - \$40,000	6%
>\$40,000	1%
Don't Know	3%
Refused	3%
Total	100%

C. Participation

This section assesses reasons for participation in PCAP and ease of enrollment and re-certification. Table VI-8 shows that respondents were most likely to report that they heard about PCAP through a West Penn Power customer service representative, followed by an agency. Customers were also likely to hear about PCAP through a friend or relative.

**Table VI-8
PCAP Information Source**

How did you find out about CAP?	
Respondents	149
WPP Customer Service Representative	52%
Agency	26%
Friend or Relative	14%
Mail/Online	3%
Enrolled in LIPURP	1%
Don't Know	6%

Customers could provide more than one response, so total may not sum to 100%.

When asked why they decided to enroll in PCAP, customers were most likely to state it was to reduce their energy bills. Many customers also stated that they had low or limited income.

**Table VI-9
Participation Reason**

Why did you decide to enroll in the CAP Program?	
Respondents	149
Reduce Energy Bills	84%
Low/Limited Income	17%
Reduce Arrearages	7%
Enrolled in LIPURP	2%
Maintain Electric Service	<1%
Don't Know	<1%

Customers could provide more than one response, so total may not sum to 100%.

Table VI-10 shows that 64 percent stated that they had re-certified for PCAP.

**Table VI-10
Re-Certified for PCAP**

Have you ever re-certified your household and income information for CAP?	
Respondents	149
Yes	64%
No	31%
Don't Know	5%
Total	100%

Most respondents reported that the enrollment and the recertification process were very or somewhat easy. While 58 percent said the enrollment process was very easy and 33 percent said it was somewhat easy, 63 percent of those who re-certified stated that re-certification was very easy and 29 percent said it was somewhat easy.

The few customers who stated that enrollment or re-certification was somewhat or very difficult stated that it was difficult to contact the agency, complete the application, or provide proof of income.

Table VI-11
Ease of PCAP Enrollment and Re-Certification

How easy or difficult was it to enroll in the CAP Program? How easy or difficult was it to re-certify for CAP?		
	Enrollment	Re-Certification
Respondents	149	95
Very Easy	58%	63%
Somewhat Easy	33%	29%
Somewhat Difficult	5%	3%
Very Difficult	2%	2%
Don't Know	2%	2%
Total	100%	100%

D. PCAP Benefits

This section assesses participants' understanding of PCAP and the benefits of the program. Table VI-12 shows that 87 percent reported that they felt they had a good understanding of the benefits provided by the program.

Table VI-12
Understanding of PCAP

Do you feel that you have a good understanding of the services provided by West Penn Power's CAP Program?	
Respondents	149
Yes	87%
No	11%
Don't Know	2%
Total	100%

Table VI-13 shows that when asked what their responsibility was in the program, respondents were most likely to report that it was to keep up with payments. Some reported that their responsibility was to report income information or to conserve energy.

Table VI-13
Customer Responsibility in PCAP

What is your understanding of your responsibility in this program?	
Respondents	149
Keep Up With Payments	89%
Report Income Information	8%

What is your understanding of your responsibility in this program?	
Conserve Energy/Reduce Use	3%
Accept Weatherization Services	<1%
Don't Know	5%

Respondents could provide more than one response, so percentages may not sum to 100%.

Respondents were most likely to report that the benefits of PCAP were lower energy bills, followed by even monthly payments or maintaining their electric service. When asked directly, 94 percent agreed that lower energy bills was a benefit, 97 percent agreed that maintaining electric service was a benefit, and 78 percent agreed that reduced arrearages was a benefit.

**Table VI-14
PCAP Benefits**

What do you feel are the benefits of the program? Do you feel _____ are a benefit of the program? What do you feel is the most important benefit of the program?			
	Unprompted	Prompted	Most Important
Respondents	149		
Lower Energy Bills	82%	94%	56%
Even Monthly Payments	23%	--	12%
Maintaining Electric Service	12%	97%	24%
Reduced Arrearages	5%	78%	5%
Weatherization	3%	--	--
No Benefits	1%	--	--
Don't Know	3%	--	3%

Respondents were asked to estimate the amount of money PCAP saved them on a typical monthly electric bill. Table VI-15 shows that 65 percent provided a response. The most common response was \$51 to \$100 per month.

**Table VI-15
Estimate of Monthly PCAP Savings**

How much money does the CAP Program save you on a typical monthly electric bill?	
Respondents	149
\$0	1%
\$1-\$25	1%
\$26-\$50	13%
\$51-\$100	34%

How much money does the CAP Program save you on a typical monthly electric bill?	
\$101 or more	15%
Don't Know	34%
Refused	1%
Total	100%

When asked if they were aware that there was a limit on the amount of benefits that they could receive in a year on PCAP, only 26 percent said that they were aware.

Table VI-16
Awareness of PCAP Maximum Benefit

Are you aware that there is a limit to the amount of benefits that you can receive in a year from CAP?	
Respondents	149
Yes	26%
No	72%
Don't Know	2%
Total	100%

Table VI-17 shows that most who said they were aware of a limit could not provide an estimate of the maximum PCAP benefit.

Table VI-17
PCAP Maximum Benefit

How much is the most you can receive in one year?	
Respondents	149
\$100 - 200	2%
\$201 - 500	1%
\$501 - 1000	2%
Not Aware of Maximum	72%
Don't Know	23%
Total	100%

E. Bill Payment Problems

Respondents were asked several questions about the difficulty they faced in making their energy bill payments and in paying other bills. Table VI-18 shows that while 56 percent said it was very difficult to pay the West Penn Power bill prior to participating in PCAP, only 13 percent said that it was very difficult while participating in the program.

Table VI-18
Difficulty Paying West Penn Power Bill

How easy or difficult was it to make your monthly West Penn Power payments before participating in West Penn Power's CAP Program? While participating in the program, how easy or difficult is it to make your monthly electric bill payments?		
Respondents	149	
	Before PCAP	In PCAP
Very Difficult	56%	13%
Somewhat Difficult	35%	23%
Not too Difficult	4%	36%
Not at all Difficult	3%	26%
Don't Know	1%	1%
Refused	1%	1%
Total	100%	100%

Table VI-19 shows that while 62 percent reported that their electric bill was lower while participating in PCAP, 25 percent said that their electric usage was lower. Most respondents stated that there was no change in their electric usage.

Table VI-19
Change in Electric Bill and Usage While Participating in PCAP

While participating in the program, would you say that your electric usage is higher, lower, or has not changed in comparison to what it was before participating in the program? By electric usage, we mean the amount of electricity that you use, not the dollar amount of your bill.		
	Electric Bill	Electric Usage
Respondents	149	
Higher	15%	14%
Lower	62%	25%
No Change	20%	54%
Don't Know	3%	7%
Refused	--	--
Total	100%	100%

Table VI-20 displays reasons reported for those customers who said their usage increased following participation in PCAP. Customers were most likely to say that it was due to an increase in the number of household members, or a cold winter.

**Table VI-20
Reason for Usage Increase**

Why do you feel your usage has increased?	
Respondents	149
Additional Household Residents	3%
Cold Winter	3%
Heavy Use of Appliances/Pumps	2%
Medical Need	2%
Warm Summer	1%
Use of Electric Space Heaters	<1%
Usage Did Not Increase	85%
Don't Know	2%

Respondents could provide more than one response, so percentages may not sum to 100%.

Those customers who reduced their usage were most likely to state that it was because they were trying to reduce usage or conserve.

**Table VI-21
Reason for Usage Decrease**

Why do you feel your usage has decreased?	
Respondents	149
Trying to Reduce/Conserve	20%
Other Services Received	2%
Prices Have Increased	1%
Fewer Residents in Home	1%
Usage Did Not Decrease	75%
Don't Know	3%

Respondents could provide more than one response, so percentages may not sum to 100%.

Respondents were asked about difficulties paying for food, medicine, medical or dental expenses, mortgage or rent, the telephone bill, credit card or loan payments, and car payments. Table VI-22 shows that respondents were less likely to state that they had to delay or skip paying these bills while participating in PCAP than they were before participating in the program.

**Table VI-22
Problems Meeting Financial Obligations**

	In the year before/while participating in CAP, did you ever have to delay or skip paying the following bills or making the following purchases in order to make ends meet?		Always or frequently had to delay or skip paying?	
	Before PCAP	In PCAP	Before PCAP	In PCAP
Respondents	149			
Food	69%	32%	32%	7%
Medicine	38%	19%	19%	6%
Medical or Dental	43%	20%	19%	9%
Mortgage or Rent	42%	17%	14%	3%
Telephone	52%	28%	19%	8%
Credit Card or Loan	26%	16%	15%	6%
Car Payment	17%	10%	6%	3%

Table VI-23 displays customers' reports about their use of the stove or oven for heat. While 29 percent reported that they used the stove or oven for heat sometimes or more frequently before they participated in PCAP, only nine percent said that they did so while participating in the program.

**Table VI-23
Used Kitchen Stove or Oven for Heat**

In the year before /while participating in CAP, did you use your kitchen stove or oven to provide heat? Did you always, frequently, or sometimes use your kitchen stove or oven for heat?		
Respondents	149	
	Before PCAP	In PCAP
Always	3%	1%
Frequently	3%	1%
Sometimes	23%	7%
Seldom	1%	0%
Did Not Use Stove or Oven for Heat	70%	91%
Total	100%	100%

When asked whether there was a time that they were unable to use their heat because it was broken and they could not pay for the repair or replacement, 29 percent said that they had this problem prior to participating in PCAP and 14 percent said they had this problem while participating in PCAP.

**Table VI-24
Unable to Use Main Source of Heat**

In the year before enrolling /while enrolled in CAP, was there ever a time when you wanted to use your main source of heat, but could not because your heating system was broken and you were unable to pay for its repair or replacement?		
	Before PCAP	In PCAP
Respondents	149	
Yes	29%	14%
No	69%	86%
Don't Know	2%	0%
Total	100%	100%

Respondents were asked about LIHEAP application, receipt, and designation of the grant to West Penn Power. Table VI-25 shows that 78 percent of the PCAP participants reported that they applied for LIHEAP, 62 percent reported that they received LIHEAP, and 32 percent reported that they assigned the grant to West Penn Power. The table also shows that 53 percent of the electric heating PCAP customers reported that they received and assigned a grant to WPP.

**Table VI-25
LIHEAP Application and Receipt**

In the past 12 months, did you or any member of your household apply for LIHEAP?...receive home energy assistance benefits from LIHEAP? Did you assign the LIHEAP grant to West Penn Power?				
	Applied to LIHEAP	Received LIHEAP	Assigned to WPP	Electric Heating – Assigned to WPP
Respondents	149			30
Yes	78%	62%	32%	53%
No	19%	15%	26%	0%
Did Not Apply	--	19%	19%	17%
Did Not Receive Grant	--	--	15%	20%
Don't Know	3%	4%	8%	10%
Total	100%	100%	100%	100%

Respondents who said that they did not apply for LIHEAP were asked why they did not apply. Table VI-26 shows that five percent of all respondents said they did not know about LIHEAP and four percent said it was because they were on PCAP. Others stated that they were not eligible, did not have time, or did not know how to apply.

Table VI-26
Reason for Not Applying for LIHEAP

Why did you not apply for LIHEAP?	
Respondents	149
Did Not Know About LIHEAP	5%
On PCAP	4%
Not Eligible	3%
No Time	2%
Did Not Know How to Apply	1%
Applied for LIHEAP	78%
Other	2%
Don't Know	5%

Table VI-27 shows that 80 percent of respondents stated that PCAP had been very important in helping them meet their needs and 18 percent said it had been somewhat important.

Table VI-27
Importance of PCAP

How important has the CAP Program been in helping you to meet your needs?	
Respondents	149
Very Important	80%
Somewhat Important	18%
Of Little Importance	1%
Not At All Important	1%
Total	100%

When asked whether they felt they needed additional assistance to pay their electric bill, 47 percent of respondents stated that they did. The table also show that respondents with disabled household members were more likely to report that they needed additional assistance. However, households with unemployed members were not more likely to report that they needed additional assistance.

**Table VI-28
Need Additional Assistance to Pay Electric Bill**

Do you feel that you need additional help to pay your electric bill?					
	All	Disabled Member*		Unemployed Member**	
		Yes	No	Yes	No
Respondents	149	87	61	36	110
Yes	47%	59%	31%	44%	48%
No	51%	40%	66%	53%	50%
Don't Know	2%	1%	3%	3%	2%
Total	100%	100%	100%	100%	100%

*Excludes one respondent who answered "don't know/refuse" about disabled household member.

**Excludes three respondents who answered "don't know/refuse" about unemployed members.

Respondents who said that they needed additional assistance were asked what type of assistance they needed. Table VI-29 shows that most said they needed a lower bill or more bill payment assistance.

**Table VI-29
Additional Assistance Needed to Pay Electric Bill**

What additional help do you need to pay your bill?	
Respondents	149
Lower Bill	17%
More Bill Payment Assistance	16%
More Time to Pay the Bill	3%
Steady Payments/Budgeting	3%
Needed Employment	1%
Weatherization/Fix Broken Appliances	1%
Assistance Not Needed	51%
Don't Know	11%

Customers could provide more than one response, so total may not sum to 100%.

F. PCAP Continued Participation

When asked how likely they were to continue to participate in PCAP, 95 percent said they were very likely and four percent said they were somewhat likely.

Table VI-30
Likelihood of Continued PCAP Participation

How likely are you to continue to participate in CAP?	
Respondents	149
Very Likely	95%
Somewhat Likely	4%
Not At All Likely	1%
Total	100%

Most participants stated that they would continue to participate in the program as long as the assistance was needed.

Table VI-31
Length of Continued PCAP Participation

How long do you think you will continue to participate in the program?	
Respondents	149
<6 Months	1%
6-12 Months	3%
More than 12 Months	1%
As Long as Needed	83%
Until the Program Ends	4%
Don't Know	7%
Refused	1%
Total	100%

G. PCAP Satisfaction and Recommendations

When asked about satisfaction with PCAP, 77 percent stated that they were very satisfied and 16 percent stated that they were somewhat satisfied. Only six percent said that they were somewhat or very dissatisfied.

**Table VI-32
PCAP Satisfaction**

Overall, how satisfied are you with CAP?	
Respondents	149
Very Satisfied	77%
Somewhat Satisfied	16%
Somewhat Dissatisfied	3%
Very Dissatisfied	3%
Don't Know	1%
Total	100%

Respondents provided some recommendations when they were asked how they thought the program could be improved. They were most likely to suggest a higher level of assistance, more explanation of the program, or even monthly payments.

**Table VI-33
Recommendations for Improving PCAP**

Do you have any recommendations for improvements to CAP?	
Respondents	149
Higher Level of Assistance	8%
More Explanation of Program	7%
Even Monthly Payments	3%
Better Meter Reading	1%
More Marketing	1%
Phone Recertification	1%
Improve Ease of Application	1%
Availability to Answer Questions/Better Customer Service	1%
Other	4%
No Recommendations	73%
Total	100%

H. Summary

We conducted telephone interviews with 149 West Penn Power PCAP participants as part of the Universal Service Program Evaluation. This section provides a summary of findings from those surveys.

- **Demographics:** Participants' demographic characteristics provide explanation for their need for assistance.
 - **Disabilities:** 58 percent reported that someone in the home was disabled.
 - **Unemployment:** 24 percent reported that someone in the home had been unemployed in the past 12 months.
 - **Education:** The highest level of education was most likely to be a high school diploma, or some college or an Associate Degree.
 - **Income Source:** Only 28 percent reported that their household had employment income and 28 percent reported that someone in their household had retirement income.
 - **Public Assistance:** 38 percent stated that they received public assistance and 81 percent stated that they received food stamps or lived in public or subsidized housing.
 - **Income:** 38 percent reported that their annual household income was less than or equal to \$10,000. Only seven percent reported that the household's income was above \$30,000.

- **Participation:** Respondents were most likely to report that they heard about PCAP through a West Penn Power customer service representative, followed by an agency. When asked why they decided to enroll in PCAP, customers were most likely to state it was to reduce their energy bills.

Most respondents reported that the enrollment and the recertification processes were very or somewhat easy. While 58 percent said the enrollment process was very easy and 33 percent said it was somewhat easy, 63 percent of those who re-certified stated that recertification was very easy and 29 percent said it was somewhat easy.

- **PCAP Benefits:** Eighty-seven percent reported that they felt they had a good understanding of the benefits provided by the program.

When asked what their responsibility was in the program, respondents were most likely to report that it was to keep up with payments. Some reported that their responsibility was to report income information or to conserve energy.

Respondents were most likely to report that the benefits of PCAP were lower energy bills, followed by even monthly payments or maintaining their electric service. When asked directly, 94 percent agreed that lower energy bills was a benefit, 97 percent agreed that maintaining electric service was a benefit, and 78 percent agreed that reduced arrearages was a benefit.

When asked if they were aware that there was a limit on the amount of benefits that they could receive in a year on PCAP, only 26 percent said that they were aware.

- **Bill Payment Problems:** While 56 percent said it was very difficult to pay the West Penn Power bill prior to participating in PCAP, only 13 percent said that it was very difficult while participating in the program.

While 62 percent reported that their electric bill was lower while participating in PCAP, 25 percent said that their electric usage was lower. Most respondents stated that there was no change in their electric usage. Those customers who reduced their usage were most likely to state that it was because they were trying to reduce usage or conserve.

Respondents were asked about difficulties paying for food, medicine, medical or dental expenses, mortgage or rent, the telephone bill, credit card or loan payments, and car payments. Respondents were less likely to state that they had to delay or skip paying these bills while participating in PCAP than they were before participating in the program.

When asked whether there was a time that they were unable to use their heat because it was broken and they could not pay for the repair or replacement, 29 percent said that they had this problem prior to participating in PCAP and 14 percent said they had this problem while participating in PCAP.

Eighty percent of respondents stated that PCAP had been very important in helping them meet their needs and 18 percent said it had been somewhat important.

When asked whether they felt they needed additional assistance to pay their electric bill, 47 percent of respondents stated that they did.

- **PCAP Continued Participation:** When asked how likely they were to continue to participate in PCAP, 95 percent said they were very likely and four percent said they were somewhat likely. Most participants stated that they would continue to participate in the program as long as the assistance was needed.
- **PCAP Satisfaction and Recommendations:** When asked about satisfaction with PCAP, 77 percent stated that they were very satisfied and 16 percent stated that they were somewhat satisfied. Only six percent said that they were somewhat or very dissatisfied.

Respondents provided some recommendations when they were asked how they thought the program could be improved. They were most likely to suggest a higher level of assistance, more explanation of the program, or even monthly payments.

VII. Transactions Analysis

This section provides the results of the transactions analysis for 2013, 2014, and 2015 Met-Ed, Penelec, and Penn Power CAP participants.

A. Methodology

This section describes the evaluation data and the selection of participants for the transactions analysis. The analysis focused on customers who participated in CAP in 2013, 2014, and 2015.

FirstEnergy was able to provide data for PCAP customers from the most recent enrollment until the time they were dismissed from PCAP or until the download date if they were not dismissed from the program. Therefore, the analysis only examines customers' bills and payments for the time that they were enrolled in the program.

Table VII-1 displays the percent of customers in the PCAP program data who were included in the transactions data. The table shows that across the 2013 to 2015 PCAP participants, 95 percent were included at some point in the transactions data. The others were not included in the transactions data provided by FirstEnergy.

**Table VII-1
2013-2015 PCAP Participants Included in Transactions Data**

	Met-Ed		Penelec		Penn Power		Total	
	#	%	#	%	#	%	#	%
In PCAP Program Data	56,492	100%	68,692	100%	14,924	100%	140,108	100%
Included in Transactions Data	54,036	96%	65,489	95%	14,229	95%	133,754	95%

The analysis provided in this memo focuses on PCAP participants who were in the program for the full year, as bills and payments could not be examined when they were not participating in PCAP (this is due to the data provided by FirstEnergy). Given the seasonal nature of bills and payments, it is important to analyze these data over the full year to get an accurate picture of affordability and payment compliance.

Table VII-2 displays the attrition for PCAP participants by year. For each year from 2013 to 2015, PCAP participants were included in the analysis group for each year if they met the following characteristics.

- Bills for all 12 months of the year.
- The sum of charges, credits, bills, customer payments, or PCAP credits for the full year were not negative. A total of 23 accounts were removed across the three years.

The table shows that between 19 and 26 percent of the PCAP participants were included in the analysis. Many PCAP customers did not remain on the program for the full year, either because they enrolled after the beginning of the year or they exited prior to the end of the calendar year.

**Table VII-2
Data Attrition by Year**

		Met-Ed		Penelec		Penn Power		Total	
		#	%	#	%	#	%	#	%
2013	Included in Transactions Data	32,657	100%	40,296	100%	9,369	100%	82,322	100%
	With 12 Bills	5,013	15%	8,798	22%	2,196	23%	16,007	19%
	Negative Transactions Removed*	5,010	15%	8,798	22%	2,193	23%	16,001	19%
2014	Included in Transactions Data	27,740	100%	35,344	100%	7,478	100%	70,562	100%
	With 12 Bills	4,863	18%	8,801	25%	2,274	30%	15,938	23%
	Negative Transactions Removed*	4,861	18%	8,873	25%	2,270	30%	15,924	23%
2015	Included in Transactions Data	26,578	100%	34,594	100%	7,179	100%	68,351	100%
	With 12 Bills	5,725	22%	9,777	28%	2,371	33%	17,873	26%
	Negative Transactions Removed*	5,724	22%	9,776	28%	2,370	33%	17,870	26%

*A small number of cases were removed where the sum of charges, credits, bills, customer payments, or PCAP credits for the full year were negative.

Table VII-3 compares the demographic characteristics for all PCAP customers included in the transaction data and the PCAP customers included in the analysis group. If data on customers over 62 or under 18 were missing, the households were assumed to not have these individuals in the home. There were some differences between the full sample and those included in the analysis. Households in the analysis group differed from the full sample in the following ways.

- More likely to have members over 62 in 2013.
- More likely to have children under the age of 18.
- Less likely to have income below 50 percent of the poverty level.
- More likely to have electric heat.
- More likely to own their homes.

**Table VII-3
Attrition Analysis – Customer Characteristics**

	2013		2014		2015	
	On PCAP*	Analysis Group	On PCAP*	Analysis Group	On PCAP*	Analysis Group
Observations	82,322	16,001	70,562	15,924	68,351	17,870
Vulnerable Members						
With Over 62	10%	18%	25%	29%	36%	31%
With Under 18	8%	23%	13%	29%	16%	30%
Annual Income						
≤ \$5,000	10%	6%	9%	6%	9%	6%
\$5,001-\$10,000	29%	31%	29%	31%	29%	31%
\$10,001-\$15,000	24%	28%	24%	28%	24%	28%
\$15,001-\$20,000	17%	18%	17%	18%	17%	18%
>\$20,000	20%	18%	21%	17%	21%	17%
Poverty Group						
≤ 50%	22%	14%	21%	13%	22%	14%
51 – 100%	43%	48%	44%	49%	46%	51%
101 – 150%	29%	35%	30%	36%	31%	35%
> 150%	7%	3%	4%	2%	2%	1%
Income Sources						
Disability	39%	42%	36%	42%	35%	42%
Employment	17%	13%	22%	16%	23%	15%
Retirement/Pension	23%	27%	19%	25%	18%	24%
Unemployment Compensation	3%	2%	3%	2%	3%	2%
Public Assistance	2%	1%	2%	1%	2%	1%
Other	16%	14%	18%	15%	18%	16%
Electric Non-Heating	75%	85%	75%	85%	76%	84%
Own Home	48%	60%	50%	60%	52%	61%

*Includes all customers included in the transactions data who received at least one CAP credit in that year.

B. Full Bills

This section presents statistics on PCAP customers' full annual electric bills prior to the application of the PCAP credit.

Table VII-4 displays the distribution of PCAP participants' full bills by heating source. The mean bill for non-electric heat customers was \$1,248 in 2015, which was similar to the mean bill in the other years examined. Twenty-five percent of non-electric heat customers had a bill greater than \$1,574 in 2015. The mean bill for electric heat customers was \$2,058 in 2015. Twenty-five percent of electric heat customers had a bill greater than \$2,594 in 2015.

Table VII-4
Distribution of PCAP Customers' Full Annual Bill

	Non-Electric Heat					Electric Heat				
	Obs.	Mean	Percentile			Obs.	Mean	Percentile		
			25	50	75			25	50	75
2013	13,508	\$1,244	\$780	\$1,109	\$1,564	2,466	\$1,995	\$1,288	\$1,823	\$2,548
2014	13,440	\$1,206	\$746	\$1,061	\$1,516	2,461	\$2,065	\$1,310	\$1,890	\$2,651
2015	15,086	\$1,248	\$792	\$1,119	\$1,574	2,769	\$2,058	\$1,353	\$1,900	\$2,594

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

Table VII-5 displays the distribution of PCAP participants' full annual electric bills by company. The bills for Met-Ed and Penelec customers remained relatively constant from 2013 through 2015, but the bills for Penn Power customers increased, with the mean bill rising from \$1,077 in 2013 to \$1,187 in 2015 for non-electric heat customers and from \$1,911 in 2013 to \$2,202 in 2015 for electric heat customers. In all years, Met-Ed customers had the highest bills. In 2015, the mean Met-Ed bill was \$1,357 for non-electric heat customers and \$2,204 for electric heat customers.

Table VII-5
Distribution of PCAP Customers' Full Annual Bill
By Company

	Non-Electric Heat					Electric Heat				
	Obs.	Mean	Percentile			Obs.	Mean	Percentile		
			25	50	75			25	50	75
Met-Ed										
2013	3,899	\$1,394	\$894	\$1,259	\$1,750	1,109	\$2,163	\$1,408	\$2,027	\$2,744
2014	3,779	\$1,335	\$831	\$1,197	\$1,676	1,080	\$2,213	\$1,462	\$2,062	\$2,858
2015	4,462	\$1,357	\$859	\$1,243	\$1,702	1,261	\$2,204	\$1,495	\$2,058	\$2,773

	Non-Electric Heat					Electric Heat				
	Obs.	Mean	Percentile			Obs.	Mean	Percentile		
			25	50	75			25	50	75
Penelec										
2013	7,779	\$1,208	\$766	\$1,076	\$1,515	996	\$1,838	\$1,156	\$1,619	\$2,342
2014	7,743	\$1,174	\$731	\$1,035	\$1,475	1,031	\$1,911	\$1,204	\$1,708	\$2,406
2015	8,612	\$1,205	\$773	\$1,076	\$1,517	1,151	\$1,853	\$1,206	\$1,683	\$2,327
Penn Power										
2013	1,830	\$1,077	\$665	\$958	\$1,341	361	\$1,911	\$1,305	\$1,773	\$2,421
2014	1,918	\$1,081	\$676	\$949	\$1,352	350	\$2,057	\$1,358	\$1,931	\$2,732
2015	2,012	\$1,187	\$755	\$1,050	\$1,505	357	\$2,202	\$1,428	\$2,035	\$2,772

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

Table VII-6 displays the distribution of PCAP participants' full annual electric bill for customers who do and do not have an alternate electric supplier. Customers were marked as having an alternate supplier if they received at least one bill from an alternate supplier in the calendar year. The results are also shown separately below for customers who had a full year of alternate supplier bills – at least twelve alternate supplier bills – and less than a full year of alternate supplier bills. About 25 percent of non-electric heat customers and about 30 percent of electric heat customers had an alternate supplier for at least one month.

Non-electric heat customers with an alternate supplier had higher bills in all years. In 2015, the mean bill was \$1,221 for non-electric heat customers without an alternate supplier but \$1,330 for customers with an alternate supplier. Electric heat customers with an alternate supplier did not have higher bills in 2013, but they did in 2014 and 2015. In 2015, the mean bill was \$2,036 for electric heat customers without an alternate supplier and \$2,121 for customers with an alternate supplier.

Table VII-6
Distribution of PCAP Customers' Full Annual Bill
By Alternate Supplier Status

Alternate Supplier*	Non-Electric Heat						Electric Heat					
	Obs.	%	Mean	Percentile			Obs.	%	Mean	Percentile		
				25	50	75				25	50	75
2013												
No	10,116	75%	\$1,210	\$761	\$1,081	\$1,517	1,744	71%	\$2,004	\$1,306	\$1,861	\$2,561
Yes	3,392	25%	\$1,345	\$838	\$1,203	\$1,715	722	29%	\$1,973	\$1,246	\$1,745	\$2,487
≥ 12 Alt. Bills	868	6%	\$1,339	\$854	\$1,208	\$1,718	192	8%	\$1,984	\$1,206	\$1,703	\$2,495
< 12 Alt. Bills	2,524	19%	\$1,347	\$830	\$1,201	\$1,711	530	21%	\$1,968	\$1,256	\$1,752	\$2,483

Alternate Supplier*	Non-Electric Heat						Electric Heat					
	Obs.	%	Mean	Percentile			Obs.	%	Mean	Percentile		
				25	50	75				25	50	75
2013												
Total	13,508	100%	\$1,244	\$780	\$1,109	\$1,564	2,466	100%	\$1,995	\$1,288	\$1,823	\$2,548
2014												
No	9,947	74%	\$1,155	\$719	\$1,024	\$1,455	1,683	68%	\$2,004	\$1,278	\$1,834	\$2,589
Yes	3,493	26%	\$1,351	\$831	\$1,198	\$1,715	778	32%	\$2,197	\$1,404	\$2,032	\$2,757
≥ 12 Alt. Bills	1,078	8%	\$1,327	\$853	\$1,192	\$1,665	150	6%	\$2,326	\$1,525	\$2,155	\$2,950
< 12 Alt. Bills	2,415	18%	\$1,361	\$823	\$1,204	\$1,749	628	26%	\$2,166	\$1,345	\$1,967	\$2,725
Total	13,440	100%	\$1,206	\$746	\$1,061	\$1,516	2,461	100%	\$2,065	\$1,310	\$1,890	\$2,651
2015												
No	11,363	75%	\$1,221	\$778	\$1,096	\$1,542	2,067	75%	\$2,036	\$1,334	\$1,891	\$2,572
Yes	3,723	25%	\$1,330	\$844	\$1,198	\$1,675	702	25%	\$2,121	\$1,411	\$1,944	\$2,708
≥ 12 Alt Bills	1,139	8%	\$1,337	\$861	\$1,224	\$1,668	146	5%	\$2,066	\$1,373	\$1,827	\$2,709
< 12 Alt Bills	2,584	17%	\$1,327	\$836	\$1,185	\$1,675	556	20%	\$2,136	\$1,428	\$1,996	\$2,702
Total	15,086	100%	\$1,248	\$792	\$1,119	\$1,574	2,769	100%	\$2,058	\$1,353	\$1,900	\$2,594

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

*Customers were marked as having an alternate supplier if they received at least one bill from an alternate supplier in the calendar year.

C. PCAP Credits

This section analyzes the PCAP credits for 2013 to 2015 PCAP participants, and the resulting discount on their bill.

Table VII-7 displays the mean and median PCAP credit received, as well as the percent of PCAP participants who received the maximum allowable PCAP credit. Non-electric heat customers were counted as receiving the maximum credit if the customer received \$960 in PCAP credits during the calendar year. Electric heat customers were counted as receiving the maximum credit if the customer received \$2,400 in PCAP credits during the calendar year.

The mean PCAP credit was \$592 in 2015 for non-electric heat customers and \$914 in 2015 for electric heat customers. Many non-electric heat customers, about 20 percent, received the maximum PCAP credit, while just three percent of electric heat customers received the maximum PCAP credit.

**Table VII-7
Annual PCAP Credits**

	Non-Electric Heat				Electric Heat			
	Obs.	CAP Credits			Obs.	CAP Credits		
		Mean	Median	Max*		Mean	Median	Max*
2013	13,508	\$612	\$644	20%	2,466	\$946	\$854	3%
2014	13,440	\$591	\$621	20%	2,461	\$929	\$829	4%
2015	15,086	\$592	\$618	18%	2,769	\$914	\$807	3%

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

*Non-electric heat customers were defined as “receiving maximum credit” if the customer received \$960 in the calendar year. Electric heating customers were defined as “receiving maximum credit” if the customer received \$2,400 in the calendar year.

Table VII-8 displays the mean and median PCAP credit received and the percent who received the maximum credit by utility. Met-Ed non-electric customers had the highest mean PCAP credit and the highest percentage of customers who received the maximum PCAP credit. Penn Power had the lowest mean PCAP credit for non-electric heat customers, while Penelec had the lowest mean PCAP credit for electric heat customers.

**Table VII-8
Annual PCAP Credits
By Company**

	Non-Electric Heat				Electric Heat			
	Obs.	PCAP Credits			Obs.	PCAP Credits		
		Mean	Median	Max*		Mean	Median	Max*
Met-Ed								
2013	3,899	\$660	\$735	25%	1,109	\$1,042	\$948	5%
2014	3,779	\$638	\$721	26%	1,080	\$1,028	\$929	6%
2015	4,462	\$618	\$679	20%	1,261	\$985	\$879	4%
Penelec								
2013	7,779	\$603	\$627	18%	996	\$842	\$745	2%
2014	7,743	\$587	\$610	19%	1,031	\$844	\$738	2%
2015	8,612	\$585	\$601	16%	1,151	\$813	\$701	2%

	Non-Electric Heat				Electric Heat			
	Obs.	PCAP Credits			Obs.	PCAP Credits		
		Mean	Median	Max*		Mean	Median	Max*
Penn Power								
2013	1,830	\$550	\$543	16%	361	\$934	\$862	2%
2014	1,918	\$515	\$491	12%	350	\$878	\$782	3%
2015	2,012	\$568	\$558	19%	357	\$991	\$880	6%

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

*Non-electric heat customers were defined as “receiving maximum credit” if the customer received \$960 in the calendar year. Electric heating customers were defined as “receiving maximum credit” if the customer received \$2,400 in the calendar year.

Table VII-9 displays the mean percent discount that PCAP participants received on their bill. Non-electric heat customers received a higher percent discount on their bill. In 2015, non-electric heat customers received a mean percent discount of 48 percent while electric heat customers received a mean percent discount of 41 percent. Due to the slight decrease in PCAP credits and, for electric heat customers, the slight increase in bills, the mean percent discount fell from 2013 to 2015.

Table VII-9
Mean Percent Discount on First Energy Bill

	Non-Electric Heat					Electric Heat				
	Obs.	Full Bill	PCAP Bill	Discount		Obs.	Full Bill	PCAP Bill	Discount	
				\$	%				\$	%
2013	13,508	\$1,244	\$632	\$612	51%	2,466	\$1,995	\$1,049	\$946	46%
2014	13,440	\$1,206	\$615	\$591	50%	2,461	\$2,065	\$1,135	\$929	42%
2015	15,086	\$1,248	\$656	\$592	48%	2,769	\$2,058	\$1,144	\$914	41%

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015. There were 18 customers that had a discount >100% in 2013, 12 customers in 2014, and 8 customers in 2015.

Table VII-10 displays the mean percent discount that PCAP participants received on their bill by utility. The percent discount does not vary greatly by utility. For both non-electric heat customers and electric heat customers at all utilities, the mean percent discount that customers receive on their bill fell from 2013 to 2015. This may be due to the implementation of quarterly recalculation of credits or increased requirements for recertification.

Table VII-10
Mean Percent Discount on First Energy Bill
By Company

	Non-Electric Heat					Electric Heat				
	Obs.	Full Bill	PCAP Bill	Discount		Obs.	Full Bill	PCAP Bill	Discount	
				\$	%				\$	%
Met-Ed										
2013	3,899	\$1,394	\$734	\$660	50%	1,109	\$2,163	\$1,120	\$1,042	46%
2014	3,779	\$1,335	\$697	\$638	50%	1,080	\$2,213	\$1,185	\$1,028	43%
2015	4,462	\$1,357	\$739	\$618	47%	1,261	\$2,204	\$1,220	\$985	41%
Penelec										
2013	7,779	\$1,208	\$605	\$603	51%	996	\$1,838	\$996	\$842	44%
2014	7,743	\$1,174	\$587	\$587	51%	1,031	\$1,911	\$1,068	\$844	41%
2015	8,612	\$1,205	\$621	\$585	49%	1,151	\$1,853	\$1,040	\$813	39%
Penn Power										
2013	1,830	\$1,077	\$527	\$550	51%	361	\$1,911	\$976	\$934	47%
2014	1,918	\$1,081	\$567	\$515	47%	350	\$2,057	\$1,179	\$878	40%
2015	2,012	\$1,187	\$619	\$568	48%	357	\$2,202	\$1,211	\$991	42%

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

Table VII-11 displays the mean percent discount that PCAP participants received on their bill for customers who did and did not have an alternate electric supplier. The mean percent discounts were approximately the same.

Table VII-11
Mean Percent Discount on First Energy Bill
By Alternate Supplier Status

Alternate Supplier*	Non-Electric Heat						Electric Heat					
	Obs.	%	Bill		Discount		Obs.	%	Bill		Discount	
			Full	CAP	\$	%			Full	CAP	\$	%
2013												
No	10,116	75%	\$1,210	\$600	\$610	52%	1,744	71%	\$2,004	\$1,038	\$966	47%
Yes	3,392	25%	\$1,345	\$726	\$619	48%	722	29%	\$1,973	\$1,076	\$896	43%
≥ 12 Alt. Bills	868	6%	\$1,339	\$705	\$634	49%	192	8%	\$1,984	\$1,107	\$877	43%
< 12 Alt. Bills	2,524	19%	\$1,347	\$733	\$614	48%	530	21%	\$1,968	\$1,065	\$903	43%
Total	13,508	100%	\$1,244	\$632	\$612	51%	2,466	100%	\$1,995	\$1,049	\$946	46%

Alternate Supplier*	Non-Electric Heat						Electric Heat					
	Obs.	%	Bill		Discount		Obs.	%	Bill		Discount	
			Full	CAP	\$	%			Full	CAP	\$	%
2014												
No	9,947	74%	\$1,155	\$572	\$583	51%	1,683	68%	\$2,004	\$1,095	\$909	42%
Yes	3,493	26%	\$1,351	\$738	\$613	48%	778	32%	\$2,197	\$1,222	\$975	41%
≥ 12 Alt. Bills	1,078	8%	\$1,327	\$697	\$630	49%	150	6%	\$2,326	\$1,289	\$1,038	42%
< 12 Alt. Bills	2,415	18%	\$1,361	\$756	\$606	47%	628	26%	\$2,166	\$1,206	\$960	41%
Total	13,440	100%	\$1,206	\$615	\$591	50%	2,461	100%	\$2,065	\$1,135	\$929	42%
2015												
No	11,363	75%	\$1,221	\$633	\$588	49%	2,067	75%	\$2,036	\$1,127	\$910	41%
Yes	3,723	25%	\$1,330	\$726	\$604	47%	702	25%	\$2,121	\$1,194	\$927	40%
≥ 12 Alt. Bills	1,139	8%	\$1,337	\$723	\$615	47%	146	5%	\$2,066	\$1,169	\$897	40%
< 12 Alt. Bills	2,584	17%	\$1,327	\$728	\$599	46%	556	20%	\$2,136	\$1,201	\$935	41%
Total	15,086	100%	\$1,248	\$656	\$592	48%	2,769	100%	\$2,058	\$1,144	\$914	41%

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

*Customers were marked as having an alternate supplier if they received at least one bill from an alternate supplier in the calendar year.

Table VII-12 displays the mean percent discount that PCAP participants received on their bill by whether or not they received the maximum PCAP credit. Non-electric heating customers who received the maximum credit had an average discount of 51 percent of their bill, while customers who did not receive the maximum credit had an average discount of 48 percent in 2015. This difference was much larger for electric heat customers, but only three percent of these customers received the maximum PCAP credit. In 2015, those who received the maximum PCAP credit had an average discount of 61 percent, while those who did not receive the maximum credit had an average discount of 40 percent.

Table VII-12
Mean Percent Discount on First Energy Bill
By Whether Customers Received Maximum PCAP Credit

Max Credit	Non-Electric Heat						Electric Heat					
	Obs.	%	Bill		Discount		Obs.	%	Bill		Discount	
			Full	PCAP	\$	%			Full	PCAP	\$	%
2013												
No	10,830	80%	\$1,054	\$537	\$518	50%	2,389	97%	\$1,925	\$1,028	\$897	45%
Yes	2,678	20%	\$2,009	\$1,016	\$993	53%	77	3%	\$4,159	\$1,698	\$2,461	61%
Total	13,508	100%	\$1,244	\$632	\$612	51%	2,466	100%	\$1,995	\$1,049	\$946	46%

Max Credit	Non-Electric Heat						Electric Heat					
	Obs.	%	Bill		Discount		Obs.	%	Bill		Discount	
			Full	PCAP	\$	%			Full	PCAP	\$	%
2014												
No	10,720	80%	\$1,016	\$525	\$491	49%	2,364	96%	\$1,982	\$1,115	\$867	41%
Yes	2,720	20%	\$1,956	\$972	\$984	54%	97	4%	\$4,089	\$1,637	\$2,452	63%
Total	13,440	100%	\$1,206	\$615	\$591	50%	2,461	100%	\$2,065	\$1,135	\$929	42%
2015												
No	12,391	82%	\$1,079	\$569	\$510	48%	2,683	97%	\$1,993	\$1,127	\$866	40%
Yes	2,695	18%	\$2,023	\$1,055	\$968	51%	86	3%	\$4,079	\$1,667	\$2,412	61%
Total	15,086	100%	\$1,248	\$656	\$592	48%	2,769	100%	\$2,058	\$1,144	\$914	41%

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015. There were 18 customers that had a discount >100% in 2013, 12 customers in 2014, and 8 customers in 2015.

Table VII-13 displays the distribution of the percent discount that PCAP participants received on their bill. In 2015, 12 percent of non-electric heat customers received a discount of less than 25 percent, and 6 percent received a discount of 75 percent or greater. The percent of electric heat customers who received less than 25 percent off their bill increased from 16 percent in 2013 to 26 percent in 2015.

**Table VII-13
Distribution of PCAP Discount on First Energy Bill**

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
<25%	11%	16%	13%	25%	12%	26%
25%-50%	32%	38%	31%	33%	37%	35%
50%-75%	47%	40%	46%	36%	45%	34%
≥75%	10%	6%	11%	6%	6%	5%
Total	100%	100%	100%	100%	100%	100%

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

Table VII-14 displays the distribution of the percent discount that PCAP participants received on their bill by company. For both non-electric heat customers and electric heat customers, the distribution of the discount was similar for all utilities.

**Table VII-14
Distribution of PCAP Discount on First Energy Bill
By Company**

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Met-Ed						
<25%	11%	16%	13%	23%	13%	26%
25%-50%	35%	36%	31%	32%	39%	33%
50%-75%	46%	42%	44%	38%	43%	36%
≥75%	9%	6%	11%	7%	5%	5%
Total	100%	100%	100%	100%	100%	100%
Penelec						
<25%	10%	16%	12%	27%	11%	27%
25%-50%	31%	42%	29%	34%	36%	37%
50%-75%	48%	37%	47%	33%	46%	32%
≥75%	10%	5%	11%	6%	7%	3%
Total	100%	100%	100%	100%	100%	100%
Penn Power						
<25%	12%	17%	16%	27%	16%	27%
25%-50%	30%	34%	34%	35%	34%	35%
50%-75%	45%	41%	43%	35%	43%	35%
≥75%	12%	8%	7%	3%	7%	3%
Total	100%	100%	100%	100%	100%	100%

Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

Table VII-15 displays the mean percent discount that PCAP participants received on their bill by poverty level. Customers at lower poverty levels received a higher percent discount on their bill. In 2015, customers at or below 50 percent of the poverty level received a 54 percent discount on their bill, while customers between 101 and 150 percent of the poverty level received a 40 percent discount.

**Table VII-15
Percent PCAP Discount on First Energy Bill
By Poverty Level**

Poverty Level	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
≤ 50%	53%	50%	53%	54%	51%	53%	55%	52%	54%
51-100%	54%	47%	53%	54%	44%	53%	52%	43%	50%
101-150%	47%	41%	46%	45%	34%	44%	42%	31%	40%
Total	51%	46%	50%	50%	42%	49%	48%	41%	47%

The “non-electric heat” and “electric heat” columns exclude 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015; these customers were included in the “total” columns. This also excludes 25 customers missing poverty group data in 2013, 23 customers missing poverty group data in 2014, and 15 missing poverty group data in 2015.

Customers whose poverty level was calculated to be above 150% were not included in the table as their income data is not the level it was when they enrolled in PCAP, and their discount is not accurate. These customers are included in the total row.

Table VII-16 displays the mean percent discount that PCAP participants received on their bill by poverty level and utility. For all utilities, customers at lower poverty levels received a higher percent discount on their bill.

**Table VII-16
Percent PCAP Discount on First Energy Bill
By Poverty Level and Company**

Poverty Level	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
Met-Ed									
≤ 50%	52%	50%	52%	52%	53%	52%	52%	54%	52%
51-100%	52%	48%	51%	54%	46%	52%	50%	44%	49%
101-150%	47%	41%	46%	46%	35%	45%	41%	30%	39%
Total	50%	46%	49%	50%	44%	49%	47%	41%	46%
Penelec									
≤ 50%	54%	49%	53%	55%	52%	55%	57%	51%	56%
51-100%	55%	46%	54%	55%	43%	54%	52%	40%	51%
101-150%	47%	39%	46%	45%	33%	44%	42%	32%	41%
Total	51%	44%	51%	51%	41%	50%	49%	39%	48%

Poverty Level	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
Penn Power									
≤ 50%	54%	52%	54%	52%	44%	50%	55%	45%	53%
51-100%	55%	50%	55%	51%	43%	50%	52%	47%	51%
101-150%	46%	43%	45%	41%	35%	40%	41%	33%	40%
Total	51%	47%	51%	47%	40%	46%	48%	42%	47%

The “non-electric heat” and “electric heat” columns exclude 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015; these customers were included in the “total” columns. This also excludes 25 customers missing poverty group data in 2013, 23 customers missing poverty group data in 2014, and 15 missing poverty group data in 2015.

Customers whose poverty level was calculated to be above 150% were not included in the table as their income data is not the level it was when they enrolled in CAP, and their discount is not accurate. These customers are included in the total row.

D. Affordability Impacts

This section analyzes the impact of the PCAP discount on customers’ energy burdens. In the tables that follow, the full energy burden is equal to the full bill divided by the customer’s annual income. The discounted energy burden is equal to the discounted bill – that is, the full bill minus the PCAP discount – divided by the customer’s annual income.

Table VII-17 displays the impact of the PCAP discount on customers’ energy burdens. In 2015, the PCAP discount lowered customers’ energy burden from 11 percent to 6 percent for non-electric heat customers, and from 19 percent to 11 percent for electric heat customers. This indicates that the PCAP program has a large impact on the affordability of electric bills.

**Table VII-17
PCAP Affordability Impacts**

	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
Number of Customers	13,508	2,466	16,001	13,440	2,461	15,924	15,086	2,769	17,870
Full Bill	\$1,244	\$1,995	\$1,358	\$1,206	\$2,065	\$1,337	\$1,248	\$2,058	\$1,373
Discount	\$612	\$946	\$663	\$591	\$929	\$643	\$592	\$914	\$642
Discounted Bill	\$632	\$1,049	\$696	\$615	\$1,135	\$695	\$656	\$1,144	\$731
Full Energy Burden	11%	18%	12%	10%	19%	12%	11%	19%	12%
Discounted Burden	6%	10%	6%	6%	11%	6%	6%	11%	7%

The “non-electric heat” and “electric heat” columns exclude 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015; these customers were included in the “total” columns.

Table VII-18 displays the impact of the PCAP discount on customers' energy burdens by utility. The PCAP program had a similar impact on affordability for all three companies.

Table VII-18
PCAP Affordability Impacts
By Company

	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
Met-Ed									
Number of Customers	3,899	1,109	5,010	3,779	1,080	4,861	4,462	1,261	5,724
Full Bill	\$1,394	\$2,163	\$1,564	\$1,335	\$2,213	\$1,530	\$1,357	\$2,204	\$1,544
Discount	\$660	\$1,042	\$744	\$638	\$1,028	\$724	\$618	\$985	\$699
Discounted Bill	\$734	\$1,120	\$820	\$697	\$1,185	\$806	\$739	\$1,220	\$845
Full Energy Burden	12%	19%	14%	11%	20%	13%	11%	19%	13%
Discounted Burden	7%	10%	8%	6%	11%	7%	7%	11%	7%
Penelec									
Number of Customers	7,779	996	8,798	7,743	1,031	8,793	8,612	1,151	9,776
Full Bill	\$1,208	\$1,838	\$1,277	\$1,174	\$1,911	\$1,258	\$1,205	\$1,853	\$1,280
Discount	\$603	\$842	\$628	\$587	\$844	\$616	\$585	\$813	\$611
Discounted Bill	\$605	\$996	\$648	\$587	\$1,068	\$643	\$621	\$1,040	\$670
Full Energy Burden	11%	17%	11%	10%	18%	11%	10%	18%	11%
Discounted Burden	6%	10%	6%	6%	10%	6%	6%	10%	6%
Penn Power									
Number of Customers	1,830	361	2,193	1,918	350	2,270	2,012	357	2,370
Full Bill	\$1,077	\$1,911	\$1,213	\$1,081	\$2,057	\$1,231	\$1,187	\$2,202	\$1,339
Discount	\$550	\$934	\$613	\$515	\$878	\$570	\$568	\$991	\$631
Discounted Bill	\$527	\$976	\$600	\$567	\$1,179	\$661	\$619	\$1,211	\$708
Full Energy Burden	9%	17%	11%	9%	19%	11%	10%	20%	12%
Discounted Burden	5%	9%	6%	5%	11%	6%	6%	11%	6%

The "non-electric heat" and "electric heat" columns exclude 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015; these customers were included in the "total" columns.

Table VII-19 displays the impact of the PCAP credit on customers' energy burdens for customers with and without an alternate supplier. Burdens were approximately the same for both groups.

**Table VII-19
PCAP Affordability Impacts
By Alternate Supplier**

Alternate Supplier*	Non-Electric Heat						Electric Heat					
	Obs.	%	Bill		Burden		Obs.	%	Bill		Burden	
			Full	PCAP	Full	PCAP			Full	PCAP	Full	PCAP
2013												
No	10,116	75%	\$1,210	\$600	10%	5%	1,744	71%	\$2,004	\$1,038	18%	10%
Yes	3,392	25%	\$1,345	\$726	12%	7%	722	29%	\$1,973	\$1,076	18%	11%
≥ 12 Alt. Bills	868	6%	\$1,339	\$705	12%	6%	192	8%	\$1,984	\$1,107	19%	11%
< 12 Alt. Bills	2,524	19%	\$1,347	\$733	12%	7%	530	21%	\$1,968	\$1,065	18%	10%
Total	13,508	100%	\$1,244	\$632	11%	6%	2,466	100%	\$1,995	\$1,049	18%	10%
2014												
No	9,947	74%	\$1,155	\$572	10%	5%	1,683	68%	\$2,004	\$1,095	18%	10%
Yes	3,493	26%	\$1,351	\$738	12%	7%	778	32%	\$2,197	\$1,222	20%	11%
≥ 12 Alt. Bills	1,078	8%	\$1,327	\$697	11%	6%	150	6%	\$2,326	\$1,289	21%	11%
< 12 Alt. Bills	2,415	18%	\$1,361	\$756	12%	7%	628	26%	\$2,166	\$1,206	20%	11%
Total	13,440	100%	\$1,206	\$615	10%	6%	2,461	100%	\$2,065	\$1,135	19%	11%
2015												
No	11,363	75%	\$1,221	\$633	10%	6%	2,067	75%	\$2,036	\$1,127	18%	10%
Yes	3,723	25%	\$1,330	\$726	11%	7%	702	25%	\$2,121	\$1,194	19%	11%
≥ 12 Alt. Bills	1,139	8%	\$1,337	\$723	11%	6%	146	5%	\$2,066	\$1,169	19%	11%
< 12 Alt. Bills	2,584	17%	\$1,327	\$728	12%	7%	556	20%	\$2,136	\$1,201	19%	11%
Total	15,086	100%	\$1,248	\$656	11%	6%	2,769	100%	\$2,058	\$1,144	19%	11%

*Customers were marked as having an alternate supplier if they received at least one bill from an alternate supplier in the calendar year. Excludes 27 customers missing heat source data in 2013, 23 customers missing heat source data in 2014, and 15 customers missing heat source data in 2015.

Table VII-20 displays the impact of the PCAP discount on customers' energy burdens by whether or not a customer received the maximum PCAP credit. Customers who received the maximum credit had much higher energy burdens both before and after receiving the PCAP discount. In 2015, non-electric heat customers who received the maximum credit had a full burden of 17 percent and a discounted burden of 9 percent, while those who did not receive the maximum credit had a full burden of 9 percent and a discounted burden of 5 percent. This trend was more pronounced for electric heat customers, though only 3 percent of electric heaters received the maximum credit. In 2015, electric heat customers who received the maximum credit had a full burden of 40 percent and a discounted burden of 18 percent, while those who did not receive the maximum credit had a full burden of 18 percent and a discounted burden of 10 percent.

**Table VII-20
PCAP Affordability Impacts
By Maximum CAP Credit**

Max Credit	Non-Electric Heat						Electric Heat					
	Obs.	%	Bill		Burden		Obs.	%	Bill		Burden	
			Full	CAP	Full	CAP			Full	CAP	Full	CAP
2013												
No	10,830	80%	\$1,054	\$537	9%	5%	2,389	97%	\$1,925	\$1,028	17%	10%
Yes	2,678	20%	\$2,009	\$1,016	17%	9%	77	3%	\$4,159	\$1,698	42%	18%
Total	13,508	100%	\$1,244	\$632	11%	6%	2,466	100%	\$1,995	\$1,049	18%	10%
2014												
No	10,720	80%	\$1,016	\$525	9%	5%	2,364	96%	\$1,982	\$1,115	18%	10%
Yes	2,720	20%	\$1,956	\$972	16%	8%	97	4%	\$4,089	\$1,637	42%	18%
Total	13,440	100%	\$1,206	\$615	10%	6%	2,461	100%	\$2,065	\$1,135	19%	11%
2015												
No	12,391	82%	\$1,079	\$569	9%	5%	2,683	97%	\$1,993	\$1,127	18%	10%
Yes	2,695	18%	\$2,023	\$1,055	17%	9%	86	3%	\$4,079	\$1,667	40%	18%
Total	15,086	100%	\$1,248	\$656	11%	6%	2,769	100%	\$2,058	\$1,144	19%	11%

E. Payment Statistics and Coverage Rates

This section presents additional detail on PCAP participants' charges and credits, as well as an analysis of bill payment coverage rates. In the tables that follow, the following definitions are applied.

- PCAP responsibility cash coverage rate = customer payments/PCAP bill
- PCAP responsibility total coverage rate = (total credits - PCAP credits)/PCAP bill

Table VII-21 presents payment statistics for all PCAP participants.

- Bills and Other Charges: The bills are the amounts charged for electric usage. The "Other Charges" are a small number of charges to the customers' bills. Some examples of these charges include security deposit interest and payment, and third party charges.
- Other Assistance Credits: Non-electric heat customers received an average of \$13 in other assistance credits and electric heat customers received an average of \$179 in other assistance credits in 2015.
- Number of Cash Payments: In 2015, PCAP participants made an average of 9.8 cash payments.
- Number of PCAP Credits: In 2015 customers received an average of 11 PCAP credits.

- **PCAP Responsibility Cash Coverage Rate:** This is defined as the amount of cash payments made by the customer (as opposed to assistance payments) divided by the PCAP bill. The payments made by PCAP participants covered a high percentage of their payment responsibility. In 2015, they covered 88 percent.
- **PCAP Responsibility Total Coverage Rate:** This is defined as the total amount of payments, including assistance payments, divided by the PCAP bill. The total coverage rate was also very high. In 2015, 94 percent of the discounted charges were covered.
- **Arrearage Forgiveness:** Non-electric heat customers received an average of \$40 in 2015 and electric heat customers received an average of \$95.
- **Shortfall:** The shortfall is defined as total charges minus total credits, the sum of the positive and negative charges to the customer's account over the year analyzed. If the customer pays less than the full amount billed, there will be a positive shortfall. The average shortfall was \$52 for non-electric heat customers and \$80 for electric heat customers in 2015.

**Table VII-21
PCAP Payment Statistics**

	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
Number of Customers	13,508	2,466	16,001	13,440	2,461	15,924	15,086	2,769	17,870
Bills	\$1,238	\$1,986	\$1,352	\$1,197	\$2,054	\$1,328	\$1,246	\$2,055	\$1,370
Other Charges	\$6	\$9	\$6	\$9	\$11	\$10	\$2	\$3	\$2
Total Charges	\$1,244	\$1,995	\$1,358	\$1,206	\$2,065	\$1,337	\$1,248	\$2,058	\$1,373
Customer Payments	\$548	\$734	\$577	\$569	\$925	\$623	\$589	\$882	\$634
PCAP Credits	\$612	\$946	\$663	\$591	\$929	\$643	\$592	\$914	\$642
Other Assistance Credits	\$16	\$147	\$36	\$14	\$162	\$37	\$13	\$179	\$39
Other Credits	\$4	\$7	\$5	\$6	\$9	\$7	\$2	\$3	\$2
Total Credits	\$1,180	\$1,834	\$1,280	\$1,180	\$2,026	\$1,309	\$1,196	\$1,978	\$1,317
# of Cash Payments	9.6	7.6	9.3	10.0	8.4	9.8	10.1	8.4	9.8
# of PCAP Credits	11.3	11.1	11.2	11.0	10.6	10.9	11.1	10.5	11.0
PCAP Responsibility Cash Coverage Rate	98%	66%	93%	96%	79%	93%	90%	81%	88%
PCAP Responsibility Total Coverage Rate	100%	86%	98%	99%	99%	99%	92%	104%	94%

	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
Shortfall	\$64	\$161	\$78	\$26	\$39	\$28	\$52	\$80	\$56
Arrearage Forgiveness	\$55	\$111	\$63	\$43	\$95	\$51	\$40	\$95	\$48

The PCAP responsibility cash coverage rate is the customer payments divided by the discounted bill. The PCAP responsibility total coverage rate is the total credits minus PCAP credits, divided by the discounted bill. The shortfall is the total charges minus the total credits, or the amount billed that the customer did not pay.

Table VII-22 presents payment statistics for Met-Ed customers. Met-Ed customers had lower coverage rates compared to all PCAP customers. The cash coverage rate for Met-Ed customers was 85 percent while the total coverage rate was 91 percent. While Met-Ed customers had slightly higher PCAP credits than customers at other utilities, they also had higher bills. Similarly, the shortfall was higher for Met-Ed customers compared to all PCAP customers.

Table VII-22
PCAP Payment Statistics
Met-Ed Customers

	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
Number of Customers	3,899	1,109	5,010	3,779	1,080	4,861	4,462	1,261	5,724
Bills	\$1,387	\$2,153	\$1,556	\$1,325	\$2,203	\$1,520	\$1,355	\$2,202	\$1,541
Other Charges	\$7	\$10	\$8	\$10	\$11	\$10	\$3	\$2	\$3
Total Charges	\$1,394	\$2,163	\$1,564	\$1,335	\$2,213	\$1,530	\$1,357	\$2,204	\$1,544
Customer Payments	\$638	\$828	\$680	\$650	\$1,016	\$731	\$647	\$948	\$714
PCAP Credits	\$660	\$1,042	\$744	\$638	\$1,028	\$724	\$618	\$985	\$699
Other Assistance Credits	\$17	\$123	\$41	\$15	\$127	\$40	\$13	\$149	\$43
Other Credits	\$6	\$8	\$6	\$10	\$14	\$11	\$4	\$4	\$4
Total Credits	\$1,321	\$2,002	\$1,472	\$1,312	\$2,185	\$1,505	\$1,283	\$2,086	\$1,459
# of Cash Payments	9.6	8.0	9.2	9.9	8.7	9.6	9.9	8.5	9.6
# of PCAP Credits	11.3	11.1	11.2	10.9	10.5	10.9	11.0	10.4	10.8
PCAP Responsibility Cash Coverage Rate	90%	71%	86%	97%	83%	94%	88%	75%	85%
PCAP Responsibility Total Coverage Rate	93%	86%	91%	100%	98%	99%	91%	93%	91%
Shortfall	\$73	\$160	\$92	\$23	\$29	\$24	\$75	\$118	\$84
Arrearage Forgiveness	\$71	\$148	\$88	\$56	\$123	\$71	\$52	\$124	\$68

The PCAP responsibility cash coverage rate is the customer payments divided by the discounted bill. The PCAP responsibility total coverage rate is the total credits minus PCAP credits, divided by the discounted bill. The shortfall is the total charges minus the total credits.

Table VII-23 presents payment statistics for Penelec customers. The payment statistics for these customers are very similar to the numbers for all PCAP participants.

Table VII-23
PCAP Payment Statistics
Penelec Customers

	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
Number of Customers	7,779	996	8,798	7,743	1,031	8,793	8,612	1,151	9,776
Bills	\$1,202	\$1,831	\$1,271	\$1,164	\$1,902	\$1,249	\$1,204	\$1,852	\$1,279
Other Charges	\$5	\$7	\$6	\$10	\$9	\$10	\$2	\$2	\$2
Total Charges	\$1,208	\$1,838	\$1,277	\$1,174	\$1,911	\$1,258	\$1,205	\$1,853	\$1,280
Customer Payments	\$530	\$665	\$545	\$546	\$834	\$579	\$561	\$781	\$586
PCAP Credits	\$603	\$842	\$628	\$587	\$844	\$616	\$585	\$813	\$611
Other Assistance Credits	\$14	\$167	\$31	\$12	\$198	\$33	\$10	\$209	\$34
Other Credits	\$4	\$5	\$4	\$5	\$5	\$5	\$2	\$3	\$2
Total Credits	\$1,150	\$1,680	\$1,208	\$1,150	\$1,880	\$1,233	\$1,157	\$1,806	\$1,232
# of Cash Payments	9.7	7.5	9.5	10.1	8.2	9.9	10.1	8.3	9.9
# of PCAP Credits	11.3	11.2	11.2	11.1	10.8	11.0	11.1	10.5	11.1
PCAP Responsibility Cash Coverage Rate	105%	63%	100%	97%	75%	95%	89%	88%	89%
PCAP Responsibility Total Coverage Rate	107%	86%	105%	100%	102%	100%	91%	119%	95%
Shortfall	\$58	\$159	\$69	\$24	\$31	\$25	\$48	\$47	\$48
Arrearage Forgiveness	\$48	\$77	\$51	\$39	\$77	\$43	\$35	\$72	\$40

The PCAP responsibility cash coverage rate is the customer payments divided by the discounted bill. The PCAP responsibility total coverage rate is the total credits minus PCAP credits, divided by the discounted bill. The shortfall is the total charges minus the total credits.

Table VII-24 presents payment statistics for Penn Power customers. The coverage rates for Penn Power are higher than those of other companies. The cash coverage rate for Penn Power customers was 93 percent while the total coverage rate was 100 percent.

**Table VII-24
PCAP Payment Statistics
Penn Power Customers**

	2013			2014			2015		
	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total	Non-Electric Heat	Electric Heat	Total
Number of Customers	1,830	361	2,193	1,918	350	2,270	2,012	357	2,370
Bills	\$1,072	\$1,902	\$1,208	\$1,076	\$2,041	\$1,224	\$1,182	\$2,196	\$1,334
Other Charges	\$5	\$9	\$5	\$6	\$16	\$7	\$5	\$6	\$5
Total Charges	\$1,077	\$1,911	\$1,213	\$1,081	\$2,057	\$1,231	\$1,187	\$2,202	\$1,339
Customer Payments	\$435	\$635	\$467	\$502	\$910	\$564	\$578	\$971	\$637
PCAP Credits	\$550	\$934	\$613	\$515	\$878	\$570	\$568	\$991	\$631
Other Assistance Credits	\$22	\$167	\$46	\$21	\$170	\$44	\$25	\$188	\$50
Other Credits	\$3	\$6	\$3	\$3	\$6	\$4	\$2	\$2	\$2
Total Credits	\$1,009	\$1,743	\$1,129	\$1,040	\$1,964	\$1,182	\$1,172	\$2,152	\$1,319
# of Cash Payments	8.8	6.7	8.5	9.9	8.0	9.6	10.0	8.4	9.8
# of PCAP Credits	11.2	11.0	11.2	10.9	10.4	10.8	11.5	10.7	11.3
PCAP Responsibility Cash Coverage Rate	82%	60%	79%	91%	76%	89%	95%	78%	93%
PCAP Responsibility Total Coverage Rate	87%	83%	86%	95%	95%	95%	100%	98%	100%
Shortfall	\$68	\$168	\$84	\$41	\$93	\$49	\$14	\$50	\$20
Arrearage Forgiveness	\$50	\$90	\$56	\$37	\$61	\$41	\$29	\$63	\$34

The PCAP responsibility cash coverage rate is the customer payments divided by the discounted bill. The PCAP responsibility total coverage rate is the total credits minus PCAP credits, divided by the discounted bill. The shortfall is the total charges minus the total credits.

Table VII-25 displays the distribution of customers' total coverage on their PCAP responsibility. The percent of customers with coverage rates at or over 100 percent is very high. However, it fell from 65 percent in 2014 to 30 percent in 2015 for non-electric heat customers, and from 53 percent in 2014 to 36 percent in 2015 for electric heat customers. The percent of customers with coverage rates below 80 percent was 15 percent for non-electric heat customers and 22 percent for electric heat customers.

**Table VII-25
PCAP Responsibility Total Coverage Rates**

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
≥ 100%	52%	33%	65%	53%	30%	36%
90%-99%	17%	16%	15%	19%	33%	23%
80%-89%	11%	15%	8%	10%	22%	19%
< 80%	20%	36%	12%	18%	15%	22%

The CAP responsibility total coverage rate is the total credits minus CAP credits, divided by the discounted bill.

Table VII-26 displays the distribution of customers' PCAP responsibility total coverage rates by company. The percent of customers with coverage rates at or over 100 percent fell sharply for Met-Ed and Penelec, but it remained steady for Penn Power. In addition, the percent of Penn Power customers with coverage rates below 80 percent fell and is lower than that of the other companies.

**Table VII-26
PCAP Responsibility Total Coverage Rates
By Company**

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Met-Ed						
Number of Customers	3,899	1,109	3,779	1,080	4,462	1,261
≥ 100%	49%	33%	65%	54%	25%	31%
90%-99%	19%	17%	16%	21%	36%	25%
80%-89%	12%	15%	8%	9%	21%	19%
< 80%	20%	34%	12%	16%	18%	26%
Penelec						
Number of Customers	7,779	996	7,743	1,031	8,612	1,151
≥ 100%	55%	33%	68%	55%	27%	39%
90%-99%	16%	15%	13%	17%	33%	23%
80%-89%	11%	16%	8%	9%	24%	19%
< 80%	19%	36%	11%	19%	16%	19%
Penn Power						
Number of Customers	1,830	361	1,918	350	2,012	357
≥ 100%	44%	32%	53%	45%	54%	46%

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
90%-99%	19%	15%	20%	17%	25%	20%
80%-89%	11%	12%	12%	14%	13%	18%
< 80%	26%	40%	15%	24%	8%	17%

The PCAP responsibility total coverage rate is the total credits minus PCAP credits, divided by the discounted bill.

Table VII-27 displays the distribution of customers’ PCAP responsibility total coverage rates for customers with and without an alternate supplier. The distribution of coverage rates was similar for both groups of customers.

**Table VII-27
PCAP Responsibility Total Coverage Rates
By Alternate Supplier Status**

Alternate Supplier	Non-Electric Heat						Electric Heat					
	Obs.	%	≥ 100%	90%-99%	80%-89%	< 80%	Obs.	%	≥ 100%	90%-99%	80%-89%	< 80%
2013												
No	10,116	75%	53%	17%	11%	19%	1,744	71%	33%	16%	15%	36%
Yes	3,392	25%	47%	17%	12%	24%	722	29%	32%	17%	15%	37%
≥ 12 Alt. Bills	868	6%	33%	19%	17%	32%	192	8%	33%	19%	17%	32%
< 12 Alt. Bills	2,524	19%	32%	16%	14%	38%	530	21%	32%	16%	14%	38%
Total	13,508	100%	52%	17%	11%	20%	2,466	100%	33%	16%	15%	36%
2014												
No	9,947	74%	67%	14%	8%	11%	1,683	68%	53%	19%	10%	19%
Yes	3,493	26%	59%	17%	9%	14%	778	32%	53%	19%	11%	17%
≥ 12 Alt. Bills	1,078	8%	51%	23%	9%	17%	150	6%	51%	23%	9%	17%
< 12 Alt. Bills	2,415	18%	54%	17%	11%	18%	628	26%	54%	17%	11%	18%
Total	13,440	100%	65%	15%	8%	12%	2,461	100%	53%	19%	10%	18%
2015												
No	11,363	75%	30%	33%	22%	15%	2,067	75%	35%	23%	20%	22%
Yes	3,723	25%	31%	32%	21%	17%	702	25%	40%	23%	16%	21%
≥ 12 Alt. Bills	1,139	8%	40%	26%	14%	21%	146	5%	40%	26%	14%	21%
< 12 Alt. Bills	2,584	17%	40%	22%	17%	21%	556	20%	40%	22%	17%	21%
Total	15,086	100%	30%	33%	22%	15%	2,769	100%	36%	23%	19%	22%

The CAP responsibility total coverage rate is the total credits minus CAP credits, divided by the discounted bill. Customers were marked as having an alternate supplier if they received at least one bill from an alternate supplier in the calendar year.

Table VII-28 displays the distribution of customers’ PCAP responsibility total coverage rates by poverty level. A high percent of customers at or below 50 percent of the federal

poverty level had coverage rates below 80 percent. In 2015, 25 percent of non-electric heat customers at or below 50 percent of the poverty level had coverage rates below 80 percent, and 28 percent of electric heat customers did. By comparison, just 11 percent of non-electric heat customers between 101 and 150 percent of the poverty level had coverage rates below 80 percent, and just 17 percent of electric heat customers did.

**Table VII-28
PCAP Responsibility Total Coverage Rates
By Poverty Level**

Poverty Level	Non-Electric Heat						Electric Heat					
	Obs.	%	≥ 100%	90%-99%	80%-89%	< 80%	Obs.	%	≥ 100%	90%-99%	80%-89%	< 80%
2013												
≤ 50%	1,798	13%	39%	15%	14%	32%	393	16%	35%	11%	12%	42%
51-100%	6,384	47%	52%	16%	11%	21%	1,276	52%	32%	15%	14%	38%
101-150%	4,957	37%	57%	18%	10%	15%	711	29%	33%	21%	17%	30%
2014												
≤ 50%	1,728	13%	52%	14%	11%	22%	358	15%	51%	12%	9%	28%
51-100%	6,518	49%	65%	15%	8%	12%	1,331	54%	52%	19%	11%	19%
101-150%	4,960	37%	70%	16%	7%	7%	718	29%	58%	21%	9%	12%
2015												
≤ 50%	2,037	14%	33%	24%	18%	25%	417	15%	39%	19%	13%	28%
51-100%	7,513	50%	29%	32%	22%	16%	1,534	55%	37%	22%	18%	23%
101-150%	5,433	36%	30%	37%	22%	11%	801	29%	32%	28%	23%	17%

The PCAP responsibility total coverage rate is the total credits minus PCAP credits, divided by the discounted bill. Customers whose poverty level was calculated to be above 150% were not included in the table as their income data is not the level it was when they enrolled in PCAP, and their discount is not accurate.

Table VII-29 displays the distribution of customers’ PCAP responsibility total coverage rates by whether or not a customer received the maximum PCAP credit. In all years and for both heating types, customers were more likely to have coverage rates of at least 100 percent if they received the maximum credit.

**Table VII-29
PCAP Responsibility Total Coverage Rates
By Maximum PCAP Credit**

Max Credit	Non-Electric Heat						Electric Heat					
	Obs.	%	≥ 100%	90%-99%	80%-89%	< 80%	Obs.	%	≥ 100%	90%-99%	80%-89%	< 80%
2013												
No	10,830	80%	51%	17%	11%	21%	2,389	97%	32%	16%	15%	36%
Yes	2,678	20%	54%	18%	12%	16%	77	3%	42%	14%	12%	32%

Max Credit	Non-Electric Heat						Electric Heat					
	Obs.	%	≥ 100%	90%-99%	80%-89%	< 80%	Obs.	%	≥ 100%	90%-99%	80%-89%	< 80%
Total	13,508	100%	52%	17%	11%	20%	2,466	100%	33%	16%	15%	36%
2014												
No	10,720	80%	63%	16%	8%	13%	2,364	96%	53%	19%	10%	18%
Yes	2,720	20%	71%	14%	7%	8%	97	4%	64%	10%	9%	16%
Total	13,440	100%	65%	15%	8%	12%	2,461	100%	53%	19%	10%	18%
2015												
No	12,391	82%	30%	33%	21%	16%	2,683	97%	36%	23%	19%	22%
Yes	2,695	18%	34%	32%	24%	10%	86	3%	47%	23%	15%	15%
Total	15,086	100%	30%	33%	22%	15%	2,769	100%	36%	23%	19%	22%

The PCAP responsibility total coverage rate is the total credits minus PCAP credits, divided by the discounted bill.

F. Arrearage Forgiveness

This section analyzes the arrearage forgiveness payments that PCAP customers received.

Table VII-30 shows that relatively few customers received arrearage forgiveness. The percent of non-electric heat customers who received any arrearage forgiveness was just 29 percent in 2013, and fell to 23 percent in 2015. The mean number of arrearage forgiveness payments received in 2015 was 2.1, and the mean amount forgiven was \$40.

The percent of electric heat customers who received arrearage forgiveness also fell from 37 percent in 2013 to 33 percent in 2015. The mean number of arrearage forgiveness payments received in 2015 was 2.9, and the mean amount forgiven was \$95. Because fewer than half of customers received arrearage forgiveness, the median amount forgiven was \$0.

**Table VII-30
Arrearage Forgiveness**

	Non-Electric Heat					Electric Heat				
	Obs	% Received	Mean # Payments	Arrearage Forgiveness		Obs	% Received	Mean # Payments	Arrearage Forgiveness	
				Mean	Median				Mean	Median
2013	13,508	29%	2.4	\$55	\$0	2,466	37%	3.0	\$111	\$0
2014	13,440	24%	2.1	\$43	\$0	2,461	31%	2.6	\$95	\$0
2015	15,086	23%	2.1	\$40	\$0	2,769	33%	2.9	\$95	\$0

Table VII-31 displays statistics on arrearage forgiveness by company. Met-Ed had the highest percent of customers who received arrearage forgiveness, while Penn Power had the lowest.

**Table VII-31
Arrearage Forgiveness
By Company**

	Non-Electric Heat					Electric Heat				
	Obs	% Received	Mean # Payments	Arrearage Forgiveness		Obs	% Received	Mean # Payments	Arrearage Forgiveness	
				Mean	Median				Mean	Median
Met-Ed										
2013	3,899	34%	2.8	\$71	\$0	1,109	41%	3.4	\$148	\$0
2014	3,779	27%	2.3	\$56	\$0	1,080	35%	2.9	\$123	\$0
2015	4,462	26%	2.4	\$52	\$0	1,261	38%	3.4	\$124	\$0
Penelec										
2013	7,779	27%	2.3	\$48	\$0	996	33%	2.7	\$77	\$0
2014	7,743	24%	2.0	\$39	\$0	1,031	28%	2.3	\$77	\$0
2015	8,612	22%	2.0	\$35	\$0	1,151	28%	2.5	\$72	\$0
Penn Power										
2013	1,830	24%	1.9	\$50	\$0	361	34%	2.8	\$90	\$0
2014	1,918	20%	1.7	\$37	\$0	350	26%	2.3	\$61	\$0
2015	2,012	19%	1.6	\$29	\$0	357	28%	2.3	\$63	\$0

Table VII-32 displays statistics on arrearage forgiveness only for the customers who received arrearage forgiveness. These customers received an average of 8.9 arrearage forgiveness payments in 2015. Non-electric heat customers received a mean of \$171, while electric heat customers received a mean of \$290.

**Table VII-32
Arrearage Forgiveness
Only Customers Who Received Arrearage Forgiveness**

	Non-Electric Heat				Electric Heat			
	Obs	Mean # Payments	Mean Forgiven	Median Forgiven	Obs	Mean # Payments	Mean Forgiven	Median Forgiven
2013	3,891	8.3	\$190	\$91	904	8.3	\$303	\$151
2014	3,245	8.5	\$180	\$84	757	8.3	\$308	\$141
2015	3,489	8.9	\$171	\$84	903	8.9	\$290	\$154

Table VII-33 displays the percent of PCAP participants who received arrearage forgiveness in each bill month. Bill months were defined as the period between the date of one bill and the day before the date of the next bill, starting with the first bill in each calendar year. The

months below correspond roughly but not exactly to the calendar months (January through December).

The table shows that customers were least likely to receive arrearage forgiveness in the later months of the year. They were most likely to receive arrearage forgiveness in the spring. In addition, the percent of customers who received arrearage forgiveness fell from 2013 to 2015 in all months.

Table VII-33
Percent Received Arrearage Forgiveness Each Month

	Obs.	Bill Month											
		1	2	3	4	5	6	7	8	9	10	11	12
2013	16,001	21%	19%	22%	22%	21%	21%	21%	20%	18%	19%	16%	16%
2014	15,924	18%	17%	20%	18%	17%	17%	18%	16%	17%	16%	15%	15%
2015	17,870	17%	17%	20%	19%	18%	19%	18%	17%	17%	17%	17%	16%

Bill months were defined as the period between the date of one bill and the day before the date of the next bill, starting with the first bill in each calendar year.

Table VII-34 displays the percent of PCAP participants who received arrearage forgiveness in each bill month by company. Met-Ed consistently had the highest percent of customers who received arrearage forgiveness, while Penn Power had the lowest.

Table VII-34
Percent Received Arrearage Forgiveness Each Month
By Company

	Obs.	Bill Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Met-Ed													
2013	5,010	24%	22%	27%	25%	25%	24%	25%	23%	21%	22%	20%	19%
2014	4,861	20%	19%	22%	21%	19%	19%	21%	18%	18%	18%	17%	17%
2015	5,724	20%	20%	23%	21%	21%	23%	22%	21%	20%	20%	20%	19%
Penelec													
2013	8,798	20%	19%	21%	21%	20%	19%	20%	19%	18%	18%	16%	15%
2014	8,793	17%	17%	19%	18%	16%	16%	17%	15%	17%	16%	14%	14%
2015	9,776	16%	17%	19%	18%	17%	18%	17%	16%	16%	16%	16%	14%

	Obs.	Bill Month											
		1	2	3	4	5	6	7	8	9	10	11	12
Penn Power													
2013	2,193	18%	16%	17%	18%	18%	18%	18%	16%	16%	16%	11%	13%
2014	2,270	14%	13%	16%	15%	14%	15%	16%	13%	15%	15%	13%	12%
2015	2,370	14%	13%	16%	15%	14%	15%	14%	14%	13%	14%	12%	12%

Bill months were defined as the period between the date of one bill and the day before the date of the next bill, starting with the first bill in each calendar year.

Table VII-35 displays mean arrearage forgiveness received by the number of months in which the customer received arrearage forgiveness. The customers who received arrearage forgiveness between six and eight months tended to receive the highest amounts of arrearage forgiveness. This is likely because the customers who were capable of making more on-time payments, and therefore receive arrearage forgiveness in more months, had lower pre-program arrears.

Table VII-35
Mean Arrearage Forgiveness
By Number of Months of Arrearage Forgiveness

# Months of Arrearage Forgiveness	2013			2014			2015		
	Obs.	%	Mean Arrearage Forgiveness	Obs.	%	Mean Arrearage Forgiveness	Obs.	%	Mean Arrearage Forgiveness
0	11,205	70%	\$0	11,922	75%	\$0	13,478	75%	\$0
1	276	2%	\$39	107	1%	\$38	95	1%	\$25
2	155	1%	\$105	136	1%	\$90	98	1%	\$107
3	180	1%	\$150	155	1%	\$114	122	1%	\$75
4	249	2%	\$204	224	1%	\$153	186	1%	\$160
5	304	2%	\$250	254	2%	\$207	250	1%	\$200
6	358	2%	\$291	331	2%	\$236	295	2%	\$257
7	446	3%	\$248	363	2%	\$238	416	2%	\$222
8	458	3%	\$237	418	3%	\$259	396	2%	\$236
9	451	3%	\$226	433	3%	\$258	404	2%	\$255
10	461	3%	\$227	423	3%	\$237	528	3%	\$181
11	486	3%	\$237	410	3%	\$196	603	3%	\$198
12	972	6%	\$194	748	5%	\$177	999	6%	\$177
All CAP Customers Who Received Arrearage Forgiveness	4,796	30%	\$211	4,002	25%	\$204	4,392	25%	\$195
All CAP Customers	16,001	100%	\$63	15,924	100%	\$51	17,870	100%	\$48

G. Collections Analysis

This section presents an analysis of collections actions for the 2013 through 2015 PCAP participants, with a comparison of PCAP participants and non-PCAP LIHEAP recipients.

Table VII-36 presents the frequency of the total number of collections actions for the PCAP participants. Customers who were not included in the collections file were counted to have no collections actions. The table shows that 38 percent of non-electric heat and 34 percent of electric heat PCAP participants had no collections actions. Additionally, 15 percent of non-electric heat and 17 percent of electric heat PCAP participants had more than 16 collections actions.

Table VII-36
Total Number of Collections Actions
CAP Customers

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
No Actions	37%	33%	39%	31%	38%	34%
1-4 Actions	15%	14%	15%	15%	16%	16%
5-8 Actions	8%	10%	8%	11%	9%	10%
9-12 Actions	12%	11%	13%	13%	15%	14%
13-16 Actions	8%	9%	8%	9%	8%	8%
>16 Actions	21%	22%	17%	20%	15%	17%
Total	100%	100%	100%	100%	100%	100%

Table VII-37 displays the frequency of each type of collection action for all PCAP participants.

- Outbound dialing was the most common collection action in 2013, but inbound calls were the most common collection action in 2015. The frequency of inbound calls increased from 2.6 calls per customer in 2013 to about 3 calls per customer in 2015.
- Overall, non-electric heat customers had an average of 7.4 collection actions while electric heat customers had an average of 8.2 collection actions.
- The mean total number of collections fell from 8.7 in 2013 to 7.4 in 2015 for non-electric heat customers, and from 9.4 in 2013 to 8.2 in 2015 for electric heat customers.

Table VII-37
Mean Number of Collections Actions
PCAP Customers

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
Outbound Dialing	3.3	3.7	2.8	3.3	2.5	2.7
Inbound Calls	2.6	2.6	2.7	2.8	2.9	3.0
Letter	1.8	1.8	1.4	1.6	1.4	1.4
Mailed Termination	0.6	0.9	0.5	0.8	0.4	0.7
Notices	0.3	0.4	0.2	0.3	0.2	0.3
Disconnection	<0.1	0.1	<0.1	0.1	<0.1	0.1
Total	8.7	9.4	7.8	9.0	7.4	8.2

Table VII-38 displays the frequency of each type of collection action for LIHEAP recipients. PCAP customers had fewer of almost all collection actions than non-PCAP LIHEAP recipients. This was especially true for non-electric heat customers. In 2015, non-electric heat LIHEAP participants had an average of 12.0 total collection actions compared to 7.4 for PCAP customers. Electric heat LIHEAP participants had an average of 8.6 collection actions compared to 8.2 for PCAP customers.

Table VII-38
Mean Number of Collections Actions
LIHEAP Recipients

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	1,701	1,993	1,962	2,529	1,838	2,315
Outbound Dialing	6.2	3.6	6.1	3.9	5.1	3.1
Inbound Calls	3.2	3.2	3.9	3.5	3.6	3.7
Letter	0.4	0.3	0.3	0.2	<0.1	<0.1
Mailed Termination	1.9	1.0	2.3	1.4	1.7	1.0
Notices	1.1	0.5	1.4	0.8	1.2	0.6
Disconnection	0.3	0.1	0.3	0.2	0.3	0.1
Total	13.1	8.7	14.2	10.0	12.0	8.6

Table VII-39 compares the types of letters that PCAP customers and LIHEAP recipients were sent. Most of the letters were PCAP payment counseling letters and the PCAP

participants were much more likely to receive these. The LIHEAP recipients were more likely to receive security deposit warning letters.

Table VII-39
Types of Collections Letters

	PCAP Customers			LIHEAP Recipients		
	2013	2014	2015	2013	2014	2015
CAP Payment Counseling Letter	28,484	23,177	25,002	62	4	3
Security Deposit Warning Letter	359	249	24	1,227	1,065	22
Broken Installment Plan Letter	13	13	6	0	0	0
Installment Plan Offer Letter	7	1	0	0	0	0

Table VII-40 displays the frequency of each type of collection action for PCAP customers by company. Met-Ed customers had the largest decline in the number of collection actions. Non-electric heat customers had an average of 9.8 collection actions in 2013 and 7.8 in 2015. Electric heat customers had an average of 11.5 collections actions in 2013 and 9.4 in 2015.

Table VII-40
Mean Number of Collections Actions
PCAP Customers
By Company

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Met-Ed						
Number of Customers	3,899	1,109	3,779	1,080	4,462	1,261
Outbound Dialing	3.9	4.5	3.1	3.8	2.7	3.1
Inbound Calls	2.7	3.0	2.8	3.2	2.9	3.5
Letter	2.1	2.2	1.6	1.9	1.5	1.6
Mailed Termination	0.8	1.1	0.6	0.9	0.5	0.8
Notices	0.4	0.5	0.3	0.4	0.2	0.3
Disconnection	0.1	0.1	<0.1	0.1	<0.1	0.1
Total	9.8	11.5	8.4	10.3	7.8	9.4
Penelec						
Number of Customers	7,779	996	7,743	1,031	8,612	1,151
Outbound Dialing	3.2	3.0	2.7	2.9	2.2	2.3
Inbound Calls	2.6	2.1	2.7	2.5	2.9	2.6

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Letter	1.7	1.5	1.4	1.5	1.3	1.2
Mailed Termination	0.6	0.7	0.5	0.8	0.4	0.6
Notices	0.3	0.3	0.2	0.3	0.2	0.2
Disconnection	<0.1	0.1	<0.1	0.1	<0.1	<0.1
Total	8.4	7.7	7.5	8.0	7.0	7.0
Penn Power						
Number of Customers	1,830	361	1,918	350	2,012	357
Outbound Dialing	2.9	3.0	2.8	3.0	2.9	2.6
Inbound Calls	2.1	2.2	2.5	2.8	2.8	3.0
Letter	1.5	1.5	1.4	1.4	1.6	1.4
Mailed Termination	0.5	0.7	0.5	0.8	0.4	0.6
Notices	0.3	0.3	0.2	0.4	0.2	0.3
Disconnection	<0.1	0.1	<0.1	<0.1	<0.1	<0.1
Total	7.3	7.8	7.5	8.4	8.0	7.9

Table VII-41 displays the mean cost of collections actions for PCAP customers. The mean cost per customer increased for non-electric heat customers from \$12.11 in 2013 to \$14.05 in 2015. The mean cost of collections actions for electric heat customers rose from \$13.56 in 2013 to \$15.88 in 2015.

Inbound calls accounted for the majority of the cost of collection actions. The mean cost of inbound calls per non-electric heat customer increased from \$8 per customer in 2013 to over \$11 per customer in 2015.

Table VII-41
Mean Cost of Collections Actions
PCAP Customers

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	13,508	2,466	13,440	2,461	15,086	2,769
Outbound Dialing	\$0.47	\$0.51	\$0.39	\$0.47	\$0.34	\$0.38
Inbound Calls	\$7.97	\$7.92	\$9.06	\$9.41	\$11.15	\$11.67
Letter	\$0.74	\$0.75	\$0.59	\$0.67	\$0.57	\$0.59
Mailed Termination	\$0.25	\$0.36	\$0.21	\$0.34	\$0.17	\$0.28
Notices	\$2.20	\$3.18	\$1.82	\$2.66	\$1.53	\$2.34

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Disconnection	\$0.49	\$0.83	\$0.39	\$0.75	\$0.29	\$0.63
Total Cost	\$12.11	\$13.56	\$12.47	\$14.31	\$14.05	\$15.88

Table VII-42 displays the mean cost of collections actions for LIHEAP recipients. In 2015, the mean cost of collection actions for non-electric heat customers was \$28.15, which is more than twice the cost of collection actions for non-electric heat PCAP participants. The mean cost of collection actions for electric heat customers in 2015 was \$21.42, which also exceeds the cost of collection actions for electric heat PCAP participants.

**Table VII-42
Mean Cost of Collections Actions
LIHEAP Recipients**

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Number of Customers	1,701	1,993	1,962	2,529	1,838	2,315
Outbound Dialing	\$0.87	\$0.50	\$0.85	\$0.55	\$0.72	\$0.44
Inbound Calls	\$9.77	\$9.78	\$13.00	\$11.71	\$13.83	\$14.32
Letter	\$0.18	\$0.11	\$0.10	\$0.09	<\$0.01	<\$0.01
Mailed Termination	\$0.79	\$0.43	\$0.93	\$0.56	\$0.71	\$0.42
Notices	\$8.19	\$3.71	\$10.70	\$5.79	\$9.38	\$4.43
Disconnection	\$2.91	\$1.58	\$3.42	\$2.15	\$3.51	\$1.81
Total Cost	\$22.71	\$16.11	\$29.00	\$20.85	\$28.15	\$21.42

Table VII-43 displays the mean cost of collection actions for PCAP customers by company. Met-Ed consistently had the highest cost for collection actions.

**Table VII-43
Mean Cost of Collections Actions
PCAP Customers
By Company**

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Met-Ed						
Number of Customers	3,899	1,109	3,779	1,080	4,462	1,261
Outbound Dialing	\$0.54	\$0.63	\$0.44	\$0.53	\$0.37	\$0.44

	2013		2014		2015	
	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat	Non-Electric Heat	Electric Heat
Inbound Calls	\$8.30	\$9.42	\$9.38	\$10.56	\$11.25	\$13.26
Letter	\$0.86	\$0.92	\$0.64	\$0.77	\$0.61	\$0.67
Mailed Termination	\$0.32	\$0.45	\$0.24	\$0.38	\$0.19	\$0.32
Notices	\$2.79	\$4.04	\$2.16	\$3.17	\$1.86	\$2.74
Disconnection	\$0.67	\$1.12	\$0.58	\$0.92	\$0.34	\$0.71
Total Cost	\$13.48	\$16.57	\$13.44	\$16.33	\$14.63	\$18.14
Penelec						
Number of Customers	7,779	996	7,743	1,031	8,612	1,151
Outbound Dialing	\$0.44	\$0.42	\$0.37	\$0.41	\$0.31	\$0.32
Inbound Calls	\$8.12	\$6.64	\$9.09	\$8.17	\$11.17	\$10.00
Letter	\$0.71	\$0.62	\$0.57	\$0.61	\$0.53	\$0.51
Mailed Termination	\$0.24	\$0.28	\$0.20	\$0.31	\$0.15	\$0.23
Notices	\$1.96	\$2.53	\$1.66	\$2.09	\$1.32	\$1.94
Disconnection	\$0.41	\$0.57	\$0.33	\$0.69	\$0.27	\$0.57
Total Cost	\$11.88	\$11.07	\$12.22	\$12.28	\$13.76	\$13.57
Penn Power						
Number of Customers	1,830	361	1,918	350	2,012	357
Outbound Dialing	\$0.40	\$0.42	\$0.39	\$0.42	\$0.40	\$0.36
Inbound Calls	\$6.61	\$6.84	\$8.29	\$9.50	\$10.85	\$11.41
Letter	\$0.63	\$0.60	\$0.59	\$0.57	\$0.67	\$0.56
Mailed Termination	\$0.20	\$0.30	\$0.19	\$0.31	\$0.18	\$0.26
Notices	\$1.93	\$2.34	\$1.80	\$2.80	\$1.66	\$2.20
Disconnection	\$0.39	\$0.69	\$0.29	\$0.42	\$0.28	\$0.53
Total Cost	\$10.16	\$11.18	\$11.56	\$14.02	\$14.04	\$15.32

H. Summary

This section presents a summary of the analysis presented in this memo. Billing, payment, and collections data were analyzed for customers who participated in PCAP in 2013, 2014, and 2015. The analysis focused on PCAP participants who were in the program for the full year, as data on bills and payments were not available when customers were not participating in PCAP. Given the seasonal nature of bills and payments, it is important to analyze these data over the full year to get an accurate picture of affordability and payment compliance.

Between 19 and 26 percent of the PCAP participants were included in the analysis. Many PCAP customers do not remain on the program for the full year, either because they enrolled after the beginning of the year or they exited prior to the end of the calendar year.

- *Full Bills:* The mean bill for non-electric heat customers was \$1,248 in 2015 and the mean bill for electric heat customers was \$2,058 in 2015. In all years, Met-Ed customers had the highest bills. In 2015, the mean Met-Ed bill was \$1,357 for non-electric heat customers and \$2,204 for electric heat customers.

About 25 percent of non-electric heat customers and about 30 percent of electric heat customers had an alternate supplier for at least one month. Non-electric heat customers with an alternate supplier had higher bills in all years. In 2015, the mean bill was \$1,221 for non-electric heat customers without an alternate supplier and \$1,330 for customers with an alternate supplier. Electric heat customers with an alternate supplier did not have higher bills in 2013, but they did in 2014 and 2015. In 2015, the mean bill was \$2,036 for electric heat customers without an alternate supplier and \$2,121 for customers with an alternate supplier.

- *PCAP Credits:* The mean PCAP credit was \$592 in 2015 for non-electric heat customers and \$914 in 2015 for electric heat customers. Many non-electric heat customers, about 20 percent, received the maximum PCAP credit, while just 3 percent of electric heat customers received the maximum PCAP credit.

Met-Ed non-electric customers had the highest mean PCAP credit and the highest percentage of customers who received the maximum PCAP credit. Penn Power had the lowest mean PCAP credit for non-electric heat customers, while Penelec had the lowest mean PCAP credit for electric heat customers.

In 2015, non-electric heat customers received a mean percent discount of 48 percent while electric heat customers received a mean percent discount of 41 percent.

Non-electric heating customers who received the maximum credit had an average discount of 51 percent of their bill, while customers who did not receive the maximum credit had an average discount of 48 percent in 2015. This difference was much larger for electric heat customers, but only three percent of these customers received the maximum PCAP credit. In 2015, electric heating customers who received the maximum PCAP credit had an average discount of 61 percent, while those who did not receive the maximum credit had an average discount of 40 percent.

Customers at lower poverty levels received a higher percent discount on their bill. In 2015, customers at or below 50 percent of the poverty level received a 54 percent discount on their bill, while customers between 101 and 150 percent of the poverty level received a 40 percent discount.

- *Affordability:* In 2015, the PCAP discount lowered customers' energy burden (or percent of income spent on electricity) from 11 percent to 6 percent for non-electric heat customers, and from 19 percent to 11 percent for electric heat customers. This indicates that the PCAP program has a large impact on the affordability of electric bills for customers who remain in the program for a full year.

Customers who received the maximum credit had much higher energy burdens both before and after receiving the PCAP discount. In 2015, non-electric heat customers who received the maximum credit had a full burden of 17 percent and a discounted burden of 9 percent, while those who did not receive the maximum credit had a full burden of 9 percent and a discounted burden of 5 percent.

This trend was more pronounced for electric heat customers, though only three percent of electric heat customers received the maximum credit. In 2015, electric heat customers who received the maximum credit had a full burden of 40 percent and a discounted burden of 18 percent, while those who did not receive the maximum credit had a full burden of 18 percent and a discounted burden of 10 percent.

- *Customer Payments, Credits, and Coverage Rates:* In 2015, PCAP participants made an average of 9.8 cash payments and received an average of 11 PCAP credits.

The payments made by PCAP participants covered a high percentage of their payment responsibility. In 2015, they covered 88 percent of their responsibility. The total coverage rate was also very high. In 2015, 94 percent of the discounted charges were covered on average. Coverage rates for Met-Ed customers were somewhat lower and coverage rates for Penn Power customers were somewhat higher.

The average shortfall, defined as total charges minus total credits, was \$52 for non-electric heat customers and \$80 for electric heat customers in 2015.

A high percent of customers at or below 50 percent of the federal poverty level had coverage rates below 80 percent. In 2015, 25 percent of non-electric heat customers at or below 50 percent of the poverty level had coverage rates below 80 percent, and 28 percent of electric heat customers did. By comparison, just 11 percent of non-electric heat customers between 101 and 150 percent of the poverty level had coverage rates below 80 percent, and just 17 percent of electric heat customers did.

- *Arrearage Forgiveness:* The percent of non-electric heat customers who received any arrearage forgiveness was 29 percent in 2013, and fell to 23 percent in 2015. The percent of electric heat customers who received arrearage forgiveness also fell from 37 percent in 2013 to 33 percent in 2015. Non-electric heat customers received an average of \$40 in arrearage forgiveness in 2015 and electric heat customers received an average of \$95. Met-Ed had the highest percent of customers who received arrearage forgiveness, while Penn Power had the lowest.

When only examining customers who received arrearage forgiveness, these customers received an average of 8.9 arrearage forgiveness payments in 2015. Non-electric heat customers received a mean of \$171, while electric heat customers received a mean of \$290.

- *Collections Actions and Costs:* The mean total number of collections fell from 8.7 in 2013 to 7.4 in 2015 for non-electric heat PCAP customers, and from 9.4 in 2013 to 8.2 in 2015 for electric heat PCAP customers.

PCAP customers had fewer of almost all collection actions than LIHEAP recipients. This was especially true for non-electric heat customers. In 2015, non-electric heat LIHEAP participants had an average of 12.0 total collection actions compared to 7.4 for PCAP customers. Electric heat LIHEAP participants had an average of 8.6 collection actions compared to 8.2 for PCAP customers.

The mean collections cost per customer increased for non-electric heat PCAP customers from \$12.11 in 2013 to \$14.05 in 2015. The mean cost of collections actions for electric heat PCAP customers rose from \$13.56 in 2013 to \$15.88 in 2015.

VIII. Findings and Recommendations

This section of the report provides recommendations for PCAP and WARM. The Hardship Fund and CARES appear to be functioning well and no recommendations are made for these programs.

A. PCAP

PCAP recommendations relate to the maximum credit amount, CBO education for PCAP applicants, mail-in enrollment, the positive impact of the program, and data availability.

1. *Maximum Credit Amount: Consider an increase in the maximum non-electric PCAP credit.*

The maximum annual PCAP credit is \$960 for non-electric heat customers and \$2,400 for electric heat customers. Many non-electric heat customers, about 20 percent, received the maximum PCAP credit, while just 3 percent of electric heat customers received the maximum PCAP credit.

Customers who received the maximum credit had much higher energy burdens both before and after receiving the PCAP discount. In 2015, non-electric heat customers who received the maximum credit had a full burden of 17 percent and a discounted burden of 9 percent, while those who did not receive the maximum credit had a full burden of 9 percent and a discounted burden of 5 percent.

2. *Education: Train CAP CBO's to provide additional education about the maximum credit at the time of enrollment and re-certification.*

When asked if they were aware that there was a limit on the amount of benefits that they could receive in a year on PCAP, only 26 percent said that they were aware, and most of those customers did not know the amount of the limit.

3. *Enrollment: Consider allowing mail-in recertification for customers on fixed incomes.*

Customers who are not in the Dollar Energy service territory are required to visit the agency to re-certify for PCAP (all customers can apply by phone or at the agency). This can be difficult for elderly or disabled customers, and some expressed a preference for phone re-certification in the PCAP survey. Given that those with fixed incomes will generally not experience large changes in their circumstances, it would save time and increase convenience to allow these customers to re-certify by mail.

4. *Impact: Continue PCAP with few changes from current design. PCAP has large positive impacts on customers who remain in the program for a full year.*

In 2015, the PCAP discount lowered customers' energy burden from 11 percent to 6 percent for non-electric heat customers, and from 19 percent to 11 percent for electric

heat customers. This indicates that the PCAP program has a large impact on the affordability of electric bills.

5. *Data: Assess how more complete data can be provided in future evaluations to allow for improved assessment of the impact of PCAP for all customers who enrolled.*

This more comprehensive assessment would require analysis of customers both before and after they enrolled in PCAP.

B. WARM

WARM recommendations relate to measure coding in the WARM data, program coordination, data on jobs ready for inspection, contractor communication, and communication about high quality contractor work.

1. *Measure Coding: Consider a revised approach to the coding of WARM measures in the program database with broader categories to describe the measures installed.*

The WARM data provides two ways to determine the type of measures installed. The product number “prodnumb” provides about 430 detailed codes and the measure description “woi_desc” provides over 2,800 detailed codes. However, some codes do not have a product number and in many cases the product number is inconsistent with the measure description. We recommend that these codes are streamlined and that an additional variable is created that limits the number of measures to key areas for analysis. We would recommend that all measures be coded into one of the 40 categories listed in the table below.

Misc.	Lighting & Appliances	Seal & Insulation	Heating & Water Heating
Audit	CFL	Air Sealing	Programmable Thermostat
Blower Door Test	LED	Attic Insulation	Line Voltage Thermostat
Education	LED Nightlight	Attic Ventilation	Heating System Repair
Health & Safety	Smart Power Strip	Perimeter/Wall Insulation	Heating System Replaced
Kitchen Ventilation	Refrigerator Test	Basement Insulation	Duct Sealing/Insulation
Bath Ventilation	Refrigerator Replaced	Garage Insulation	Water Heater Repair
Mechanical Ventilation	AC Replaced	Other Insulation	Water Heater Replaced
Misc. Repair	Dehumidifier Replaced	Vapor Barrier	Pipe Insulation
	Clothes Line	Attic Access Cover	Aerator
	Mattress Replaced	Window Seal/Repair	Showerhead
		Door Seal/Repair	Plumbing Repair

2. *Data on Coordination: Develop a system that provides a small reward to contractors for coordination to encourage coordination and improve contractor reporting on coordination.*

Contractors do not consistently provide information on whether jobs are coordinated with WAP, a utility program, or another program. The coordination is beneficial to the customer and this reward could potentially provide for greater compliance in completing this data field. FirstEnergy could then evaluate the impact of such coordination on energy savings and cost-effectiveness.

3. *Jobs Ready for Inspection: Develop a new program reporting feature with a list of completed jobs and the total invoiced amount for WARM inspectors.*

APPRISE interviewed the three quality control inspectors. One common challenge that they faced was that it is currently very difficult to identify jobs that are ready for inspection and the total amount spent on those jobs.

4. *Contractor Communication: Require inspectors to discuss key findings with installation contractors on a timely basis to develop agreement on inspection findings, ensure that missed opportunities or substandard work is addressed and corrected as soon as possible, and verify that learnings are applied to new jobs on an ongoing basis.*
5. *Inspection Findings: Instruct inspectors to focus on key issues that impact health and safety or energy savings.*

Contractors have noted that inspections sometimes put too much focus on small details. It is important to draw contractors' attention to those issues that have the greatest impact.

6. *Highlight Quality Work: Train inspectors to commend contractors for high quality work seen in the field, as well as pointing out areas of concern.*