

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

TESTIMONY OF

CRISTINA COLTRO

ON BEHALF OF
PHILADELPHIA GAS WORKS

DOCKET NO. R-00061931

December 2006

1 **I. QUALIFICATIONS AND PURPOSE OF TESTIMONY**

2 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

3 A. My name is Cristina Coltro and my business address is 800 W. Montgomery
4 Avenue, Philadelphia, PA 19122.

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

6 A. I am employed by the Philadelphia Gas Works ("PGW" or the "Company") as the
7 Director of Regulatory Compliance.

8 **Q. PLEASE DESCRIBE YOUR EDUCATIONAL AND PROFESSIONAL
9 BACKGROUND.**

10 A. I received a Masters Degree in Energy Management and Policy from University
11 of Pennsylvania, 1995, and a Bachelor's Degree in Economics from Hunter
12 College, City University of New York, 1992. My professional experience
13 includes more than 10 years of working in the field of low-income energy
14 programs and regulatory compliance.

15 **Q. WHAT ARE YOUR CURRENT RESPONSIBILITIES AS DIRECTOR OF
16 REGULATORY COMPLIANCE?**

17 A. My responsibilities include the management of four departments: (1) the
18 Customer Review Unit which handles customer disputes received from the PUC;
19 (2) the Dispute Resolution Unit which handles disputes and correspondences from
20 customers; (3) the Process and Performance Department which handles training
21 and Quality Assurance for Customer Affairs, and the Program Management
22 Office (PMO); and (4) the Universal Services Department which handles PGW's
23 Customer Responsibility Program (CRP), Conservation Works Program (CWP),
24 Customer Assistance Referral Evaluation Program (CARES), LIHEAP Outreach,
25 Utility Emergency Services Fund (UESF), and Senior Discount Program.

1 **Q. HAVE YOU EVER PROVIDED TESTIMONY TO THIS COMMISSION**
2 **BEFORE?**

3 A. Yes, I have testified before the Commission in the Company's prior base rate
4 requests as well as the Restructuring Proceeding (M-00021612) and the
5 Consolidated Investigation (P-00042090).

6 **Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?**

7 A. The purpose of my testimony is to: (1) describe PGW's existing universal service
8 programs; (2) provide my projection of the number of customers who will be
9 enrolled in PGW's CRP program at the end of the future test year; and (3) discuss
10 the data available concerning potential cost-offsets when a customer permanently
11 enrolls in PGW's CRP program.

12 **II. UNIVERSAL SERVICE PROGRAMS**

13 **Q. PLEASE OUTLINE THE UNIVERSAL SERVICE PROGRAMS**
14 **AVAILABLE TO PGW CUSTOMERS.**

15 A. PGW has been in the forefront of providing services to low-income customers
16 since the 1970's. For decades PGW has offered payment assistance and energy
17 conservation programs to its low-income customers. PGW's current universal
18 service programs include the Customer Responsibility Program ("CRP"), the
19 Conservation Works Program ("CWP"), the Customer Assistance Referral
20 Evaluation Program ("CARES"), LIHEAP Outreach, Hardship Fund through the
21 Utility Emergency Services Fund ("UESF"), and the Senior Citizen Discount
22 Program.

23 Through these programs, PGW has been successful in keeping thousands
24 of low-income residents and seniors on the system, with safe and affordable gas
25 bills, while seeking to maximize individual contributions from those customers,

1 considering the economic realities in which they find themselves. Over the past
2 fifteen years, the CRP has matured into one of the largest low-income customer
3 assistance programs in the industry.

4 **A. Customer Responsibility Program ("CRP")**

5 **Q. PLEASE DESCRIBE PGW'S CURRENT CRP PROGRAM.**

6 A. CRP is a percent-of-income customer assistance program designed to offer
7 affordable and discounted payment plans to low income customers with gross
8 household income at or below 150% of the Federal Poverty Level ("FPL"). The
9 program was implemented in 1994 as an extension of the pilot Energy Assistance
10 Program. With some modifications, it was approved by the PUC as satisfying
11 Commission requirements in PGW's Restructuring Proceeding in 2003. The
12 program has a current participation level of 75,093 low-income customers.

13 In summary, the CRP program is offered to residential heating and non-
14 heating customers. Participants who fall at or below 150% of the FPL are asked
15 to pay 8%, 9%, or 10% of their gross household income, depending upon their
16 level of income. Participants who fall between 0-50% of the FPL are asked to pay
17 8% of their gross monthly income; customers whose income falls between 51-
18 100% of the FPL pay 9% of gross income; and customers whose income falls
19 between 101-150% of the FPL are required to pay 10% of their monthly gross
20 household income. There are no limits on the annual maximum CAP credit or on
21 consumption, although there is an \$18/month minimum payment. CRP customers
22 also receive arrearage forgiveness each month if that bill is paid on time and in
23 full, and the customer does not have a current balance past due. The monthly
24 arrearage forgiveness is equal to 1/36 of the customer's pre-program arrearage; so

1 if customers participate in the CRP and pay their bills on time for three years, the
2 customers would have all of his/her pre-program arrearage removed from his/her
3 account. Participant responsibilities include: making payments in full and on
4 time; applying for the LIHEAP grant each year (if eligible); permitting the
5 installation of an Automatic Meter Reading device ("AMR"); accepting
6 conservation measures; and recertifying annually.

7 **Q. PLEASE COMPARE PGW'S CRP WITH A CAP PROGRAM.**

8 A. PGW's CRP is a type of CAP that falls within the Percentage of Income type of
9 plan recognized by the Commission. As noted, in PGW's Restructuring
10 Proceeding, the current program was reviewed and approved as compliant with
11 the PUC's Customer Assistance Policy Statement.

12 **Q. DOES PGW EXPECT CRP PARTICIPATION TO INCREASE?**

13 A. Yes. Currently, PGW's CRP program has 75,093 participants, which is the
14 highest level of participation since the inception of the program. In Exhibit CC-1,
15 I have set out the annual levels of CRP participants for the last 5 years. Based
16 upon historical trends, PGW is projecting that, by the end of the future test year,
17 (FY 2007), there will be approximately 76,500 customers enrolled in the CRP
18 program. I have provided the projection to Mr. Bogdonavage for the purposes of
19 developing his test year financial projections.

20 **Q. HOW DOES PGW RECOVER THE COST OF THE CRP DISCOUNTS**
21 **PROVIDED TO LOW INCOME CUSTOMERS?**

22 A. Through its Universal Service Charge (USC). As the tariff indicates, the USC
23 recovers the discounts and other allowances provided to CRP participants in a
24 reconcilable charge that is adjusted quarterly.

1 **Q. IS PGW PROPOSING ANY MODIFICATIONS TO ITS EXISTING CRP**
2 **PROGRAM AT THIS TIME?**

3 A. No, not at this time. We are carefully considering proposed modifications
4 suggested in the CRP Evaluation Report conducted by Applied Public Policy
5 Research Institute for Study and Evaluation ("APPRISE") (attached to my
6 testimony as Exhibit CC-2) but believe that it would be more appropriate to await
7 the outcome of this rate request before suggesting any changes. In addition, the
8 Commission has recently revised the process by which a utility may seek changes
9 in its CAP program and we were awaiting the final order from the PUC
10 explaining this process before we proceed. The final order was entered on
11 December 18, 2006. (See M-00051923.) It appears from our initial review that
12 any modifications to the current review process will be spelled out in future PUC
13 policy statements and/or rulemakings. We intend to monitor that process as this
14 case progresses.

15 **B. Conservation Works Program ("CWP")**

16 **Q. PLEASE DESCRIBE PGW'S CWP PROGRAM.**

17 A. The Conservation Works Program ("CWP"), implemented in 1990, was designed
18 to provide cost-effective weatherization measures to customers who are
19 participants in the CRP, and whose usage exceeds the average usage of CRP
20 customers living in similar households. The CWP focuses on PGW's low-income
21 customers, addressing the main factors that influence their energy usage (such as
22 mechanical and structural systems), and behavioral issues. The goals of the CWP
23 program consist of reducing the gas usage of low-income households in a cost-

1 effective manner, lowering gas bills and improving the payment practices of
2 participating customers.

3 Over the last few years, PGW has offered the CWP program to about
4 2,700 CRP customers each year. The primary measures that may be provided by
5 the CWP include:

- 6 • Diagnostic audits;
- 7 • Energy education;
- 8 • Energy-related home repair;
- 9 • Thermostats with automatic clocks;
- 10 • Blower door guided shell tightening;
- 11 • Water heater wrap and pipe insulation;
- 12 • Furnace filters or radiator reflectors;
- 13 • Hot water conservation devices – e.g., aerators and showerheads; and
- 14 • Roof insulation.

15
16 Average expenditures are \$740 per household, including administrative costs.

17 The program has been evaluated and has been determined to be cost-effective,
18 although, at the request of the BCS, PGW has implemented a pilot in which 100
19 customers will receive more intensive services and their savings will be evaluated.

20 The pilot will be completed in the first quarter of 2007. PGW expends
21 approximately \$2 million annually for its CWP program. This amount is
22 recovered through PGW's Universal Service Charge.

23 **C. LIHEAP Outreach Program**

24 **Q. PLEASE DESCRIBE PGW'S LIHEAP OUTREACH PROGRAM.**

25 A. The Low Income Energy Assistance Program (LIHEAP) is a federally funded
26 program administered by the Commonwealth of Pennsylvania and other states. It
27 provides energy grants to low-income customers to help pay their energy bills.
28 PGW engages in an aggressive LIHEAP Cash and Crisis outreach campaign

1 during each heating season. PGW's goal is to maximize the number of grants and
2 funds received in order to assist as many eligible customers as possible. As
3 described by Mr. Gyory in his testimony, PGW conducts aggressive outreach for
4 all programs that serve vulnerable customers.

5 **Q. WHAT ARE PGW'S CURRENT LIHEAP OUTREACH ACTIVITIES?**

6 A. PGW is committed to implementing an extensive outreach campaign to contact all
7 of its customers who are potentially eligible for a LIHEAP grant. Our goal is to
8 encourage each customer to apply for and assign a LIHEAP grant to PGW in
9 order to, among other things, provide PGW customers with financial assistance in
10 meeting their gas bill needs this coming winter.

11 PGW's Outreach program includes:

- 12 ● Mailing of post cards to all potentially eligible customers;
- 13 ● Distribution of flyers (English and Spanish) to many organizations
14 throughout the City;
- 15 ● Outbound and Inbound phone campaigns;
- 16 ● LIHEAP Cash intake at PGW's Customer Service Centers;
- 17 ● Field Visits;
- 18 ● Information on PGW's Website;
- 19 ● Radio and newspaper ads;
- 20 ● Participation in Community Events; and
- 21 ● Public Announcements & Press Releases.

22 **D. Hardship Fund**

23 **Q. PLEASE DESCRIBE PGW'S HARDSHIP FUND.**

1 A. PGW provides hardship funds through the Utility Emergency Service Fund
2 (UESF). PGW directs company and customer contributions to UESF in order to
3 match grants of up to \$500 to eligible customers whose household income is at or
4 below 175% of the FPL. Other requirements for receiving a grant are: the
5 customer has not received assistance from UESF in the past 24 months; the
6 customer has applied for LIHEAP Cash and Crisis grants if the programs were
7 open; the customer has had his/her service terminated or has received a service
8 termination notice from their utility; and a \$500 grant (plus the customer's
9 contribution) will eliminate the customer's arrearage. Through the PGW Dollar
10 Plus program, PGW also solicits contributions of \$1 from its customers. These
11 contributions are forwarded to UESF to provide additional grants.

12 **Q. DOES PGW SOLICIT CONTRIBUTIONS TO THE UESF THROUGH ITS**
13 **BILL MAILINGS?**

14 A. Yes. PGW solicits contributions to UESF and to the Dollar Plus program at least
15 two times per year via bill inserts.

16 **E. CARES Program**

17 **Q. PLEASE DESCRIBE PGW'S CARES PROGRAM.**

18 A. PGW began offering the Customer Assistance Referral and Evaluation Program
19 ("CARES") in September 2003. CARES is designed to help customers with
20 special needs, such as those who have recently experienced a family emergency,
21 divorce, unemployment, or a medical emergency. This program provides the
22 customer with a variety of referrals to help with bill payment. Information on
23 CARES is provided through various outreach programs.

24 **Q. WHAT KINDS OF ASSISTANCE ARE OFFERED PURSUANT TO THIS**
25 **PROGRAM?**

1 A. There are two types of assistance:

2 • “Quick-Fix” assistance offered by customer service representatives in the
3 call center or Customer Service Centers. When customers are identified as
4 special need, the representatives refer customers to both internal and external
5 assistance programs.

6 • “Case Management” assistance offered by PGW's Universal Services
7 department when the customer needs more assistance than just a referral. When
8 necessary, the Universal Service representatives will work directly with the
9 customer to attain assistance from outside agencies.

10 **F. Senior Citizen Discount Program**

11 **Q. PLEASE DESCRIBE PGW'S SENIOR CITIZEN DISCOUNT PROGRAM.**

12 A. The Senior Citizen Discount program offers a 20% bill discount to eligible senior
13 citizen participants. To receive the discount under this program, the customer of
14 record must have been enrolled before September 1, 2003 or have been 65 year
15 old and a member of a household that received the discount as of that same date.
16 No income eligibility is required. There are currently 47,091 participants in this
17 program.

18 **Q. IS PGW ADDING CUSTOMERS TO ITS SENIOR CITIZEN DISCOUNT**
19 **PROGRAM?**

20 A. No. The program has been grandfathered as of August 31, 2003 and no new
21 members have been added since that date.

22 **Q. DOES PGW USE COMMUNITY-BASED ORGANIZATIONS AND**
23 **ADMINISTERING AGENCIES IN CONNECTION WITH UNIVERSAL**
24 **SERVICE PROGRAMS?**

1 A. PGW manages and administers its low-income programs internally, with its own
2 staff. PGW has six Customer Service Centers throughout the City. These Centers
3 are responsible for intake, recertification, and customer education. Nonetheless,
4 PGW works closely with City agencies and community based organizations
5 including the Neighborhood Energy Centers in order to educate and provide
6 information on available programs.

7 **III. COST OFFSET TRACKING**

8 **Q. IN PGW'S RESTRUCTURING PROCEEDING THE PUC DIRECTED**
9 **THE COMPANY TO TRACK "COST OFFSETS" THAT COULD ARISE**
10 **AS A RESULT OF ADDING CUSTOMERS TO ITS CRP PROGRAM.**
11 **HAS PGW COMPLIED WITH THIS DIRECTIVE?**

12 A. Yes. As part of PGW's CRP Evaluation Report, the APPRISE Report, (Exhibit
13 CC-2), an analysis was made of additional costs that PGW incurs or avoids when
14 a customer enrolls in CRP. The study identified categories of costs that are
15 affected in one way or another as a result of a customer moving into CRP:

16 1. Reduction in Administrative Costs. The Apprise Study (Exhibit CC-2, p.
17 123) concludes that the administrative cost of serving CRP and Non-CRP
18 customers is approximately equal.

19 2. Collections and Shutoff Costs. The Apprise Study (Id.) concludes that
20 annual collections and shut-off costs for CRP customers are slightly lower (\$16)
21 than for Non-CRP customers.

22 3. Collections. The Report identified a potential improvement in collections
23 when a low-income customer moves from the regular tariff rate to CRP (Exhibit
24 CC-2, p.123.) This is because when a customer moves to CRP, a portion of that
25 customer's bill is recovered in the Universal Service Charge, along with a portion

1 each month of the Customer's Pre-Program Arrearage, while the charges that
2 remain the responsibility of the CRP customer are less than they had been.

3 **Q. HOW HAS PGW INCORPORATED THESE COST OFFSETS/ONSETS IN**
4 **THE CALCULATION OF TEST YEAR, PRO FORMA INCOME?**

5 A. Mr. Bogdonavage has incorporated these findings in his calculation of pro forma
6 uncollectible expense and other expenses in the test year. Accordingly any cost
7 savings that might be realized as a result of the projected test year level of CRP
8 customers are already incorporated into his projection of test year financial data.

9 **Q. IS PGW PROPOSING ANY COST OFFSETS IN ITS USC?**

10 A. No, not at this time. We believe that without more detailed and longer term study
11 of low-income customers payment patterns under current conditions it would not
12 be prudent to include any such factors in the USC.

13 **Q. DOES PGW PLAN TO CONTINUE TO TRACK POTENTIAL COST**
14 **OFFSETS?**

15 A. Yes. Each future evaluation of the CRP program will contain further analysis of
16 the cost effectiveness of CRP.

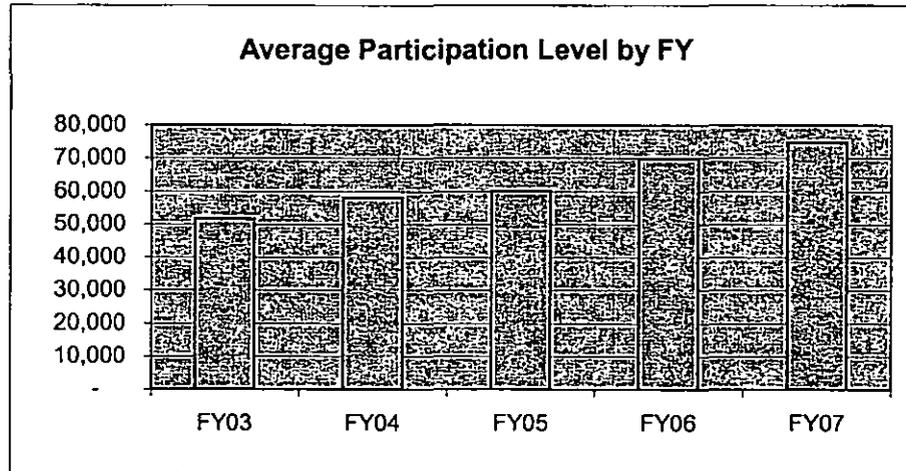
17 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

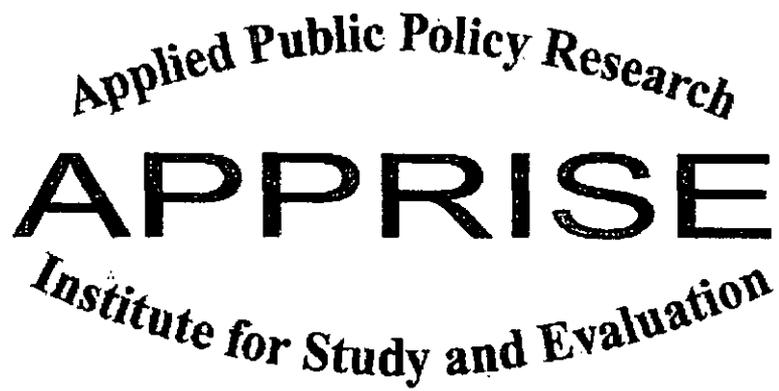
18 A. Yes, it does.

Exhibit CC-1

Actual CRP Participation													
Fiscal	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Avg
FY 02 - 03	52,110	52,381	53,259	52,902	49,889	49,193	48,931	50,034	52,063	52,639	52,269	53,644	51,610
FY 03 - 04	54,458	48,525	55,123	56,745	60,802	58,198	63,899	63,741	63,809	60,720	57,870	53,304	58,100
FY 04 - 05	53,304	53,227	45,378	56,150	60,621	60,500	63,089	64,103	66,125	67,082	66,523	65,597	60,142
FY 05 - 06	64,937	64,719	64,810	65,135	67,140	68,948	71,154	71,493	74,224	74,736	75,038	75,156	69,791
FY06 - 07	74,884	74,299	74,641	75,093									74,729

Fiscal Year	Avg
FY03	51,610
FY04	58,100
FY05	60,142
FY06	69,791
FY07	74,729





**Philadelphia Gas Works
Customer Responsibility
Program**

Final Evaluation Report

February 2006

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Executive Summary

This report presents the findings from the 2005 Evaluation of Philadelphia Gas Work's (PGW) Customer Responsibility Program (CRP). PGW's CRP assists eligible low-income residential customers to pay their gas bills. The customer receives a monthly payment that relates to a percentage of annual income, as well as arrearage forgiveness when bills are paid on time and in full.

Introduction

Philadelphia Gas Works (PGW) implemented the Customer Responsibility Program (CRP) in 1989¹ to provide low-income customers with affordable gas bills that still covered the variable costs and some fixed costs of providing gas service. Since that time, the CRP has evolved and gas rates have risen to the point where PGW is concerned that CRP payments may no longer cover the variable costs of gas service, and that the burden of unaffordable gas bills has shifted to low-income non-participants and to customers at the margin. The costs of the CRP subsidy costs averaged \$114 per customer in 2004 and \$163 per customer in 2005.²

PGW commissioned this evaluation to determine CRP payment impacts, coverage rates of variable and fixed costs by CRP customers, and to obtain informed recommendations on how the CRP can be modified to better serve PGW, its low-income customers, and the ratepayers as a whole. The evaluation also provides required information to the Pennsylvania Public Utility Commission (PUC), Bureau of Consumer Services (BCS) and ensures that PGW's Universal Service programs comply with all PUC regulatory requirements.

The PUC ordered PGW to evaluate the CRP and answer the following questions:

1. How can Philadelphia Gas Works' Universal Service program be more cost-effective and efficient?
2. How can Philadelphia Gas Works' Customer Responsibility Program be redesigned so that it is more cost-effective and efficient while still preserving consumer protection rights?

The evaluation of the CRP was designed to address these two broad issues by answering the following questions.

¹ The Program operated from 1989 to 1994 as the Energy Assistance Program (EAP).

² These are conservative estimates of the subsidy, as they include only the net CRP discount and not the arrearage forgiveness. Including the arrearage forgiveness, the subsidy costs per customer were \$123 in 2004 and \$185 in 2005.

1. Are CRP customers making their required program payments? How does this vary by agreement type? How does this compare to non-participants? What percentage of GS bills and CRP bills do payments cover?
2. What percentage of CRP customers apply for LIHEAP Cash and Crisis grants, and UESF grants? What percentage of CRP customers obtain these grants and allocate them to PGW? How does this compare to non-participants?
3. What is the variable cost of gas service?
4. To what extent do CRP required and actual payments cover the variable and fixed costs of providing service?
5. To what extent do CRP participants reduce their arrearages through co-pay, arrearage forgiveness, crisis grants, and overpayment?
6. How effective is the collections process? What is the impact of the collections process on CRP payments? Are collections costs for low-income customers impacted by program participation? If so, what is the avoided cost?
7. Given the impact of the CRP on payment patterns and collections costs, would there be a net benefit to PGW if non-CRP customers began participating in the program?
8. How can the payment structure be modified so that it is affordable for low-income customers and so that payments cover the variable and some of the fixed costs of providing service?
9. How should required payments respond to volatility in commodity cost?
10. How does communication between PGW and CRP participants affect program performance? How can communication be improved, and what are the barriers to more effective communication?
11. What changes to the CRP would benefit ratepayers, CRP participants, and PGW? Are these changes consistent with PUC guidelines?

To answer these questions, the evaluation consisted of the following activities.

1. *Evaluation planning and background research:* APPRISE collected and reviewed all documents related to the CRP and other PGW Universal Service Programs. The purpose of this research was to obtain a better understanding of program requirements, procedures, and operations.
2. *Manager and staff interviews:* APPRISE conducted interviews with the following PGW personnel:
 - Director of Regulatory Compliance

- Manager of Universal Services
- Manager of Planning and Procedures
- Manager of the Call Center
- Supervisor of Collections
- Manager of the District Offices

The purpose of these interviews was to obtain detailed descriptions of CRP policies and procedures, how the CRP interacts with other Universal Service programs, and areas for improvement in procedures or operations.

3. *District office observations:* APPRISE conducted observations at two PGW district offices, where customers go to enroll in the CRP, re-certify for the CRP, discuss payment problems, and apply for LIHEAP. The purpose of these observations was to examine how program requirements and benefits are explained to customers and the types of questions and concerns raised by customers.
4. *Customer interviews:* APPRISE conducted telephone interviews with a sample of customers who currently participate in the CRP, who previously participated in the CRP, and low-income customers who have not recently participated in the CRP. The purpose of these interviews was to assess barriers to participation, difficulties that low-income customers face when attempting to pay their gas bills, how program operations can be improved, the rate of application for energy assistance, the impact of the program on affordability, and whether and how retention rates can be improved.
5. *Data analysis:* PGW provided APPRISE with data for customers who have participated in the CRP and for low-income customers who have not participated in the program but have received energy assistance benefits. APPRISE used these data to analyze demographic characteristics of CRP participants, CRP retention rates; arrearage forgiveness; and the impact of the CRP on affordability, payment behavior, arrearages, service termination, collection costs, and gas usage.
6. *Financial analysis:* APPRISE conducted a financial analysis to determine the extent to which CRP customers cover the variable and fixed costs of providing gas service, and whether it would be beneficial to PGW to have low-income eligible customers enroll in the program.

Customer Responsibility Program

Philadelphia Gas Works (PGW) implemented the Customer Responsibility Program (CRP) in 1989³ to provide low-income customers with affordable gas bills that still covered the variable costs and some fixed costs of providing gas service. Participants receive a gas bill

³ The Program operated from 1989 to 1994 as the Energy Assistance Program (EAP).

that represents a fixed percentage of their income and monthly arrearage forgiveness when bills are paid on time and in full.

Eligibility and Benefits

Customers with income at or below 150 percent of the Federal Poverty Level are eligible to participate in the CRP. Customers are not required to be payment-troubled to join the program.

Benefits provided to customers who participate in the CRP are:

- A reduced payment equal to eight, nine, or ten percent of monthly gross household income (minimum payment of \$18 per month) plus a three dollar monthly co-pay towards arrearages, if applicable.
- Arrearage forgiveness received each month that bills are paid on time and in full, and the customer does not have a current balance past due. The monthly arrearage forgiveness is equal to 1/36 of pre-program arrearages, so if customers participate in the CRP and pay their bills diligently for three years, they would have removed all of their pre-program arrears.
- There are no limits on the annual maximum CAP credit or on consumption.

Program Outreach

PGW does not have limits on participation for any of their Universal Service programs. Their goal is for all eligible customers to apply to the program, so they attempt to let all customers know about all of their programs. Customer service representatives are trained to tell customers about all of the programs. While PGW has always encouraged customers to come in and apply for the CRP, they have increased their outreach in the past year with additional brochures and flyers.

PGW informs anyone who calls and may be eligible about the CRP. Other outreach procedures for the CRP include brochures, PGW's web site, bill inserts, and public service announcements.

PGW conducts many activities to make customers aware of LIHEAP. Outreach for LIHEAP includes special mailings to CRP customers, advertisements, and outbound calling. In 2004, a record high number, about 70,000 customers gave PGW a LIHEAP grant. The number has varied from 45,000 to 70,000.

CRP Application

Customers must visit one of PGW's six customer service centers (district offices) located in Philadelphia to apply for the CRP. The in-person visit is required to allow PGW

representatives to inspect customers' income documentation and discuss the documentation with the customer.

During APPRISE's observations at one of the district offices, the following general procedures were observed for CRP enrollment.

1. The representative asked for income documentation and Social Security cards for each member of the household. The representative then calculated the customer's gross monthly income and entered it into the computer system to get the customer's CRP payment.
2. The representative reviewed the new CRP agreement with the customer, noting the new CRP payment amount. The representative explained the \$3 charge on the CRP bill that is applied to the customer's arrearage.
3. The representative explained the amount of monthly arrearage forgiveness and the customer's responsibility to pay his/her bill on time and in full in order to receive arrearage forgiveness each month.
4. The representative told the customer that applying for LIHEAP was a requirement of the CRP and explained how and when to apply, as well as how LIHEAP benefits are credited to the CRP account.
5. The representative explained that the customer's gas service could be terminated if he/she misses more than one CRP payment.
6. The representative told the customer that he/she was required to re-certify for the CRP after one year and explained the re-certification process to the customer.
7. The representative told the customer that he/she was required to accept CWP services if he/she was chosen to participate in the CWP.
8. At the end of the contact, the customer signed the new CRP agreement, the representative made copies of the income documentation and Social Security cards, and the representative gave the customer a copy of the new CRP agreement and the CRP brochure.

Evaluator observations at the district office were generally positive. They found the representatives to be friendly and knowledgeable about the CRP requirements and benefits. The representatives requested the required income documentation and Social Security cards, and explained the CRP bill to the customer. However, in some cases, arrearage forgiveness, re-certification, and other program procedures were not explained to the customers.

Customers complete a LIHEAP application during the CRP application process when it is LIHEAP season. Customers are also referred for crisis assistance and UESF. During APPRISE's observations of district office procedures in June 2004, evaluators noted that two thirds of the contacts included a mention of the LIHEAP grant.

Representatives were trained to tell customers about the CRP, tell customers how to conserve energy, and provide a brochure on energy conservation. When the Universal Service managers monitored, they found that the representatives were not providing this information. During observations of enrollments and re-certifications, APPRISE evaluators did not once observe the representatives discuss energy conservation or offer materials about energy conservation.

CRP Re-Certification

CRP participants are automatically scheduled for re-certification on the eleventh month after they enrolled or they last re-certified. The customer is required to send income information to PGW or come into the district office with the information.

PGW's Universal Services department receives about 1,500 to 2,000 re-certifications by mail each month. A representative in the Universal Services department enters the data into the billing system. About one third of the CRP customers re-certify by mail.

When a suspended customer re-applies for the CRP, the customer is considered to be a new applicant. At this time the customer will have to pay all bills since he/she last left the program to re-join. These bills are all charged at the CRP rate.

CRP Follow-Up and Removal

PGW classifies each CRP participant into one of the following statuses:

- *Active:* Current or less than one full CRP payment behind.
- *Defaulted:* Greater than one full CRP payment behind, but still on the CRP and billed as CRP.
- *Curable:* Two or more bills behind, but still on the CRP and billed as CRP.
- *Broken:* No longer on the CRP. The customer went through the collections process and was shut off.
- *Suspended:* Removed from the CRP because of a failure to re-certify. If the customer returns to the CRP, the customer's status will return to active. If the customer goes on another payment plan, the customer's status stays on suspended.
- *Inactive:* Asked to come off the program or no longer qualifies for the program. The customer may no longer have gas service with PGW.

Customers are removed from the CRP because of:

- Missed payments
- Failure to annually verify eligibility

- Ineligibility for the program
- The program is not beneficial for the customer.⁴

There is no waiting period for a customer to be reinstated on the CRP after being removed. Customers must only make up their missed payments and document their eligibility for the CRP at a district office to be reinstated on the program. When customers return to the CRP, they are required to pay all of the bills they missed since joining the CRP.

CRP Statistics

In an average month in 2004, there were 58,143 customers on the CRP. However, the total number ranged from a low of 45,378 in October to a high of 63,899 in March. It is expected that there are more customers on the CRP in the winter months when bills are higher, than in the summer months when many CRP customers have a negative subsidy.

The total number of enrollments was just over 35,000 in 2004. The number of enrollments ranged from a low of 1,593 in December to 4,414 in April when the moratorium period ends and customers must make a payment arrangement or be terminated. In general, enrollments are higher in the winter months than in the summer months.

This analysis of CRP participation and enrollment statistics shows that CRP participation is generally higher in the winter months when subsidies are positive, and that this is at least partially due to the fact that enrollment is lower in the summer.

Conservation Works Program

All CRP heating customers are placed on a waiting list to receive CWP services if they have not received these services in the past five years. New lists are provided to the contractors one or two times per year. Contractors start with the highest users and work their way down the list.

There are some customers who are not willing to participate in the CWP. Some customers call PGW to verify that the CWP is a legitimate program.

There are no set limits on CWP expenditures per home or average costs that are targeted. Average expenditures are \$600 per home, including all administrative costs. The goal is to be cost-effective but to maximize the number of households served. PGW used to offer more services to fewer customers, but there was pressure to increase the number of customers served. They now provide fewer services but refer customers to other programs such as heating repairs. They serve about 3,000 customers per year in the CWP.

The PUC has expressed concern about PGW's CWP because it is different from other utilities' more comprehensive programs. PGW plans to implement a pilot where 100 customers will receive more intensive services and their savings will then be evaluated.

⁴ This would be true for customers with low gas usage.

Customer Assistance Referral and Evaluation Program (CARES)

The Customer Assistance Referral and Evaluation Program (CARES) is designed to help customers with special needs, such as those who have recently experienced a family emergency, divorce, unemployment, or a medical emergency. This program provides the customer with a variety of referrals to help with bill payment. Information on CARES is provided in outreach that PGW does for LIHEAP and CRP.

There are two types of assistance that may be provided under the CARES program:

- “Quick-Fix” assistance offered by customer service representatives in the call center. When customers are identified as special need, these representatives refer customers to other programs that can help them.
- “Case Management” assistance offered by the Universal Services department when the customer needs more assistance than just a referral. PGW reports that Universal Service staff will contact agencies directly if necessary.

All of the customer service representatives provide the CARES “quick-fix” services. The four union employees in the Universal Services department provide the case management services.

Utility Emergency Services Fund

UESF provides a grant of up to \$500 to help customers avoid shutoff or have their utility service restored. This grant must eliminate the customer’s past due balance. Bill inserts provide information on the program and also ask customers to contribute to the Dollar Plus where they contribute one dollar or more per month.

To be eligible for a UESF grant, the customer must be terminated or threatened with a shutoff. A UESF grant can only be received every other year, and there are very few grants made during LIHEAP season.

PGW, PECO, and the Philadelphia water department share the annual UESF administration costs. PGW’s annual share is approximately \$150,000. PGW also matches all grants to customers at the time the grant is made.

PGW requests customer contributions to UESF in their Good Gas News that is sent as a bill insert. PGW customer service representatives are trained to ask customers to contribute to the USEF. Customer contributions totaled approximately \$52,000 in 2004.

Data Analysis

PGW provided APPRISE with demographic data; CRP program data; billing and payment data; usage data; terminations data; and collections data. These data were furnished for current CRP participants, past CRP participants, and low-income non-participants who

received energy assistance grants. APPRISE used these data to analyze CRP customer characteristics, customers' retention in the CRP, and the impact of the CRP on affordability, bill payment, arrearages, collections actions, service terminations, and gas usage.

Two factors must be weighed when selecting the sample for the impact analysis. First, when conducting a program evaluation, the goal is always to include as much of the original analysis group in the research as possible, so that the estimated results are not biased due to elimination of distinctive subgroups. However, to provide good estimates of program impacts, it is also necessary to restrict the sample to those customers who have a minimum level and quality of data. Results, for the most part, are presented for those customers with close to one full year of pre and post enrollment data. This is necessary because bills, customer payments, and assistance payments vary on a seasonal basis, and a full year of data is needed to obtain an accurate representation of payment statistics. In the results described below, the original analysis group consists of all customers who meet the group definition, and the final analysis group consists of those customers who both meet the group definition and have complete billing and payment data.

In the analysis we examine pre and post CRP participation statistics. The difference between the pre and post-treatment statistics for the treatment group, or the 2003 CRP participants, is considered the gross change. This is the actual change in behaviors and outcomes for those participants who were served by the program. Some of these changes may be due to the program, and some of these changes are due to other exogenous factors, but this is the customer's actual experience. Comparison groups were constructed for the program evaluation to control for exogenous factors. The comparison groups consist of similar low-income customers who did not participate in the CRP in the pre or post period. The net change is the difference between the change for the treatment group and the change for the comparison group, and represents the actual impact of the program, controlling for other exogenous factors.

Results from the data analysis are summarized below.

- *Retention rates:* Sixty-three percent of the original treatment group who enrolled in the fourth quarter of 2003 remained on the CRP for a full year after enrollment. Ninety-two percent of the final treatment group who enrolled in the CRP in the fourth quarter of 2003 remained on the CRP for a full year after enrollment.
- *Arrearage forgiveness:* On average, the final treatment group who enrolled in the fourth quarter of 2003 received arrearage forgiveness in four of the 12 months following enrollment. The average amount of arrearage forgiveness received was \$182. Only nine percent of customers received greater than \$500 in arrearage forgiveness. Customers in the active status category at the time of data download received the greatest amount of arrearage forgiveness, an average of \$240.
- *Re-certification rates:* Forty-nine percent of the final analysis group re-certified by the time of the data download in early 2005.

- *Affordability impact:* The CRP had a positive impact on affordability for program participants. The treatment group received an average CRP discount of \$660, had a net reduction in their asked to pay amount of \$547, and reduced their energy burden from 15.5 percent to 9.5 percent, a net reduction of 11 percentage points.

Customers who enrolled in the fourth quarter of 2003 were more likely to be in the lower percentage payment plan groups, and therefore had higher discounts and greater reductions in their bills.⁵ Customers who remained on the CRP for a full year experienced greater impacts on affordability than those who did not, but even those who did not remain for a full year experienced an increase in affordability.

- *Payment impact – coverage of CRP bill:* Customers increased the number of cash payments made from under seven in the year preceding enrollment to eight in the year following enrollment. Cash payments increased from \$711 to \$798, a net decline of \$26 compared to the comparison groups. Total coverage rates increased from 71 percent to 84 percent, a net increase of 19 percentage points. Balances increased from \$1,539 to \$1,611, but this was a net reduction of \$229 compared to CG1 (non-participants) and CG2 (2004 enrollees).

Customers who enrolled in the fourth quarter of 2003 had the greatest increases in their cash and total coverage rates, and the greatest decline in shortfall and balances due to their larger declines in bills. Customers who remained on the CRP for a full year had greater increases in coverage rates, greater declines in shortfall, and greater declines in their balances.

Customers with lower percentage plans had greater increases in the number of cash payments made and coverage rates, and greater decreases in their balances. These customers also had the greatest declines in the amount of payments made.

- *Payment impact – coverage of the GS bill:* After enrolling in the CRP, total customer payments covered a smaller percentage of the GS bill, both as compared to their pre-enrollment levels, and compared to the change for the comparison groups. Total coverage rates declined from 71 to 62 percent, a gross decline of nine percentage points and a net decline of five percentage points. Shortfall increased from \$475 to \$772, for a gross increase of \$297 and a net increase of \$194.

Customers who remained on the CRP for a full year had lower coverage of their GS bills than those who did not remain on the CRP for a full year. Customers in the lower percentage plans had the greatest declines in coverage rates and the greatest increases in shortfall on the GS bill. While customers in the eight percent plan decreased their net coverage rates by 14 percentage points, customers in the ten

⁵ On September 1, 2003 PGW transitioned from the \$30 minimum, 7.35 percent of income, and budget plus two percent of arrears plans to a \$18 minimum, eight percent, nine percent, and ten percent of income plan. Customers who fell into the ten percent of income plan may have called PGW after the transition and realized that it was no longer beneficial for them to remain on the CRP. This transition may have caused the lower retention rates for the ten percent of income group.

percent plan increased their net coverage rates by three percentage points. While customers in the eight percent plan increased their net shortfall on the GS bill by \$309, customers in the ten percent plan increased their net shortfall on the GS bill by \$68.

- *Energy assistance:* Thirty-six percent of customers in the treatment group received LIHEAP in the year prior to enrollment and 45 percent received LIHEAP in the year following enrollment, a gross increase of nine percentage points and an insignificant net increase. The mean LIHEAP grant averaged about \$240. Participants had a small gross increase in the total amount of LIHEAP received, and a small decrease in the total amount of Crisis and UESF assistance received in the year after enrollment, resulting in a gross decline in total energy assistance of \$29, and a net decline in total energy assistance of \$54.
- *Terminations:* Customers received an average of 0.17 shutoffs in the year preceding enrollment and 0.05 shutoffs in the year following enrollment, for a gross reduction of 0.12 shutoffs and a net decline of 0.14 shutoffs. Both shutoffs at the meter and shutoffs at the curb declined.
- *Collections actions:* Customers had fewer collections actions after enrolling in the CRP. The change in the total number of collections actions was a net reduction of 1.4 actions. Customers experienced declines in the number of returned checks, mail actions, and field actions, and an increase in the number of phone actions.
- *Usage impacts:* Customers in the treatment group increased their weather-normalized usage from 1,184 ccf in the year preceding enrollment to 1,199 ccf in the year following enrollment, a gross increase of 15 ccf, one percent of pre-enrollment usage. The net change was an increase of 8 ccf, less than one percent of pre-enrollment usage.

Customer Surveys

APPRISE conducted surveys with current CRP participants, past CRP participants, and low-income customers who had not participated in the program. Key findings are summarized below.

- *Indicators of Need for the Customer Responsibility Program:* Past participants showed less of a need for CRP benefits than current and non-participants. They were more likely to have annual income above \$20,000 and to receive employment income, and were less likely to receive public assistance, non-cash benefits, or LIHEAP. However, past participants were more likely to have disabled household members.
- *Participation in the Customer Responsibility Program:* Non-participants were not likely to report that they knew about the CRP. Only 19 percent of non-participants said that they were aware of the program. Those who were aware of the program

were likely to have heard about it through informational mailings, customer service representatives, or friends or relatives. Non-participants who knew about the program did not enroll because they believed their income was too high or they did not think they needed energy assistance.

- *Re-Certification:* Current participants were more likely than past participants to report that they have re-certified for the CRP. Most current and past participants who had re-certified for the CRP reported that the process was not difficult.
- *Understanding of the CRP:* Current participants were more likely than past participants to report that they understood the CRP. Most current and past participants reported that their responsibility was to keep up with payments, and that they were required to notify PGW if their income changed. Customers were less likely to know the duration of the program.

Current and past participants were most likely to state that keeping their gas service and even monthly payments were benefits of participating in the program. Other common benefits that customers cited were lower gas bills and reduced arrearages. About 11 percent of current customers said that the arrearage forgiveness that they receive makes them more likely to pay their bills.

- *Energy Assistance Benefits:* Current participants were more likely than past and non-participants to report that they applied for and received LIHEAP benefits. The majority of respondents who received LIHEAP benefits reported that they assigned them to PGW. Respondents who did not apply for LIHEAP were likely to say that they did not apply because they did not have time to apply, did not know about LIHEAP, did not know where to apply, or because their income was too high to qualify.
- *Financial Obligations and Bill Payment Difficulties:* Current and past participants felt that the CRP had a large impact on their ability to pay their gas bills. While 63 percent of current participants said that it was very difficult to pay their gas bills prior to participating in the program, only 15 percent said that it was very difficult to pay their bills while participating in the program. Sixty-eight percent of past participants said that it was very difficult to pay their bills prior to participating in the program, compared to 24 percent who said it was very difficult to pay their bills while participating in the program.

Current and past participants also reported that the CRP helped them to meet their other needs. While 64 percent of current participants said that they had to forego or delay spending on food prior to participating in the program, 34 percent said that they had to do so while participating in the program. Likewise, 66 percent of past participants said that they had to forego or delay spending on food prior to participating in the program, while 42 percent said that they had to do so while participating in the program. They were less likely to say that they had to forego several other bills as well while they were on the CRP.

While non-participants were less likely than current and past participants to report bill payment difficulties, they also showed a need for the program. Forty-four percent said that it was very difficult to pay their gas bills, 53 percent said that they had to forgo or delay spending on food, and 12 percent said that there was a time in the past year that they could not use their main source of heat because their gas service was discontinued.

- *Program Impact:* Respondents reported that the CRP has been very important in helping them to meet their needs. Seventy percent of current participants reported that the program was very important, and 16 percent reported that it was somewhat important. Fifty-six percent of past participants reported that the program was very important, and 18 percent reported that it was somewhat important.
- *Program Success:* Past participants were most likely to report that they were no longer participating in the CRP because they were no longer income-eligible, they missed a payment, they did not re-certify, or they asked to be removed because they did not see the benefit of the program. They felt that PGW could help customers to stay on the program by providing better communication and reminders about the program, greater flexibility with payments, lower payments, and an easier application and re-certification process. Most said that they would re-enroll in the program if they were eligible.

Broken, curable, and defaulted CRP customers were most likely to say that they were unable to pay one or more of their CRP bills because they did not have enough money, or due to unemployment or medical expenses. The majority of these respondents were aware that PGW would terminate their gas service and that they would have to make up the missed payments if they did not pay their CRP bills.

Most current participants were very or somewhat satisfied with the program. However, thirteen percent of past participants said that they were somewhat or very dissatisfied with the program. Most current participants said that they were very likely to continue to participate in the program and would do so as long as they were income-eligible.

Financial Analysis

The financial analysis examined the extent to which CRP customers covered the variable and total costs of gas service, and whether it is cost-effective to serve low-income customers through the CRP.

Coverage of Gas Costs

CRP customers covered 96 percent of the short-run variable costs of gas service, and did not cover any of the fixed costs in 2004. This implies that the other PGW customers provided a

small subsidy to cover the costs of serving CRP customers. However, changes in several factors could change the calculations above.

1. *Gas prices:* If gas prices continue to increase and customer payments and assistance remain at the same level, a greater CRP subsidy will be required. If gas prices fall, CRP customer payments may cover the short and even long-run variable costs. Given the increases in gas prices between 2004 and 2005, it is projected that CRP payments only covered 79 percent of the short-run variable costs in 2005.
2. *Weather:* The year that was analyzed was an average weather year. In a colder than normal year, the coverage rate will decrease and the subsidy will increase. In a warmer than normal year, the coverage rate will increase and the subsidy will decrease.
3. *LIHEAP:* Currently, LIHEAP makes up for an average of 14 percent of the payments received by CRP customers. If LIHEAP is reduced or eliminated, the coverage rate will decrease and the subsidy will increase. If LIHEAP is increased, the coverage rate will increase and the subsidy will decrease.

Another goal of the financial analysis was to examine the percentage of total costs of gas service that CRP payments cover. As of January 2006, the total costs of gas service were \$20.4453 per Mcf. Because CRP charges are based on customer income and do not change with the cost of gas service, there is no reason to expect that CRP payments would change between 2004 and 2006. At a payment rate of \$7.8898 per Mcf, CRP customers cover 39 percent of the costs of gas service.

Cost-Benefit Analysis

We analyzed whether it is more cost-effective for PGW to have customers participate in the CRP than to participate in the regular payment paths by comparing the change in bill coverage, administrative costs, and collections costs for CRP customers to those payments and costs for the non-CRP customers.

Administration costs are approximately equal for CRP and non-CRP customers. While collections and shutoff costs decreased by approximately \$16 per customer after CRP participation, shortfall increased by \$194, resulting in a net cost increase of \$178 for CRP participants.

Payment Program Design Options

This report describes the design of PGW's CRP and analyzes the impact of the program on customer payment behavior and program outcomes. The report then provides recommendations for incremental changes to the CRP. When considering these incremental changes, it is important to understand the full range of program options that exist, and the potential advantages and disadvantages of these program alternatives. PGW, and the state of

Pennsylvania, may want to consider the following four design elements that have been implemented in other programs.

- Statewide program design, administration, and funding. PGW's customers currently face a large burden in providing a subsidy for the CRP. The cost to PGW customers, including low-income non-participants, has increased as gas costs have risen, and averaged \$163 per customer in 2005.⁶ A statewide funded program may allow for a more equitable distribution of the costs of helping low-income customers that are disproportionately found in the Philadelphia area.
- Program integration. The CRP is not currently integrated with LIHEAP. Better coordination between the programs could lead to lower CRP subsidy costs for other PGW customers.
- Fixed percent of income. The current fixed percent of income plan places a large burden on other PGW customers. A fixed credit plan would provide less of a safety net for program participants, but would provide a fixed benefit level that could be estimated and planned for.
- Annual program participation requirement. The current CRP model does not require customers to remain on the program for a full year. Adding this requirement would simplify the program. It could also reduce program churning costs

Recommendations

This section summarizes the recommendations that are made in the report. Additional information on these recommendations can be found in the body of the report or in Section VIII, Summary of Findings and Recommendations.

Program Administration and Procedures

1. Continue new requirement of re-certification every other year for customers who receive LIHEAP grants.
2. Provide additional training for district office representatives, emphasizing that they educate CRP enrollees on arrearage forgiveness, termination for lack of payment, LIHEAP, energy conservation, and make-up payments required if they re-enroll in the CRP.
3. Make CRP credit more prominent on the customer's bill.
4. Make arrearage forgiveness received more prominent on the customer's bill.

Program Impacts

1. Stress arrearage forgiveness at the time of CRP enrollment.
2. Integrate LIHEAP benefit into the CRP payment formula.

⁶ If arrearage forgiveness is included, as well as the CRP net subsidy, the per customer cost was \$185 in 2005.

Financial Analysis

The following options are provided to increase coverage of the variable costs of gas service and to improve the cost-benefit analysis of the CRP.

1. Integrate LIHEAP benefit into the CRP payment formula.
2. Introduce CAP credit limits that vary by CRP tier.
3. Increase the monthly customer charge for arrearage reduction.
4. Enforce the CWP requirement for CRP customers with high gas usage.
5. Require wait-out period to re-enter CRP after leaving.
6. Create other procedures to prevent customers from leaving the CRP in the summer and then re-joining in the winter.

I. Introduction

This report presents the findings from the 2005 Evaluation of Philadelphia Gas Work's (PGW) Customer Responsibility Program (CRP). PGW's CRP assists eligible low-income residential customers to pay their gas bills. The customer receives a monthly payment that relates to a percentage of annual income, as well as arrearage forgiveness when bills are paid on time and in full.

A. Background

Philadelphia Gas Works (PGW) implemented the Customer Responsibility Program (CRP) in 1989⁷ to provide low-income customers with affordable gas bills that still covered the variable costs and some fixed costs of providing gas service. Since that time, the CRP has evolved and gas rates have risen to the point where PGW is concerned that CRP payments may no longer cover the variable costs of gas service, and that the burden of unaffordable gas bills has shifted to low-income non-participants and to customers at the margin.

B. Evaluation

PGW commissioned this evaluation to determine CRP payment impacts, coverage rates of variable and fixed costs by CRP customers, and to obtain informed recommendations on how the CRP can be modified to better serve PGW, its low-income customers, and the ratepayers as a whole. The evaluation also provides required information to the Pennsylvania Public Utility Commission (PUC), Bureau of Consumer Services (BCS) and ensures that PGW's Universal Service programs comply with all PUC regulatory requirements.

The PUC ordered PGW to evaluate the CRP and answer the following questions:

1. How can Philadelphia Gas Works' Universal Service program be more cost-effective and efficient?
2. How can Philadelphia Gas Works' Customer Responsibility Program be redesigned so that it is more cost-effective and efficient while still preserving consumer protection rights?

The evaluation of the CRP was designed to address these two broad issues by answering the following questions.

⁷ The Program operated from 1989 to 1994 as the Energy Assistance Program (EAP).

1. Are CRP customers making their required program payments? How does this vary by agreement type? How does this compare to non-participants? What percentage of GS bills and CRP bills do payments cover?
2. What percentage of CRP customers apply for LIHEAP Cash and Crisis grants, and UESF grants? What percentage of CRP customers obtain these grants and allocate them to PGW? How does this compare to non-participants?
3. What is the variable cost of gas service?
4. To what extent do CRP required and actual payments cover the variable and fixed costs of providing service?
5. To what extent do CRP participants reduce their arrearages through co-pay, arrearage forgiveness, crisis grants, and overpayment?
6. How effective is the collections process? What is the impact of the collections process on CRP payments? Are collections costs for low-income customers impacted by program participation? If so, what is the avoided cost?
7. Given the impact of the CRP on payment patterns and collections costs, would there be a net benefit to PGW if non-CRP customers began participating in the program?
8. How can the payment structure be modified so that it is affordable for low-income customers and so that payments cover the variable and some of the fixed costs of providing service?
9. How should required payments respond to volatility in commodity cost?
10. How does communication between PGW and CRP participants affect program performance? How can communication be improved, and what are the barriers to more effective communication?
11. What changes to the CRP would benefit ratepayers, CRP participants, and PGW? Are these changes consistent with PUC guidelines?

To answer these questions, the evaluation consisted of the following activities.

1. *Evaluation planning and background research:* APPRISE collected and reviewed all documents related to the CRP and other PGW Universal Service Programs. The purpose of this research was to obtain a better understanding of program requirements, procedures, and operations.
2. *Manager and staff interviews:* APPRISE conducted interviews with the following PGW personnel:
 - Director of Regulatory Compliance

- Manager of Universal Services
- Manager of Planning and Procedures
- Manager of the Call Center
- Supervisor of Collections
- Manager of the District Offices

The purpose of these interviews was to obtain detailed descriptions of CRP policies and procedures, how the CRP interacts with other Universal Service programs, and areas for improvement in procedures or operations.

3. *District office observations:* APPRISE conducted observations at two PGW district offices, where customers go to enroll in the CRP, re-certify for the CRP, discuss payment problems, and apply for LIHEAP. The purpose of these observations was to examine how program requirements and benefits are explained to customers and the types of questions and concerns raised by customers.
4. *Customer interviews:* APPRISE conducted telephone interviews with a sample of customers who currently participate in the CRP, who previously participated in the CRP, and low-income customers who have not recently participated in the CRP. The purpose of these interviews was to assess barriers to participation, difficulties that low-income customers face when attempting to pay their gas bills, how program operations can be improved, the rate of application for energy assistance, the impact of the program on affordability, and whether and how retention rates can be improved.
5. *Data analysis:* PGW provided APPRISE with data for customers who have participated in the CRP and for low-income customers who have not participated in the program but have received energy assistance benefits. APPRISE used these data to analyze demographic characteristics of CRP participants; CRP retention rates; arrearage forgiveness; and the impact of the CRP on affordability, payment behavior, arrearages, service termination, collection costs, and gas usage.
6. *Financial analysis:* APPRISE conducted a financial analysis to determine the extent to which CRP customers cover the variable and fixed cost of providing gas service and whether it would be beneficial to PGW to have low-income eligible customers enroll in the program.

C. Organization of the Report

Seven sections follow this introduction.

- 1) *Section II – Customer Responsibility Program:* Provides a detailed description of the Customer Responsibility Program.

- 2) *Section III – Other Universal Service Programs:* Provides a description of the Conservation Works Program (CWP), the Customer Assistance Referral and Evaluation Program (CARES), and the Utility Emergency Services Fund (UESF).
- 3) *Section IV – Data Analysis:* Provides analysis of participant demographics; CRP retention rates; arrearage forgiveness; and the impact of the program on affordability, payments, arrearages, service termination, collections, and gas usage.
- 4) *Section V – Customer Survey Results:* Provides a summary of the findings from the survey of current participants, former participants, and low-income non-participants.
- 5) *Section VI – Financial Analysis:* Describes the financial analysis that was undertaken, analyzes the extent to which customer payments cover the variable and fixed costs of providing gas service, and compares the cost of serving customers through the CRP to serving them through the regular payment method.
- 6) *Section VII – Payment Program Design Options:* Provides a summary of the key elements of the PGW CRP, describes options for each element that have been implemented by other states and utilities, and summarizes advantages and disadvantages of each design option.
- 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 PGW. PGW 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 PGW.

II. Customer Responsibility Program

Philadelphia Gas Works (PGW) implemented the Customer Responsibility Program (CRP) in 1989⁸ to provide low-income customers with affordable gas bills that still covered the variable costs and some fixed costs of providing gas service. Participants receive a gas bill that represents a fixed percentage of their income and monthly arrearage forgiveness when bills are paid on time and in full. This section of the report provides a detailed description of program requirements, procedures, and implementation. The findings in this section are based upon reviews of program documents, analysis of program statistics, interviews with PGW personnel who have responsibilities related to the CRP, and observations at PGW district offices.

A. PGW Low-Income Customers

PGW has 480,000 residential customers. About half of these customers have income below 200 percent of the poverty level, and about half of these low-income customers do not regularly pay their bills.

PGW estimates that they have about 135,000 to 150,000 low-income customers. They have 137,000 identified low-income households, defined as CRP customers, customers who have received any type of grant, and Level 1 and 2 households.

PGW believes that most of these low-income customers are payment-troubled, but the CRP is not reserved for payment-troubled customers. There are approximately 65,000 customers on the CRP. There are approximately 65,000 other customers on the senior discount and PGW believes that some of these customers would qualify for the CRP.

PGW does perceive that their customer profile has worsened over the past few years, and that more customers are payment-troubled. They state that this is a reflection of the increase in the average gas bill. With recent increases in gas prices, PGW managers report that bill averages for residential heating customers have gone from \$900 to over \$1,700 per year, and are expected to reach \$2,100 next year.

B. Eligibility and Benefits

Customers with income at or below 150 percent of the Federal Poverty Level are eligible to participate in the CRP. Customers are not required to be payment-troubled to join the program.

Benefits provided to customers who participate in the CRP are:

⁸ The Program operated from 1989 to 1994 as the Energy Assistance Program (EAP).

- A reduced payment equal to eight, nine, or ten percent of monthly gross household income (minimum payment of \$18 per month) plus a three dollar monthly co-pay towards arrearages, if applicable.
- Arrearage forgiveness received each month that bills are paid on time and in full, and the customer does not have a current balance past due. The monthly arrearage forgiveness is equal to 1/36 of pre-program arrearages, so if customers participate in the CRP and pay their bills diligently for three years, they would have removed all of their pre-program arrears.
- There are no limits on the annual maximum CAP credit or on consumption.

C. Program Outreach Procedures

PGW does not have limits on participation for any of their Universal Service programs. They report that their goal is for all eligible customers to apply to the program, so they attempt to let all customers know about all of their programs. Customer service representatives are trained to tell customers about all of the programs. While PGW has always encouraged customers to come in and apply for the CRP, they report that they have increased their outreach in the past year with additional brochures and flyers.

PGW informs anyone who calls and may be eligible about the CRP. Other outreach procedures for the CRP include:

- Brochures are distributed throughout the city and are available in district offices
- Information on the CRP is on PGW's web site
- There is a bill insert with information about the Universal Service programs at least four times per year
- Public service announcements are made about the CRP and all payment plans

PGW does everything they can to make customers aware of LIHEAP. Outreach for LIHEAP includes:

- During the LIHEAP season, PGW does special mailings to CRP customers
- PGW makes radio and newspaper advertisements, and free public announcements on cable stations
- PGW once did a match of all potentially low-income customers with DPW and sent a special invitation to apply to those customers on public assistance
- PGW hires an outside contractor to do outbound calling to 135,000 customers who are potentially eligible for the program. They ask the customers if they have applied, if they are planning on applying, and provide information on where applications are taken
- All low-income customers receive postcards, letters, and are called several times

PGW reported that in 2004, a record high number, about 70,000 gave PGW a grant. The number has varied from 45,000 to 70,000.

D. Enrollment Procedures

Customers must visit one of PGW's six customer service centers (district offices) located in Philadelphia to apply for the CRP. There are several reasons that PGW requires the in-person visit.

1. The in-person visit is required to allow PGW representatives to inspect customers' income documentation and discuss the documentation with the customer.
2. PGW has found that when customers mail income documentation into their office (as required for re-certification), they often do not send everything that is needed and an additional information request must be made to the customer.
3. PGW auditors have recommended that the company work diligently to ensure that all participants are eligible for the program.

PGW sends a field collector to customers who are homebound so that they do not have to come to the district office to fill out the CRP application. PGW reports that they are very careful in determining if the customer is really homebound. They are currently completing about 20 home applications per week.

During APPRISE's observations at one of the district offices, the following general procedures were observed for CRP enrollment.

1. The representative asked for income documentation and Social Security cards for each member of the household. The representative then calculated the customer's gross monthly income and entered it into the computer system to get the customer's CRP payment.
2. The representative reviewed the new CRP agreement with the customer, noting the new CRP payment amount. The representative explained the \$3 charge on the CRP bill that is applied to the customer's arrearage.
3. The representative explained the amount of monthly arrearage forgiveness and the customer's responsibility to pay his/her bill on time and in full to receive arrearage forgiveness each month.
4. The representative told the customer that applying for LIHEAP was a requirement of the CRP program and explained how and when to apply, as well as how LIHEAP benefits are credited to the CRP account.
5. The representative explained that the customer's gas service could be terminated if he/she misses more than one CRP payment.

6. The representative told the customer that he/she was required to re-certify for the CRP after one year and explained the re-certification process to the customer.
7. The representative told the customer that he/she was required to accept CWP services if he/she was chosen to participate in the CWP.
8. At the end of the contact, the customer signed the new CRP agreement, the representative made copies of the income documentation and Social Security cards, and the representative gave the customer a copy of the new CRP agreement and the CRP brochure.

The following forms of income verification are accepted by the representatives:

- Social Security statements
- Pay stubs for a full month
- Employer letter with wage documentation
- W2 forms in January only
- DPA card or eligibility notice
- Unemployment compensation check stubs for 30 days pay
- Unemployment eligibility notice
- Food stamp eligibility letter from DPA (if no income)
- Proof of how everyday living expenses are met if customer claims no income or very low income
- Income support document
- Letter from supporter
- Copy of checks from supporter
- Rent receipt or tenant statement

PGW has considered various measures to ensure that applicants are eligible for the CRP. They previously tested a credit bureau tool that provided a forecasted income range based on the information that was provided by the customers. It also furnished the customers' total monthly payments, including mortgage, car, and credit card, and provided information as to whether those payments were delinquent. PGW decided not to use this tool because they found inconsistencies with the information that was provided and the product did not match with PGW's computer system.

Managers reported that customers do not have problems with the enrollment process. PGW has been using the same CRP application method for a long time, and there are no general complaints about the application process. Some customers are annoyed when they did not bring all of the required information to the district office. Many of the customers are recycling and they are familiar with the application requirements. The main complaint is the wait time in the district offices and the condition of the offices. The lines are especially long when the weather starts to get cold for customers who want to have their service turned on, and in April when the moratorium ends.

Evaluator observations at the district office were generally positive. They found the representatives to be friendly and knowledgeable about the CRP requirements and benefits. The representatives requested the required income documentation and Social Security cards, and explained the CRP bill to the customer. However, the representatives explained the arrearage reduction portion of the bill in fewer than one-third of the enrollments. In over three quarters of the observations, the representative discussed the amount of arrearage forgiveness the customer would receive each month, and explained that the customer must pay his/her bill on time and in full to receive this arrearage forgiveness. Less than one third of the observations included a notification to the customer that his/her gas service could be shut off if he/she missed one CRP payment. In just over half of the observations, the representative explained the re-certification requirement, and told the customer how to re-certify in one-third of the cases.

Customers complete a LIHEAP application during the CRP application process when it is LIHEAP season. Customers are referred for crisis assistance and UESF if they are already participating in CRP and are behind on their bills. During APPRISE's observations of district office procedures in June 2004, evaluators noted that two thirds of the contacts included a mention of the LIHEAP grant. This included half that said the LIHEAP application is a requirement of the program, one-third that told the customer how and/or when to apply for LIHEAP, and one fifth that explained how the LIHEAP grant is credited to the customer's account while the customer is participating in the CRP.

PGW reports that representatives were trained to tell customers about the CRP, tell customers how to conserve energy, and provide a brochure on energy conservation. When the Universal Service managers monitored, they found that the representatives were not providing this information. Representatives said that they did not have time to go over everything. Now they are supposed to inform customers of their responsibility in the program and provide the conservation brochure. However, there is a concern that the district offices do not inform PGW's Universal Services department when they run out of brochures. During observations of enrollments and re-certifications, APPRISE evaluators did not once observe the representatives discuss energy conservation or offer materials about energy conservation. They did observe in one-third of the instances that the representative told the customer that he/she would be required to accept CWP services if selected for the program.

PGW's quality assurance department is responsible for monitoring phone calls at the call center. However, the CRP is not the focus of quality control. Universal Services staff have not monitored for a while, but in the past they were not completely satisfied with what they observed. Currently, there is greater enforcement of the requirement to offer the CRP to all customers who may be eligible. A private contractor, Metrics Matrix, surveys 400 customers each month on the quality of their experience with the customer service representatives. If the customer ratings are not high enough, the representatives receive additional training. As a result, representatives have been more consistent in providing information about the CRP.

PGW placed more emphasis on conservation, and there was more customer concern about energy conservation when there were excess usage charges associated with the CRP. Currently, customers on the CRP are not very concerned about their usage because it does not impact their bill. Customers' homes are in very bad condition, so it is difficult for them to reduce the amount of gas used.

Customers are placed on CRP billing immediately after their CRP application has been processed. The next bill they receive after the application will be a CRP bill.

E. Requirements

PGW imposes the following requirements on CRP participants:

1. Pay bills on time and in full
2. Apply for and assign LIHEAP to PGW
3. Allow Automatic Meter Reading (AMR) device to be installed (This is no longer an issue because there is a 98 percent saturation. If the customer does not have it, PGW will set up an appointment to do so. This is required for all customers, not just CRP.)
4. Accept conservation, weatherization, and education if offered
5. Recertify at least annually

There is currently no penalty for customers who do not receive a LIHEAP grant. Prior to restructuring, customers were billed a LIHEAP make-up charge if they did not apply for a LIHEAP grant.⁹

PGW does not have an automated process to remove customers from the CRP if they do not receive CWP services. For the most part, if the customer pays the CRP bills, PGW does not want to penalize the customer. In the last few years, very few customers were removed from the CRP for this reason.

Customers' monthly payments are first credited to their monthly CRP bill, and then to pre-program arrears. Payments above the current amount due are not applied to the next month's bill, as PGW aims to establish regular payment patterns. PGW does not receive many complaints about this procedure, and if they do receive a complaint, they will make a manual adjustment.

Customers who participate in the CRP are strongly encouraged to apply for LIHEAP, as these benefits help to pay for the cost of the program. When a customer receives a LIHEAP benefit, the benefit is applied to the customer's bill, and then netted out so that the grant is only applied to the CAP credit. The grant does not reduce the customer's arrearages or the required monthly payment.

⁹ At one point the charge was changed so that if customers showed that they received a grant and assigned it to another utility company, they did not receive the LIHEAP make-up charge.

PGW reported that they had a record high LIHEAP penetration with 70 percent of eligible customers awarding LIHEAP benefits to PGW in 2004. About half of these were CRP customers, but they might not have been CRP at the time they applied for LIHEAP.

Crisis grants and UESF grants (and any other assistance grants) are applied to the customer's account like any other payment. The payment goes toward current arrears. Any left over goes to pre-program arrears.

F. Re-certification

PGW had an IT system conversion in 1999. At this time, there were many problems with their computer systems, and PGW was not able to conduct CRP re-certification. Starting in late summer to early fall of 2002 they wanted to re-certify all CRP customers, due to this break in the re-certification process. Since that time, PGW has re-certified all CRP participants each year. Starting in the first quarter of 2005, they will allow customers to re-certify every two years if they received a LIHEAP cash grant in the past year. This is in response to a BCS suggestion that re-certification should be conducted less frequently.

CRP participants are automatically scheduled for re-certification on the eleventh month after they enrolled or they last re-certified. PGW's billing system automatically sends the customer a letter, two forms, and an envelope to return the information in. The customer is required to send income information to PGW or come into the district office with the information. Most customers re-certify by mail.

If the CRP participant does not respond to the re-certification request by the twelfth month following enrollment or the last re-certification, PGW will send a notice stating that the customer has defaulted. The customer then has 45 additional days to re-certify. If the customer does not re-certify within that time period, the customer is placed on the list to receive a call from the collections department.

Ten days prior to the end of the 45-day period, PGW sends the customer a final notice. After the 45-day period ends, PGW's computer system automatically suspends the customer from CRP and all frozen arrears become due. The customer must visit a district office and cure any unpaid CRP bill to be re-instated on the CRP. All unpaid CRP bills must be paid at this time for re-instatement. If the customer does not become re-instated on the CRP, the customer will enter regular collections and be eligible for termination.

PGW's Universal Services department receives about 1,500 to 2,000 re-certifications by mail each month. A representative in the Universal Services department enters the data into the billing system. About one third of the CRP customers re-certify by mail.

When a suspended customer re-applies for the CRP, the customer is considered to be a new applicant. At this time the customer will have to pay all bills since he/she last left the program in order to re-join. These bills are all charged at the CRP rate.

G. Follow-up and Removal

PGW classifies each CRP participant into one of the following statuses:

- *Active:* Current or less than one full CRP payment behind.
- *Defaulted:* Greater than one full CRP payment behind, but still on the CRP and billed as CRP.
- *Curable:* Two or more bills behind, but are still on the CRP and billed as CRP.
- *Broken:* No longer on the CRP. The customer went through the collections process and was shut off.
- *Suspended:* Removed from the CRP because of a failure to re-certify. If the customer returns to the CRP, the customer's status will return to active. If the customer goes on another payment plan, the customer's status stays on suspended.
- *Inactive:* Asked to come off the program or no longer qualifies for the program. The customer may no longer have gas service with PGW.

PGW's Universal Service department examines CRP aggregate usage each month, but does not monitor individual usage. PGW has not found that participants' usage increases after entering the CRP. This may be because the customers were not paying their bills prior to entering the program, or because the housing stock is so bad that it is difficult to reduce usage.

Customers are removed from the CRP because of:

- Missed payments
- Failure to annually verify eligibility
- Ineligibility for the program
- The program is not beneficial for the customer.¹⁰

PGW's collections process begins when a CRP participant is one full payment behind. This means that if the monthly CRP payment is \$60, the customer does not enter collections until \$60 is owed.¹¹ PGW staff believe that customers are currently paying better than they had previously because PGW said they would shut the customers off if they did not pay their bills, and then PGW followed through with this warning.

When the customer is one full payment behind, PGW sends the customer a 10-day notice, and will then attempt to contact the customer by phone. If the contact attempt is successful,

¹⁰ This would be true for low users.

¹¹ PGW staff stated that customers who make partial payments should be terminated, but that there should be a minimum amount owed of at least \$18.

PGW can shut the customer off at the field visit after the 10 days have expired. If the phone call was not a successful contact, PGW must conduct a 2-day field notice, after which they can terminate the customer.

PGW has a difficult time terminating customers because the majority of the shutoff valves are located inside their homes. If PGW cannot obtain access to the home, they have to shut off at the curb or dig.

There is no waiting period for a customer to be reinstated on the CRP after being removed. PGW used to have a one-year waiting period, but they discontinued that in 2002. There are some utilities that showed customers would leave in the summer and then come back, and they have piloted a stay out period.

Customers must only make up their missed payments and document their eligibility for the CRP at a district office to be reinstated on the program. According to new legislation¹², customers with income below 135 percent of the poverty level have only one option, which is the CRP. This is true for all customers except where the budget bill is more affordable than the CRP¹³. Previously, customers could have a Level 1 payment arrangement and would not have to pay off all of the missed CRP payments. When customers return to the CRP, they are required to pay all of the bills they missed since joining the CRP.¹⁴

H. Participation Statistics

PGW does not limit CRP enrollment, and has never done so. Table II-1 displays the number of CRP customer billings for each month in 2004. This table shows that in an average month there were 58,143 customers on the CRP. However, the total number ranges from a low of 45,378 in October to a high of 63,899 in March. This is as expected, i.e., that there are more customers on the CRP in the winter months when bills are higher, than in the summer months when many CRP customers have a negative subsidy.

Table II-1
2004 CRP Customer Billings

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Average
\$18	2,170	2,072	2,256	2,310	2,317	2,215	2,144	2,097	2,168	1,857	2,289	2,408	2,192
8%	13,551	13,045	14,244	14,267	14,360	13,591	12,927	11,859	12,074	10,547	13,064	13,995	13,127
9%	31,515	30,182	33,230	33,382	33,565	32,111	30,853	28,703	28,704	24,403	29,981	32,359	30,749
10%	13,566	12,899	14,169	13,782	13,567	12,803	11,946	10,645	10,281	8,571	10,816	11,859	12,075
All	60,802	58,198	63,899	63,741	63,809	60,720	57,870	53,304	53,227	45,378	56,150	60,621	58,143

¹² Senate bill 677, effective December 15, 2004.

¹³ This would be true for non-heating customers.

¹⁴ The reason for the 135 percent cutoff is that these are the customers who are eligible for LIHEAP.

Table II-2 displays the number of CRP enrollments each month in 2004. The number of enrollments is slightly higher than displayed here, as customers who dropped out of the program and enrolled again in 2005 would not have their current enrollment date in 2004. However, data were received at the beginning of February 2005, so the number is probably off by one to two thousand enrollees.

This table shows that the total number of enrollments was just over 35,000 in 2004. The number of enrollments ranged from a low of 1,593 in December to 4,414 in April when the moratorium period ends and customers must make a payment arrangement or be terminated. In general, enrollments are higher in the winter months than in the summer months.

**Table II-2
2004 CRP Enrollments**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
2004	3,373	2,592	3,638	4,414	3,615	2,393	2,550	2,267	2,516	3,384	2,707	1,593	35,042

This analysis of CRP participation and enrollment statistics shows that CRP participation is generally higher in the winter months when subsidies are positive, and that this is at least partially due to the fact that enrollment is lower in the summer.

I. Operations

Cristina Coltro has been the manager of Universal Services for several years. She has recently been promoted to Director of Regulatory Compliance.

Elsa Leung is the Manager of Universal Services. There are four union employees in the department that she supervises. At times there are additional union employees borrowed from other departments. Of the four union employees, two are new to the Universal Services department, but are familiar with the CRP because they previously worked in the district offices. One employee was from the call center, and one was a cashier in the district office.

The Universal Services department is in charge of regulatory issues, policies, and daily routines of the CRP. Their responsibilities include:

- Completing re-certifications that are mailed into the office
- Filing the applications that are taken at the district offices
- LIHEAP/Crisis outreach – coordination with the communications office.
- Communication with the LIHEAP office to check if accounts are heating or non-heating
- Flagging accounts and issuing service turn-on when called about a UESF grant that is being awarded

- CARES case management – when customers need additional help beyond the “quick fix” referrals offered by the call center, the Universal Service employees follow-up and help them coordinate the programs
- Manage all contracts that have to do with Universal Service
- Reports on Universal Service to the PUC

The six district offices are responsible for taking the CRP applications and verifying income information. They also are responsible for taking LIHEAP applications. They are not authorized to take Crisis applications. The district offices are staffed by 42 union employees. During LIHEAP season, two additional locations are opened for LIHEAP intake only. Other responsibilities of the district offices are:

- Payment arrangements
- Terminated customers who come in to discuss their account
- Customers come in to discuss their gas bills
- New applications for service
- Taking customer payments

All departments within PGW’s Customer Affairs section deal with Universal Service programs. PGW’s training department conducts Universal Services training. They train the call centers, district offices, and collections department on the CRP because these departments inform customers about the program. The Manager of Planning and Procedures conducts monthly meetings with customer service representatives to discuss new policies and procedures, modifications to existing policies and procedures, and reminders about existing procedures. CRP policies are often discussed at these meetings. When there are major changes made to the CRP, there are additional training sessions.

The collections call center is often the first point of contact for payment-troubled customers. Customers call the collections center to make up missed payments or to obtain payment arrangements. Representatives always collect income information. If the customer is eligible for CRP, the representative will calculate both the CRP bill and the bill for the collections payment arrangement. If the CRP payment is lower than the payment arrangement, the customer service representative will tell the customer to go to the district office to apply. The representative will tell the customer to bring proof of income and Social Security cards for each household member, and will work with the customer to find the closest district office that has office hours that are convenient for the customer.

Collections representatives also make outbound calls to CRP customers under certain circumstances.

- Representatives call CRP customers who have failed to re-certify for the CRP before they are suspended from the program. If the customer no longer has the re-certification package that was mailed, he/she must go to the district office to re-certify, rather than mailing back the information.

- Representatives call CRP customers who are one full CRP bill or more behind in their payments.

Call center representatives also handle calls from CRP customers who have service questions or who are moving and need to start or stop service.

CRP customers must visit one of the district offices to apply for the CRP, to re-certify if they have lost their re-certification package or if they have been suspended, and to make a payment arrangement if they are broken. CRP customers also come to the district offices to re-certify even if they have not reached the suspended status, to apply for LIHEAP even though they can apply by mail, and to make payments.

When a customer visits a district office to apply for the CRP, the representative compares the CRP payment to the collections payment arrangement that is available. Some customers do not readily accept the lower payment arrangement because they have heard from other PGW customers that the CRP payment is the best deal. The representative must then show the customer that the CRP payment is higher.

After the district office accepts the CRP application, the materials are sent to the Universal Services Department for filing. Applications that are taken in the home are sent to the Universal Services Department for data entry and filing.

Most CRP re-certifications are submitted by mail and reviewed by the Universal Services department staff. The Universal Services staff contacts customers directly if they have questions about the income documentation submitted with the re-certification. If a customer waits too long to respond, the customer will be suspended and then must visit the district office to re-certify.

PGW carefully reviews requests for exceptions. However, these exceptions are not frequently granted.

Collections, customer service, and district office representatives do not have quotas, rewards, or incentives to limit the amount of time spent with customers. Historically, the average talk time is about four minutes, but CRP calls tend to take slightly longer than average.

Call center supervisors monitor their calls in the following ways.

- All customer calls are recorded, and any customer alerts or complaints can be verified by listening to a particular call.
- Supervisors monitor at least four calls per month for each representative, either live or taped, and have at least one coaching session with each representative.
- Supervisors conduct weekly checks of adjustments made by representatives.

Wait times at the call centers and the district offices vary throughout the year. At the district offices, wait times can get as high as two hours in April when the moratorium period ends. Wait times for payments are much shorter, and there is often no wait to make a payment. Wait times at the call center can range from no wait to over ten minutes.

J. CRP Challenges

PGW managers reported that the number of system and procedural problems related to the CRP have been greatly reduced since the introduction of CRP changes in September 2003. These changes included removing the LIHEAP penalty and excess usage charges. When PGW discontinued offering repair services to CRP customers, the number of issues was also reduced. However, several problems are still encountered with CRP administration.

1. *Shopping around:* Some customers appear to “shop around” at various district offices to try to receive a lower monthly payment. Customers have brought different income documentation to the different offices or have offered different accounts of the number of household members.
2. *Make-up bills:* At times PGW has a mistake in their billing and must issue the customer a make-up bill. If the customer has been on and off the CRP during the time period that the make-up bill covers, the representative must manually prorate the make-up bill between CRP and non-CRP payments.
3. *Moves:* To prevent customers from having more than one CRP agreement at a time, each customer may only be enrolled in the CRP at one address at a time. Therefore, the old account must be changed to a new name before the new account can be opened. This is a time-consuming process for the representative.
4. *Medical certifications:* CRP customers submit medical certifications at high rates. PGW received 5,396 medical certifications from CRP customers in 2004. Almost half of these certifications were granted and prevented shutoff or turned service back on. At the time the certification is granted, the customer receives a 30-day hold on the account and must enter a payment arrangement. Customers may return with another medical certification after the 30 days have expired. PGW reports that a high percentage of these certifications occur in April, October, and November.
5. *CRP re-enrollment:* CRP customers must make up their missed payments to PGW when they enroll in the CRP for a second time, and cannot come on the program without an initial payment as they could the first time they enrolled in the program.¹⁵ Customers often have trouble making these payments.

¹⁵ Currently, customers do not have to make up their missed payments if they are enrolling for the first time since September 2003.

6. *Home enrollment:* The one exception to the district office CRP enrollment is for homebound customers. PGW has two field representatives that go to customers' homes if they say that they are homebound. It is a challenge for PGW to obtain copies of documents for these customers.

III. Other Universal Service Programs

While the CRP is the most aggressive low-income program offered by PGW, providing benefits to the greatest number of households, PGW offers three other Universal Service programs to its low-income customers. These programs include the Conservation Works Program (CWP), the Customer Assistance Referral and Evaluation Program (CARES), and the Utility Emergency Service Fund (UESF).

A. Conservation Works Program (CWP)

The Conservation Works Program (CWP) is PGW's Low Income Usage Reduction Program (LIURP). This program provides cost-effective energy efficiency measures to CRP participants to reduce their energy usage, make their homes more comfortable, and reduce the CRP subsidy.

All CRP heating customers are placed on a waiting list to receive CWP services if they have not received these services in the past five years. New lists are provided to the contractors one or two times per year. One list is provided in September, at the beginning of the fiscal year. In the Spring the contractors are usually running low, and PGW provides a fresh file. The list contains information on the agreement type, demographics, and the past twelve months usage. Contractors start with the highest users and work their way down the list.

Customers are not required to fill out an application for the CWP. The contractors contact the customers and determine if they are still on the CRP. If the customer is a tenant, then a landlord permission form must be filled out. HDMC mails the landlord permission form to the customer so that it is signed when they get to the home. HDMC will make an additional visit for additional air sealing and roof insulation. ECA goes to all homes and does the core measures (education and setback thermostat). These do not require landlord permission. They will come back if they need to do air sealing.

There are some customers who are not willing to participate in the CWP. Some customers call PGW to verify that the CWP is a legitimate program.

The primary measures that may be provided by the CWP include:

- Diagnostic audit
- Energy education
- Energy-related home repair
- Thermostat with automatic clock
- Blower door guided shell tightening
- Water heater wrap and pipe insulation
- Furnace filters or radiator reflectors
- Hot water conservation devices – aerators, showerheads,
- Roof insulation

The contractor conducts an audit, asks questions, and determines the services that are needed. All customers do not receive all measures listed above. Education is always provided. ECA provides a setback thermostat in most cases. They do not leave the instructions to change the setting. HDMC provides a thermostat only if they feel the customer will buy into it. They leave instructions for changing the setting but ask customers to call to receive education before reprogramming.

Services are provided for tenants if they receive landlord permission.

PGW previously hired an inspector and visited a sample of homes serviced by each contractor as a feedback mechanism. This quality control is no longer conducted because PGW has been working to cut costs, and CWP is often the first target. Quality control is now done through evaluation of usage impacts obtained by each contractor. The program is cost-effective, and if one contractor has lower energy savings, the contract will be adjusted. PGW has adjusted the contracts for both HDMC and ECA when each had lower savings. Last year both contractors did much better and administrative costs were down.

There are no set limits on CWP expenditures per home or average costs that are targeted. Each contractor has a one million dollar contract and must stay within the budget. Average expenditures are \$600 per home, including all administrative costs. The goal is to be cost-effective but to maximize the number of households served. PGW used to offer more services to fewer customers, but there was pressure to increase the number of customers served. They now provide fewer services but refer customers to other programs such as heating repairs. They serve about 3,000 customers per year in the CWP.

The PUC has concern about the program because it is less comprehensive than other utilities' programs. PGW is planning to implement a pilot where 100 customers will receive more intensive services and their savings will then be evaluated.

B. Customer Assistance Referral and Evaluation Program (CARES)

The Customer Assistance Referral and Evaluation Program (CARES) is a new program that PGW began offering in September 2003. CARES is designed to help customers with special needs, such as those who have recently experienced a family emergency, divorce, unemployment, or a medical emergency. This program provides the customer with a variety of referrals to help with bill payment. Information on CARES is provided in outreach that PGW does for LIHEAP and CRP.

There are two types of assistance:

- "Quick-Fix" assistance offered by customer service representatives in the call center. When customers are identified as special need, these representatives refer customers to other programs that can help them.

- “Case Management” assistance offered by the Universal Services department when the customer needs more assistance than just a referral. The Universal Service representatives will contact the agencies directly if necessary.

If it is a quick fix, then the customer just receives a referral from the call center or a district office. They click a button to indicate that the customer received CARES. When the customer is in case management, Universal Services downloads information from the billing system and enters additional information on the contact. Universal Services makes two attempts to contact the customer, and then closes the case. The case is resolved at this time, or after the representative makes the contact with the customer and provides the referral information.

All of the customer service representatives provide the CARES “quick-fix” services. The four union employees in the Universal Services department provide the case management services.

The Universal Services training that the representatives receive include some information on CARES. The Universal Services staff receives additional CARES training to conduct the case management services. The training includes the agencies that are referred to and the database that the information is stored in.

C. Utility Emergency Services Fund (UESF)

The Utility Emergency Services Fund (UESF) is a hardship fund in Philadelphia that provides grants for gas, electric, and water bills. UESF provides a grant of up to \$500 to help customers avoid shutoff or have their utility service restored. The grant must eliminate the customer’s past due balance.

Thirteen of the neighborhood energy centers conduct outreach for UESF. Funding for this program is very limited. Bill inserts provide information on the program and also ask customers to contribute to the Dollar Plus where they contribute one dollar or more per month.

Customers must visit a UESF intake center to apply for a UESF grant. The intake center calls PGW to determine if the customer is eligible and PGW flags the customer’s account to indicate that the customer is approved for the grant and that collections and shutoff are on hold. If the customer’s service is off, the representative will issue a service initiation. This processing is conducted by the Universal Services staff.

Customers are eligible for UESF if they have income below 175 percent of the Federal Poverty Level; they have not received assistance from UESF in the past 24 months; they applied for LIHEAP cash and Crisis grants if the programs were open; they have had their service terminated or have received a service termination notice from their utility; and a \$500 grant will eliminate the customer’s arrearages. Very few UESF grants are made during LIHEAP season.

PGW, PECO and the Philadelphia Water Department share the annual UESF administration costs. PGW's annual share is approximately \$150,000. PGW also matches all grants to customers at the time the grant is made. The grants are \$500, so \$250 comes from UESF and \$250 comes from PGW. PGW's average annual match to UESF is \$250,000. PGW reports that they would be willing to match the grant above \$500.

PGW requests customer contributions to UESF in their Good Gas News that is sent as a bill insert. PGW customer service representatives are trained to ask customers to contribute to the USEF. Contributions received from customers are very low. PGW's customer contributions to UESF for 2004 were approximately \$52,000. Some customers prefer to contribute directly to UESF.

IV. Data Analysis

PGW provided APPRISE with demographic data; CRP program data; billing and payment data; usage date; terminations data; and collections data. These data were furnished for current CRP participants, past CRP participants, and low-income non-participants who received energy assistance grants. APPRISE used these data to analyze CRP customer characteristics, customers' retention in the CRP, and the impact of the CRP on affordability, bill payment, arrearages, collections actions, service terminations, and gas usage. This section describes the goals of the data analysis, the methodology that was used, and the results.

One important note about the data analysis that was conducted is that PGW made major changes to the CRP during the analysis period. The primary group included in the analysis is those customers who enrolled in the CRP in 2003. PGW made major changes to the program on September 1, 2003 to comply with PUC regulations. These changes included:

1. Prior to September 1, 2003 customers were on a \$30 minimum payment, a budget plus two percent of arrears, or a 7.35 percent of income payment plan. Beginning on September 1, 2003, customers were enrolled in an \$18 minimum payment, or an eight percent, nine percent, or ten percent of income plan, depending on their poverty level.
2. Prior to September 1, 2003, customers received arrearage forgiveness, but not on a regular basis. Beginning on September 1, 2003, customers have 1/36 of their arrearages forgiven for each month that they pay their bill on time and in full.

A. Goals of the Data Analysis

The analysis of customer data fulfills several of the evaluation goals. Below we describe the questions that are addressed, and the data that are used to furnish the desired information.

- *CRP Population Characteristics:* We examine the demographic characteristics of the CRP participants and the comparison groups used in the analyses. Available PGW data allows us to examine whether there is an elderly individual in the household, whether there is a child in the household, annual household income, poverty level, primary income source, and arrears at the time of enrollment in the CRP.¹⁶
- *CRP Characteristics:* We examine CRP characteristics for the CRP participants and the comparison groups. These characteristics include:

¹⁶ PGW provided the customers' balances at the time of the data download. We constructed balances at the time of CRP enrollment by adding and subtracting bills, payments, and arrearage forgiveness. To the extent that these customers had other charges and credits, the balance at the time of CRP enrollment may be slightly off. However, we do not believe that the estimates would be biased in any direction.

- *CRP Type:* \$18 minimum payment, 8 percent, 9 percent, or 10 percent of income payment. A small number of customers are still classified as being in an old CRP type because they are not currently active in the program and have not re-enrolled.
- *CRP Status:* Customers are classified as active, broken, curable, defaulted, suspended, or inactive.
- *Monthly CRP Amount:* The customer's monthly payment amount.
- *CRP Retention Rates:* We analyze how long customers stay in the program and determine whether demographic variables, arrears at enrollment, and CRP characteristics are correlated with retention rates.
- *Arrearage Forgiveness:* We analyze the number of months that customers receive arrearage forgiveness and the amount of arrearage forgiveness received in the year after CRP enrollment, and determine whether these indicators are correlated with demographic variables, arrears at enrollment, and program characteristics.
- *CRP Re-certification Rates:* We examine the re-certification rate for all customers, and by CRP status.
- *Affordability Impacts:* We analyze the impacts of the CRP on the affordability of gas bills by comparing the GS bill, CRP discounts, the asked to pay amount, and energy burden in the year preceding program enrollment and the year following program enrollment. Comparison groups are used to control for changes in affordability that are unrelated to the CRP.
- *Payment Impacts:* We compare payment behavior for program participants in the year preceding program enrollment and the year following program enrollment. Comparison groups are used to control for changes that are unrelated to the CRP.
- *CRP Bill Coverage Impacts:* We compare coverage of the asked to pay amount for the program participants in the year preceding program enrollment and the year following program enrollment. Comparison groups are used to control for changes that are unrelated to the CRP.
- *GS Bill Coverage Impacts:* We compare coverage of the GS bill for the program participants in the year preceding program enrollment and the year following program enrollment. Comparison groups are used to control for changes that are unrelated to the CRP.
- *Assistance Payments:* We compare assistance payments received by CRP participants in the year preceding program enrollment and the year following program enrollment. Comparison groups are used to control for changes that are unrelated to the CRP.

- *Arrearages:* We compare customer balances just prior to program enrollment to those just after the customer has participated in the program for a full year. Comparison groups are used to control for changes that are unrelated to the CRP.
- *Service Termination and Collection Actions:* We compare the rate of service termination for customers who enrolled in the CRP to that for the comparison groups. We also compare the number and rate of collections actions associated with each group of customers.
- *Gas Usage:* We compare annualized gas usage and weather normalized gas usage for customers who enrolled in the CRP to that for the comparison groups.¹⁷

B. Data Analysis Methodology

This section describes the selection of participants for the evaluation, how evaluation data were obtained, and the use of comparison groups.

Study Group

CRP customers whose latest program enrollment was in 2003 and who did not participate in the CRP in the year prior to this enrollment were included as potential members of the study group. This group was chosen for the analysis, as one full year of post-program data is required for an analysis of program impacts, and customer data were obtained beginning in March 2005. Customers who participated in the CRP in the year prior to enrollment were excluded from the analysis, to allow for a comparison of data while not participating and while participating on the CRP. Customers who did not have a full year of data prior to joining the program or a full year of data following the program start date were not included in the impact analysis. The subject of data attrition is addressed more fully below.

Evaluation Data

PGW provided customer data, program data, billing and payment data, collections data, and usage data for all customers who participated in the CRP between 2001 and 2004, as well as for all customers who did not participate in the CRP but who received an energy assistance grant to serve as a comparison group. These data were provided in electronic format. Billing, payment, usage data, and collections data extended from January 2001 through March 2005, or as long as the household was a customer. The data that were used for the study and comparison groups were as follows:

- Treatment group (TG) data extended from one year before the customer joined the CRP to one year after the customer joined the CRP.

¹⁷ Michael Blasnik and Associates, a subcontractor in this evaluation, transformed the raw usage data into annualized usage data and weather normalized usage data for the treatment and control groups.

- Non-participants comparison group (CG1) data included one year of data before the mid-point of the first quarter of 2003 to one year of data after the mid-point of the last quarter of 2003.
- 2004 Enrollee Comparison group (CG2) data extended two years before the customer joined the CRP.

Table IV-1 describes the treatment and comparison groups that are included in the analyses in this section.

**Table IV-1
Treatment and Comparison Groups**

	Treatment Group (TG)	Comparison Group 1 (CG1)	Comparison Group 2 (CG2)
Group	2003 Enrollees	Non-participants	2004 Enrollees
Enrollment Requirement	Last enrollment date is in 2003	Did not participate in the CRP	Last enrollment date is in 2004
CRP Participation Requirement	Did not participate in the CRP in the year prior to enrollment	Never participated in the CRP	Did not participate in the CRP in the two years prior to enrollment
Pre-participation Dates	1 year prior to enrollment	One year prior to the quasi enrollment dates of 2/15/03, 5/15/03, 7/15/03, 11/15/03	2 years prior to enrollment
Post-participation Dates	1 year after enrollment	One year after the quasi enrollment dates of 2/15/03, 5/15/03, 7/15/03, 11/15/03	1 year prior to enrollment

Weather Normalization

Usage data were weather-normalized to control for differences in weather-related usage between the pre and post treatment year. We weather-normalized the usage data using a variable-base degree-day regression analysis (similar to the PRISM software). The algorithm selects the best fitting balance point temperature for each home based on its usage patterns. The method differs from standard PRISM in that it employs a default balance point temperature (63F) in cases with relatively few actual meter readings, only considers balance point temperatures between 45 and 75 F, and gives statistical preference for balance point temperatures closer to the default. These changes have been found to produce more reliable usage estimates than standard PRISM analysis.

Comparison Groups

When measuring the impact of an intervention, it is necessary to recognize other exogenous factors that can impact changes in outcomes. Changes in a client's payment behavior and bill coverage rate, between the year preceding CRP enrollment and the year following enrollment, may be affected by many factors other than program services received. Some of

these factors include changes in household composition or health of family members, changes in gas prices, changes in weather, and changes in the economy.

The ideal way to control for other factors that may influence payment behavior would be to randomly assign low-income customers to a treatment or control group. The treatment group would be given the opportunity to participate in the program first. The control group would not be given an opportunity to participate in the program until one full year later. This would allow evaluators to determine the impact of the program by subtracting the change in behavior for the control group from the change in behavior for the treatment group. Such random assignment is rarely done in practice because of a desire to include all eligible customers in the benefits of the program or to target a program to those who are most in need.

Comparison groups were constructed for the program evaluation to control for exogenous factors. The comparison groups were designed to be as similar as possible to the treatment group, those who received services and who we are evaluating, so that the exogenous changes for the comparison groups are as similar as possible to those of the treatment group. In the evaluation of the CRP, we were able to obtain two good comparison groups. Each comparison group is described below.

- *Low-Income Non-Participants (CG1):* We obtained a sample of customers who had received energy assistance grants, and were therefore identified as low-income, but did not enroll in the CRP, to utilize as a comparison group. The group of customers was replicated to represent customers who enrolled in the program in each quarter of 2003. A quasi intervention date of the middle of the quarter was chosen for each group to compare to the participating customers who enrolled in that quarter.
- *Later Program Participants (CG2):* We use customers who last enrolled in the CRP in 2004 and who did not receive CRP discounts in the two years preceding enrollment as a comparison group. We require that they have no discounted bills in the two years preceding enrollment to ensure that they are non-participants in both periods. These participants serve as a good comparison because they are lower income households who were eligible for the program and chose to participate. We use data for these participants for the two years preceding CRP enrollment, to compare their change in payment behavior in the years prior to enrolling to the treatment group's change in payment behavior after enrolling. Because these customers did not participate in the CRP in both analysis years, changes in bills and behavior should be related to factors that are exogenous to the program.

The actual impact of the CRP on customer affordability and payment is estimated as the average of the estimates using the two comparison groups. The low-income non-participants (CG1) are probably somewhat better off than the 2003 enrollees, because they have not needed to enroll in the program. The payment statistics show that these customers do a better job of paying their bills and controlling their balances. The 2004 enrollees (CG2) are probably worse off because these customers' behavior is examined in the year prior to program enrollment, when they need more assistance in paying their bills. The

payment statistics show that these customers are having a more difficult time paying their bills.

In this evaluation, we examine pre and post-treatment statistics. The difference between the pre and post-treatment statistics for the treatment group is considered the gross change. This is the actual change in behaviors and outcomes for those participants who were served by the program. Some of these changes may be due to the program, and some of these changes are due to other exogenous factors, but this is the customer's actual experience. The net change is the difference between the change for the treatment group and the change for the comparison group, and represents the actual impact of the program, controlling for other exogenous changes.

C. Data Attrition

Customers were divided into the treatment group (TG) and comparison groups (CG1 and CG2) as described above. However, some of these customers were not included in the analyses in this section because they did not have adequate data available. We refer to the all customers in these groups as the original analysis groups and to those customers who have enough data to be included in the analysis as the final analysis group. Table IV-2 displays the number of customers in each group, the reasons why customers were not included in the analyses that follow, and the number of customers in each group that are included in the final analysis. Two factors must be weighed when selecting the sample for the final analysis. First, when conducting a program evaluation, the goal is always to include as much of the original analysis group in the research as possible, so that the estimated results are not biased due to elimination of distinctive subgroups. However, to provide good estimates of program impacts, it is also necessary to restrict the sample to those customers who have a minimum level and quality of data.

Customers were excluded from the final analysis group for the following reasons:

- *Full Year of Pre or Post Billing Data Not Available:* The analyses that are conducted require that customers have a full year of bills for the year prior to CRP enrollment and the year following CRP enrollment. Customers were excluded from the analyses if the pre or post year of billing data that could be constructed contained less than 330 days or more than 390 days.
- *Full Year of Pre or Post Payment Data Not Available:* The analyses also require that customers have a full year of payment data for the year prior to CRP enrollment and the year following CRP enrollment. Customers were excluded from the analyses if the pre or post year of payment data that could be constructed contained less than 330 days or more than 390 days.
- *Zero Dollars of Bills:* Customers were excluded from the analyses if they had zero dollars of bills in the pre or post enrollment period.

Table IV-2 shows that a significant percentage of the original analysis groups had to be eliminated. However, the percentage of customers in the final analysis groups exceeds 50 percent except for CG2, and is an acceptable percentage for the evaluation. This attrition of the studied groups relates to the low socio-economic status of the population researched in this evaluation, as well as their inability to meet their utility expenses. While the analysis does follow customers who move and remain in PGW's service territory with the same account number, it does not follow customers who move out of PGW's service territory or who have changed names and requested a new account number because of an inability to meet past PGW bill obligations.¹⁸ Below we describe the percentage of original customers that remain in the analysis, and reasons for different attrition rates by group.

- *Treatment Group (TG)*: 55 percent of the original analysis group was included in the final analysis sample.
- *Non-Participant Comparison Group (CG1)*: 52 percent of the original analysis group was included in the final analysis sample.
- *2004 Participant Comparison Group (CG2)*: 40 percent of the original analysis group was included in the final sample. Customers were included in the 2004 participant group if they enrolled in the CRP in 2004, and had not participated in the CRP in the two years prior to this enrollment. These customers were required to have data for the two years prior to enrollment to be included in the final analysis group. This is more of a restriction, and therefore there is more data attrition for this group than for the other analysis groups.

**Table IV-2
Data Attrition**

	TG	CG1	CG2
All Eligible	15,275	180,864	15,708
Full Year of Pre Billing Data	9,843	131,500	6,500
Full Year of Pre Payment Data	9,738	130,776	6,469
Full Year of Post Billing Data	8,408	93,580	6,367
Full Year of Post Payment Data	8,381	93,350	6,292
Non-Zero Bills in Pre and Post Years	8,371	93,159	6,276
% of Total	55%	52%	40%

¹⁸ The practice of payment-troubled customers signing up for new utility accounts in different names to avoid the requirement of past bill payment has been well documented, and utilities acknowledge that this is a serious bill payment problem.

D. Customer and Program Characteristics

This section examines the customer and program characteristics for the customers who are studied in the evaluation. We compare the original and final analysis groups to determine if there is a bias from eliminating customers from the analysis. We compare the treatment and comparison groups to determine if the comparison groups are similar enough to the treatment group to serve as a good comparison. Table IV-3 shows that the customers had the following characteristics:

- *Elderly*: 11 percent of the customers in the final treatment group (TG) had at least one elderly household member. This is similar to both the original analysis group and the comparison groups. Data on household composition were not available for the non-participant comparison group (CG1), as PGW collects these data at the time of CRP enrollment.
- *Children*: 26 percent of the customers in the final TG had at least one child 18 or younger in the household. Customers in the original analysis group and the comparison groups were similar. However, 34 percent of the customers in the original CG2 had at least one child.
- *Annual Income*: 47 percent of the customers in the final TG had annual household income of less than or equal to \$10,000. This compares to 52 percent of the original TG. It is expected that the final analysis group is somewhat better off than the entire group that includes those with incomplete data. Customers in the comparison groups were more likely to be in the lowest income group. Seventy-one percent of the customers in CG1, and 58 percent of the customers in CG2 had annual income less than or equal to \$10,000.¹⁹
- *Poverty Level*: Customers in the final TG were also less likely to be in the lowest poverty group, at less than or equal to 50 percent of the Federal Poverty Level. Twenty percent of the customers in the final TG had income less than or equal to 50 percent of the federal poverty level, compared to 35 percent of CG1 and 25 percent of CG2.
- *Primary Income Source*: 39 percent of the customers in the final TG had employment income as their primary source of income. This compares to 29 percent of CG2. CG2 was more likely than the TG to have Social Security as the primary source of income.
- *Arrears at Enrollment*: Approximately one quarter of the customers in the final TG had arrears in each category: less than or equal to \$500; between \$501 and \$1,000; between \$1,001 and \$2,000; and more than \$2,000. Customers in the comparison groups, especially CG1, were more likely to have arrears in the less than \$500 group.

¹⁹ Less than ten percent of the non-participant group had income data available.

Non-participants (CG1) have not participated in the program because they have less of a need for the program, and are therefore expected to have lower arrearages. The 2004 participant comparison group (CG2) arrears are measured one full year before program enrollment, and they are expected to have lower arrears because they do not yet demonstrate a need for the CRP.

In summary, customers in the TG are somewhat less likely to have income below \$10,000 and below 50 percent of the Federal Poverty Level, more likely to have employment income, less likely than CG2 to receive Social Security, and less likely than the comparison groups to have arrears less than \$500.

**Table IV-3
Customer Characteristics²⁰**

	TG		CG1		CG2	
	Original	Final	Original	Final	Original	Final
Observations	15,275	8,371	180,864	93,159	15,708	6,276
Senior	8%	11%			5%	10%
Children	27%	26%			34%	28%
Annual Income ¹						
<=\$10,000	52%	47%	73%	71%	64%	58%
\$10,001-\$20,000	38%	40%	24%	25%	32%	37%
\$20,001-\$30,000	9%	11%	2%	3%	4%	5%
>\$30,000	1%	2%	0%	1%	0%	0%
Poverty Level						
<=50%	24%	20%	40%	35%	34%	25%
51%=100%	48%	47%	50%	51%	47%	50%
101%-150%	26%	30%	9%	12%	19%	25%
>150%	2%	3%	1%	3%	0%	0%
Primary Income Source						
Employment	38%	39%			32%	29%
SSI	26%	27%			12%	13%
Public Assistance	14%	11%			18%	11%
Social Security	7%	7%			18%	25%
Unemployment	7%	7%			6%	6%
Pension	2%	3%			1%	2%
Other	6%	6%			13%	14%

²⁰ With the transition to the new program, PGW began tracking customers 62 and older rather than customers 65 and older, and tracking customers 18 and under, rather than customers 5 and under. This change may have impacted program statistics.

	TG		CG1		CG2	
	Original	Final	Original	Final	Original	Final
Arrears at Enrollment or Start of Post Period ²						
<\$500	32%	29%	78%	77%	48%	58%
\$501-\$1,000	21%	23%	12%	14%	20%	16%
\$1,001-\$2,000	24%	25%	6%	6%	19%	13%
>\$2,000	22%	24%	4%	3%	13%	12%

¹Income data were only available for 23,312 customers in the original CG1 and for 8,379 of the customers in final CG1.

²Arrearage data for the original CG1 group includes 164,476 observations, as each customer is considered to have a quasi enroll date for each quarter. However, 180,864 (45,216*4) observations are not available for this group because some customers did not have data available at the quasi enrollment date. Arrearage data for CG2 includes 13,701 observations, because some of the customers did not have significant information to calculate the balance at the quasi enrollment start date.

Table IV-4 displays the program characteristics of TG and CG2. Customers had the following characteristics:

- **CRP Type:** Only three percent of the final TG was in the \$18 minimum payment category. Seventeen percent had an 8 percent agreement, 47 percent had a 9 percent agreement, and 32 percent had a 10 percent agreement. Customers in CG2 had similar distributions, except that they were slightly more likely to be in the 8 and 9 percent groups, and they were slightly less likely to be in the 10 percent groups. This relates to their lower income and poverty groups.
- **CRP Status:** Approximately one third of the final TG was still in the active status in the CRP at the time of the data download in early 2005. One third of the final TG was suspended, and one fifth was inactive. A small percentage was broken, curable, or defaulted. Customers in CG2 were more likely to be active program participants. None of the CG2 customers were suspended because the data were downloaded at the beginning of 2005 and these 2004 enrollees would not have been required to re-certify until 2005.
- **Monthly CRP Amount:** Approximately one fifth to one quarter of the customers in the final TG had a monthly CRP payment between \$19 and \$50, between \$51 and \$75, between \$76 and \$100, and between \$101 and \$150. Fourteen percent had a monthly payment of greater than \$150. CG2 was fairly similar, with the exception that they were less likely to have monthly payments greater than \$100.

**Table IV-4
CRP Characteristics**

	TG		CG2	
	Original	Final	Original	Final
Observations	15,275	8,371	15,708	6,276
CRP Type				

	TG		CG2	
	Original	Final	Original	Final
\$18 min	4%	3%	6%	5%
8%	20%	17%	29%	20%
9%	46%	47%	47%	50%
10%	27%	32%	19%	25%
Other	3%	1%	0%	0%
CRP Status				
Active	28%	34%	61%	69%
Broken	6%	4%	3%	2%
Curable	6%	6%	11%	9%
Defaulted	6%	6%	17%	14%
Suspended	27%	31%	0%	0%
Inactive	27%	18%	8%	7%
Monthly CRP Amount				
\$18	4%	3%	6%	5%
\$19-\$50	22%	18%	29%	21%
\$51-\$75	26%	25%	28%	30%
\$76-\$100	18%	19%	17%	21%
\$101-\$150	19%	22%	15%	17%
>\$150	11%	14%	6%	7%

E. Retention Rates

This section examines customers' retention in the CRP. We analyze the percent of CRP customers that remained on the program every month after enrollment, through months 3, 6, 9 and 12. Customers are considered to remain on the program if they receive the CRP discount or reverse discount in that month's billing cycle.²¹

In this section, we only examine those customers who enrolled in the CRP in the fourth quarter of 2003, after the changes to the CRP had been implemented. Due to the changes that were made in the CRP, the retention rates for the customers who enrolled prior to the change may be skewed downwards. This is because customers who had enrolled prior to September 1, 2003 and were on the 7.35 percent program may have left after the new rates were implemented and they were moved to the eight, nine, or ten percent program, as the budget plan may have been more beneficial for these customers.

²¹ Customers receive a discount in the months that their GS bill exceeds the percentage of income payment, and customers receive a reverse discount in the months that their percentage of income payment exceeds their GS bill. In general, customers would receive the reverse discount in the summer months or when heating costs were very low.

Table IV-5 shows that 97 percent of the original 2003 group received a discount in each of the first three months after enrollment, 94 percent remained on the CRP for the first six months, 89 percent remained on for the first nine months, and 63 percent remained on for the first twelve months.

The final treatment group had a greater full year retention rate. Ninety-two percent of these customers remained on the CRP for the first year after enrollment.

Table IV-5 also examines the retention rates for subgroups of the final treatment group. This table shows that households with elderly members and households with no children had somewhat higher full year retention rates. Households whose primary income source was Social Security had the highest retention rates. CRP customers in the \$18 minimum payment group had the highest full year retention rates.

**Table IV-5
Retention Rates During the First Program Year
Customers Who Enrolled in the Fourth Quarter of 2003**

	Obs.	Percent On CRP Every Month Until X Months After Enrollment			
		Months After Enrollment			
		3 months	6 months	9 months	12 months
2003 CRP Participants	3,523	97%	94%	89%	63%
2003 CRP Participants With Complete Data	1,500	99%	98%	97%	92%
Elderly	152	99%	99%	97%	95%
Not Elderly	1,348	99%	98%	97%	91%
Children	501	98%	98%	95%	89%
No Children	999	99%	98%	98%	93%
Income Source					
Employment	427	98%	98%	96%	90%
SSI	273	99%	99%	98%	93%
Public Assistance	220	99%	98%	97%	90%
Social Security	301	98%	98%	97%	94%
Unemployment	100	100%	100%	97%	91%
CRP Type					
\$18 Min	77	100%	99%	97%	95%
8%	346	100%	99%	99%	91%
9%	731	98%	98%	97%	93%

	Obs.	Percent On CRP Every Month Until X Months After Enrollment			
		Months After Enrollment			
		3 months	6 months	9 months	12 months
10%	346	98%	97%	95%	90%

F. Arrearage Forgiveness

PGW provides arrearage forgiveness to CRP customers who pay their bills on time and in full, and who are current on the CRP payment obligations. Customers who meet these criteria have 1/36 of their pre-program arrearages forgiven. In addition to the arrearage forgiveness provided by PGW for on-time payments, customers contribute \$3 toward their arrearage forgiveness with each CRP payment. Therefore, if a customer paid his/her bills on time and in full on a regular basis, the customer should be free of arrears in less than three years.

This monthly arrearage forgiveness began in September 2003, when the other program changes took effect. Therefore, this analysis also is limited to those customers who enrolled in the fourth quarter of 2003.

Table IV-6 displays the number of months that CRP customers paid their bills on time and in full and received the 1/36 arrearage forgiveness in the twelve months after CRP enrollment. On average, CRP customers received four months of arrearage forgiveness. One quarter of the customers did not receive arrearage forgiveness in any month in the year following enrollment. Twenty-six percent of the customers received arrearage forgiveness in 10 to 12 of the months following enrollment.

Table IV-6 also displays the number of months that arrearage forgiveness was received by whether there was an elderly household member. This table shows that households with elderly members were more likely to pay their bills on time and in full. While 47 percent of households with elderly members received arrearage forgiveness in 10 to 12 months in the year following enrollment, only 24 percent of households that did not have elderly members did so. Households without children received arrearage forgiveness in a greater number of months than those with children.

The previous section showed that customers whose primary source of income was Social Security had the greatest CRP retention rates. Table IV-6 shows that these customers received a greater number of months of arrearage forgiveness. On average, these customers received arrearage forgiveness in six of the 12 months following enrollment, compared to three months for customers whose primary source of income was employment.

Customers on the \$18 minimum payment arrangement and in the active CRP status category received arrearage forgiveness in the greatest number of months following enrollment.

Table IV-6
Number of Months In Which Arrearage Forgiveness Was Received
Customers Who Enrolled in the Fourth Quarter of 2003

	Observations	Mean Number of Months	Percent in Each Range				
			0	1-3	4-6	7-9	10-12
All	1,500	4.3	24%	32%	14%	4%	26%
Elderly	152	6.5	18%	18%	10%	7%	47%
Not Elderly	1,348	4.1	25%	34%	14%	4%	24%
Children	501	3.9	25%	34%	16%	4%	21%
No Children	999	4.6	24%	31%	13%	5%	28%
Poverty Level							
<=50%	430	4.2	20%	36%	16%	5%	23%
51%=100%	727	4.3	25%	31%	14%	4%	26%
101%-150%	326	4.3	29%	29%	11%	4%	27%
>150%	17	7.8	6%	12%	6%	12%	65%
Primary Income Source							
Employment	427	3.4	30%	36%	12%	3%	19%
SSI	273	4.9	22%	28%	15%	5%	31%
Public Assistance	220	3.3	25%	40%	16%	5%	15%
Social Security	301	5.6	24%	22%	11%	3%	40%
Unemployment	100	4.4	13%	42%	15%	7%	23%
Arrears at Enrollment							
<\$500	402	5.2	27%	21%	12%	5%	36%
\$501-\$1,000	290	5.0	19%	33%	11%	4%	32%
\$1,001-\$2,000	351	4.3	19%	35%	19%	5%	23%
>\$2,000	457	3.2	29%	39%	13%	3%	16%
CRP Type							
\$18 Min	77	5.1	10%	35%	18%	8%	29%
8%	346	4.1	22%	36%	15%	4%	23%
9%	731	4.4	25%	30%	14%	4%	27%
10%	346	4.3	28%	30%	11%	4%	27%

	Observations	Mean Number of Months	Percent in Each Range				
			0	1-3	4-6	7-9	10-12
CRP Status							
Active	464	6.6	16%	18%	13%	5%	48%
Broken	83	0.6	63%	36%	1%	0%	0%
Curable	136	1.4	47%	43%	7%	1%	3%
Defaulted	89	3.7	18%	44%	17%	3%	18%
Suspended	589	4.1	18%	39%	18%	5%	20%
Inactive	139	3.3	37%	28%	9%	5%	20%

Table IV-7 displays the amount of arrearage forgiveness received, again for those customers who enrolled in the fourth quarter of 2003. On average, CRP customers received \$182 in arrearage forgiveness. Only nine percent of the customers received greater than \$500 in arrearage forgiveness.

This table also displays the amount of arrearage forgiveness by customer and program characteristics. Customers whose primary source of income was SSI received the greatest amount of arrearage forgiveness, on average \$219 in the year following enrollment.

Customers with lower levels of arrears received less arrearage forgiveness, as the amount of arrearage forgiveness received each month, at 1/36 of total pre-program arrears, was lower. While customers with less than \$500 of arrears at enrollment received an average of \$50 in arrearage forgiveness, customers with arrears over \$2,000 at enrollment received an average of \$378 in arrearage forgiveness. One quarter of these customers received over \$500 in arrearage forgiveness.

Customers in the active CRP status category at the time of data download received the most in arrearage forgiveness, an average of \$240 in the year following enrollment.

Table IV-7
Amount of Arrearage Forgiveness Received
Customers Who Enrolled in the Fourth Quarter of 2003

	Observations	Mean Arrearage Forgiveness	Percent in Each Range			
			\$0	\$1-\$100	\$101-\$500	>\$500
All	1,500	\$182	24%	35%	32%	9%
Elderly	152	\$207	19%	38%	33%	10%
Not Elderly	1,348	\$179	25%	35%	32%	9%

	Observations	Mean Arrearage Forgiveness	Percent in Each Range			
			\$0	\$1-\$100	\$101-\$500	>\$500
Children	501	\$164	26%	33%	33%	8%
No Children	999	\$190	24%	36%	31%	9%
Poverty Level						
<=50%	430	\$192	21%	36%	33%	10%
51%=100%	727	\$175	25%	38%	29%	8%
101%-150%	326	\$181	29%	29%	34%	9%
>150%	17	\$205	6%	18%	71%	6%
Primary Income Source						
Employment	427	\$179	31%	30%	30%	10%
SSI	273	\$219	22%	33%	33%	12%
Public Assistance	220	\$160	25%	36%	30%	8%
Social Security	301	\$169	24%	39%	31%	7%
Unemployment	100	\$175	14%	42%	36%	8%
Arrears at Enrollment						
<\$500	402	\$50	27%	57%	15%	0%
\$501-\$1,000	290	\$89	19%	46%	35%	0%
\$1,001-\$2,000	351	\$152	19%	31%	46%	5%
>\$2,000	457	\$378	30%	12%	33%	25%
CRP Type						
\$18 Min	77	\$149	12%	48%	34%	6%
8%	346	\$205	22%	33%	34%	11%
9%	731	\$175	25%	37%	29%	8%
10%	346	\$180	28%	29%	35%	8%
CRP Status						
Active	464	\$240	16%	35%	37%	13%
Broken	83	\$31	65%	24%	11%	0%
Curable	136	\$68	48%	33%	15%	4%
Defaulted	89	\$169	18%	37%	37%	8%
Suspended	589	\$205	18%	38%	34%	10%
Inactive	139	\$94	38%	31%	28%	3%

G. Re-certification Rates

PGW requires that all customers re-certify for the CRP every year.²² Table IV-8 displays re-certification rates for the original treatment group and the final treatment group, as well as only those customers who enrolled in the CRP in the fourth quarter of 2003. It is expected that those who enrolled prior to September 1, 2003 may have higher re-certification rates, because they would have called to check if they qualified for a lower percentage of income plan than what they had been assigned to with the new program based on their previous CRP application.

Forty-one percent of the original treatment group customers re-certified for the program, compared to 33 percent of those who enrolled in the fourth quarter of 2003. Half of the final treatment group customers re-certified, compared to 39 percent of those who enrolled in the fourth quarter of 2003. All customers who remained on the program should have re-certified, as more than a full year elapsed since their program enrollment. Table IV-8 shows that 98 percent of the active customers re-certified and 91 percent of the final treatment group customers who enrolled in the fourth quarter of 2003 re-certified. Most of the defaulted and curable customers also re-certified.

Table IV-8
Re-certification Rates

	Original Treatment		Final Treatment	
	All	2003 Q4 Enrollees	All	2003 Q4 Enrollees
Observations	15,275	3,523	8,371	1,500
All	41%	33%	49%	39%
CRP Status				
Active	96%	83%	98%	91%
Broken	20%	2%	31%	4%
Curable	74%	39%	79%	47%
Defaulted	90%	69%	95%	84%
Suspended	1%	1%	1%	1%
Inactive	11%	5%	18%	16%

H. Affordability Impact

The purpose of the CRP is to make gas bills more affordable for low-income customers. The program achieves this goal by limiting gas bills to eight, nine, or ten percent of the customer's income, depending on poverty level, or a minimum of an \$18 monthly payment.

²² Beginning in 2005, customers who receive LIHEAP can re-certify every other year.

This section analyzes the impacts of the CRP on gas bill affordability for program participants.

Table IV-9 displays the gross impacts for the final treatment group, and the net impacts as compared to the two comparison groups.²³ The table shows that the CRP had a positive impact on affordability for program participants.

- *GS Bill:* The GS bill is the bill that the customer would have faced if he/she was not participating in the CRP. This bill is equal to the CRP bill plus the CRP discounts. In the absence of the CRP, bills would have increased by \$356 for CRP participants, from \$1,347 in the year prior to enrollment to \$1,703 in the year following enrollment.

Because the non-participant (CG1) and 2004 comparison (CG2) groups did not participate in the CRP in both periods, their change in behavior reflects changes that are unrelated to the CRP.

- The CG1 experienced a \$137 increase in bills, resulting in a net increase of \$219 for the final TG.
- The CG2 experienced a \$348 increase in bills, resulting in an insignificant net change for the final TG.²⁴
- *CRP Discount:* The CRP discount is the annual difference between what the customer is asked to pay while participating in the program, and what the customer would have been asked to pay if he/she was not participating in the CRP. The average discount for CRP participants in the year following enrollment was \$660.
- *Asked to Pay Amount:* The asked to pay amounts are the bills that the customer was asked to pay. If the customer was participating in the CRP, the asked to pay amount would be equal to the GS bill minus the CRP discounts. If the customer was not participating in the CRP, the asked to pay amount bill would be equal to the GS bill. Asked to pay amounts decreased by \$304 for the CRP participants. Because their bill is limited to a fixed percentage of their income (or a minimum of \$18), their bills decline as compared to the year before participating in the program.

However, the table shows that in the absence of the CRP, bills would have increased. Therefore, the net impact of the CRP on participant bills was even greater. Results

²³ Data on energy burden for non-participants includes only 8,371 observations, as most of the non-participants did not have income data.

²⁴ The different changes in GS bills between the different comparison groups results partially from different changes in their gas usage between the pre and post period. While CG1 reduced their gas usage by 47 ccf between the pre and post periods, and CG2 increased their usage by 67 ccf. Usage results are discussed in the usage impact section. GS bills increase for CG1 despite their reduction in usage due to a general increase in gas prices during this time period.

for the two comparison groups show that the net impact of the CRP on customer bills ranged from \$441 to \$652, an average net impact of \$547.

- *Energy burden:* This statistic is the percentage of income that gas bills represent, an indicator of the affordability of the bills.²⁵ CRP participants experienced a decline in energy burden, from 15.5 percent in the year prior to participating in the program, to 9.5 percent in the first year of program participation. This was a gross decline of 6.0 percentage points. However, the comparison groups experienced an increase in energy burden, due to their increase in bills. Therefore the net decline in energy burden was 10.9 percentage points.

Table IV-9
Affordability Impacts
All Customers

	TC			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	8,371			93,159		6,276	
GS Bill	\$1347	\$1703	\$356**	\$137**	\$219**	\$348**	-\$8
Discount	\$0	\$660	\$660**	\$0	\$660**	\$0	\$660**
Asked to Pay Amount	\$1347	\$1042	-\$304**	\$137**	-\$441**	\$348**	-\$652**
Energy Burden	15.5%	9.5%	-6.0%**	4.9%**	-10.9%**	4.9%**	-10.9%**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

PGW is primarily interested in the impacts of the CRP, as it is currently designed. The CRP was modified in September 2003. To analyze the impacts separately for customers who enrolled in the CRP after the program modifications, and to determine if the impacts for these customers differed from customers who enrolled prior to these modifications, we analyzed the impacts on affordability by quarter of enrollment. Tables IV-10 displays the gross affordability impacts and IV-11 displays the net affordability impacts by quarter of enrollment.

- *GS Bill:* The change in the GS bill would not be impacted by the change in the CRP, as this change is the change in the non-discounted bill. Table IV-10 shows that there was some variability in the change in the GS bill, most likely resulting from changes in weather and usage that varied over the year. Fourth quarter enrollees experienced the smallest gross increase, an increase of \$198, in the GS bill. The average net change for fourth quarter enrollees was an increase of \$97.

²⁵ The income that is used in this calculation is the income that has most recently been collected for the customer, as of the time of the download, and does not differ between the two periods examined in the analysis. Therefore, the change in energy burden that is measured here results only from the change in gas costs.

- CRP Discount:* Differences by quarter in the CRP discount were a result of both changes in the GS bill and changes in the payment required under the program. The program was changed from a \$30 minimum payment, 7.35 percent of income, or budget plus two percent of arrearages to an \$18 minimum, eight, nine, or ten percent of income payment. Therefore, in the absence of other changes, the discount would be expected to decline in the fourth quarter. However, the discount was higher in the fourth quarter. Fourth quarter enrollees received an average discount of \$782, compared to average discounts of about \$630 in the other quarters. This difference was due to a change in the composition of enrollees. While 16 percent of Q1 enrollees were in the minimum payment or eight percent plan, 18 percent of Q2 enrollees, 24 percent of Q3 enrollees, and 28 percent of Q4 enrollees were in these CRP types.
- Asked to Pay Amount:* The asked to pay amount would be expected to decline by less in the fourth quarter than in the previous quarters, due to the change in the program. However, the table below shows that the asked to pay amount declined by more for the fourth quarter enrollees than for the other enrollees. Customers who enrolled in the fourth quarter of 2003 saw their asked to pay amount decline by almost \$600, compared to a decline of under \$100 for Q1 enrollees, under \$300 for Q2 enrollees, and under \$400 for Q3 enrollees. This difference was again due to the change in the composition of the enrollees. The monthly average CRP payments were \$95 for Q1 enrollees, \$96 for Q2 enrollees, \$89 for Q3 enrollees, and \$77 for Q4 enrollees.

**Table IV-10
Gross Affordability Impacts
All Customers
By Quarter**

	TG: 2003 Q1 Enrollees			TG: 2003 Q2 Enrollees			TG: 2003 Q3 Enrollees			TG: 2003 Q4 Enrollees		
	Pre	Post	Change	Pre	Post	Change	Pre	Post	Change	Pre	Post	Change
Number of Customers	2,138			2,669			2,064			1,500		
GS Bill	\$1122	\$1680	\$557**	\$1388	\$1755	\$367**	\$1436	\$1684	\$248**	\$1471	\$1669	\$198**
Discount	\$0	\$620	\$620**	\$0	\$641	\$641**	\$0	\$639	\$639**	\$0	\$782	\$782**
Asked to Pay Amount	\$1122	\$1060	-\$62**	\$1388	\$1113	-\$274**	\$1436	\$1045	-\$391**	\$1471	\$887	-\$584**
Energy Burden	11.6%	9.5%	-2.2%**	14.7%	9.5%	-5.2%**	17.7%	9.8%	-7.9%**	19.3%	9.2%	10.1%*

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

**Table IV-11
Net Affordability Impacts
All Customers
By Quarter**

Sample	2003 Q1 Enrollees		2003 Q2 Enrollees		2003 Q3 Enrollees		2003 Q4 Enrollees	
	CG1	CG2	CG1	CG2	CG1	CG2	CG1	CG2
Number of Customers -Treatment	2,138		2,669		2,064		1,500	
Number of Customers -Control	24,190	1,570	23,869	1,947	22,954	1,425	22,146	1,334
GS Bill	\$253**	\$61**	\$225**	-\$48**	\$157**	\$25	\$202**	-\$9
Discount	\$620**	\$620**	\$641**	\$641**	\$639**	\$639**	\$782**	\$782**
Asked to Pay Amount	-\$367**	-\$558**	-\$417**	-\$689**	-\$481**	-\$614**	-\$580**	-\$791**
Energy Burden	-9.8%**	-10.6%**	-10.1%**	-10.8%**	-11.9%**	-10.7%**	-12.7%**	-12.5%**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Customers who remained on the CRP for a full year should experience a greater impact on bill payment affordability than those who did not. Table IV-12 examines the impact of the CRP on affordability for those customers who remained on the CRP for a full year. Customers who had at least 11 discounted bills in the year following enrollment were considered to remain on the CRP for a full year.

Table IV-12 shows that these customers received an average discount of about \$765. Their asked to pay amount declined by \$410, as compared to a decline of \$304 for all customers. The average net decline in the asked to pay amount was \$653. This resulted in a gross decrease in energy burden of seven percentage points, and a net decrease in energy burden of twelve percentage points.

**Table IV-12
Affordability Impacts
Customers Who Stay on the CRP for a Full Year**

	TC			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	6,633			93,159		6,276	
GS Bill	\$1383	\$1738	\$355**	\$137**	\$218**	\$348**	\$7
Discount	\$0	\$765	\$765**	\$0	\$765**	\$0	\$765**
Asked to Pay Amount	\$1383	\$973	-\$410**	\$137**	-\$547**	\$348**	-\$758**

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Energy Burden	16.8%	9.4%	-7.3%**	4.9%**	-12.2%**	4.9%**	-12.3%**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-13 displays the CRP affordability impacts for those customers who did not remain on the CRP for a full year. While these customers did not experience the same level of impact as those who remained on the program for a full year, they still experienced significant affordability impacts as compared to CG1 and CG2. These customers had a gross increase in their asked to pay amount of \$98, but an average net decline of \$144. Their gross decline in energy burden was only one percentage point, but compared to CG1 and CG2, their net energy burden declined by six percentage points. While these customers had a smaller decline in energy burden, their energy burden while participating in the program was the same as those who stayed on for a full year, because those who stayed on for a full year had a higher pre-participation energy burden.

Table IV-13
Affordability Impacts
Customers Who Do Not Stay on the CRP for a Full Year

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	1,738			93,159		6,276	
GS Bill	\$1208	\$1568	\$360**	\$137**	\$223**	\$348**	-\$13
Discount	\$0	\$262	\$262**	\$0	\$262**	\$0	\$262**
Asked to Pay Amount	\$1208	\$1306	\$98**	\$137**	-\$39**	\$348**	-\$249**
Energy Burden	10.6%	9.7%	-0.9%**	4.9%**	-5.8%**	4.9%**	-5.8%**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-14 through IV-16 display net affordability impacts of the CRP by CRP status. All CRP customers were classified in one of six statuses. These statuses are the most recent CRP status, so they may not correspond exactly to the CRP statuses at the end of the year following enrollment. However, they are a proxy for this variable.

These tables show that active customers received the greatest discount and experienced the greatest declines in their asked to pay amount. Defaulted and suspended customers experienced a decline in energy burden that was similar to that for the active customers.

Table IV-14
Affordability Impacts
Nonparticipant Comparison Group
Net Change By CRP Status

	Net Change Compared with CG1					
	Active	Broken	Curable	Defaulted	Suspended	Inactive
Number of Customers	2,814	370	516	536	2,591	1,544
GS Bill	\$316**	\$161**	\$246**	\$257**	\$169**	\$118**
Discount	\$894**	\$472**	\$619**	\$760**	\$672**	\$238**
Asked to Pay Amount	-\$578**	-\$311**	-\$373**	-\$503**	-\$503**	-\$121**
Energy Burden	-11.7%**	-8.3%**	-9.0%**	-11.7%**	-13.0%**	-6.9%**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-15 only includes customers with CRP status information that goes back one year after 2003 CRP enrollment. This table shows that results were fairly similar to the full sample, so that the current CRP status served as a good proxy for the status as of the end of the year after CRP enrollment.

Table IV-15
Affordability Impacts
Nonparticipant Comparison Group
Net Change By CRP Status
Customers with Current Status Information

	Net Change Compared with CG1					
	Active	Broken	Curable	Defaulted	Suspended	Inactive
Number of Customers	1,543	301	357	177	2,437	1,395
GS Bill	\$250**	\$100**	\$207**	\$137**	\$155**	\$96**
Discount	\$910**	\$461**	\$612**	\$764**	\$673**	\$200**
Asked to Pay Amount	-\$660**	-\$361**	-\$406**	-\$627**	-\$519**	-\$105**
Energy Burden	-12.9%**	-9.0%**	-9.7%**	-12.4%**	-13.3%**	-6.5%**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-16
Affordability Impacts
2004 Participant Comparison Group
Net Change By CRP Status

	Net Change Compared with CG2					
	Active	Broken	Curable	Defaulted	Suspended	Inactive
Number of Customers	2,814	370	516	536	2,591	1,544
GS Bill	\$106**	-\$50	\$35	\$46	-\$42**	-\$93**
Discount	\$894**	\$472**	\$619**	\$760**	\$672**	\$238**
Asked to Pay Amount	-\$789**	-\$521**	-\$584**	-\$714**	-\$714**	-\$332**
Energy Burden	-11.7%**	-8.4%*	-9.0%**	-11.8%**	-13.0%**	-7.0%**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Customers were assigned monthly CRP payments that equaled eight, nine, or ten percent of their income, based on their poverty level. Customers whose calculated percentage of income payment was less than \$18 were assigned a monthly payment of \$18.

Tables IV-17 through IV-18 examined the affordability impacts of the CRP by the customer's CRP type. These tables show that customers in the ten percentage point payment type experienced the greatest increase in the GS bill. Customers in the lower percentage plans had higher discounts and greater reductions in their asked to pay amounts. They also experienced the greatest net reductions in energy burden, as high as 47 percentage points for customers in the \$18 minimum group and 20 percentage points for customers in the eight percentage group.

Table IV-17
Affordability Impacts
Nonparticipant Comparison Group
Net Change By CRP Type

	Net Change Compared with CG1			
	\$18 Minimum	8%	9%	10%
Number of Customers	246	1,397	3,901	2,678
GS Bill	\$119**	\$199**	\$219**	\$252**

	Net Change Compared with CG1			
	\$18 Minimum	8%	9%	10%
Discount	\$1148**	\$1109**	\$733**	\$312**
Asked to Pay Amount	-\$1028**	-\$910**	-\$514**	-\$60**
Energy Burden	-47.3%**	-20.0%**	-9.6**	-5.1%**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

**Table IV-18
Affordability Impacts
2004 Participant Comparison Group
Net Change By CRP Type**

	Net Change Compared with CG2			
	\$18 Minimum	8%	9%	10%
Number of Customers	246	1,397	3,901	2,678
GS Bill	-\$91*	-\$12	\$8	\$42**
Discount	\$1148**	\$1109**	\$733**	\$312**
Asked to Pay Amount	-\$1239**	-\$1120**	-\$724**	-\$270**
Energy Burden	-47.3%**	-20.0%**	-9.7**	-5.1%**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

I. Payment Impact – Coverage of CRP Bill

This section examines the customers’ payments and their coverage of the CRP bill. Customer payment behavior is compared in the year preceding CRP enrollment and the year following CRP enrollment.

- *Asked to Pay Amount:* These are the same data as are presented in the previous affordability analysis, but are shown in these tables as well for completeness. The asked to pay amount decreased by \$304 for the CRP participants. The average net impact of the CRP on the asked to pay amount was a decline of \$547.
- *Number of Cash Payments:* Cash payments are defined as payments that are made directly by the customers (as opposed to assistance payments). The number of cash

payments is an indicator of payment regularity. Many payment-troubled customers miss bills and then make up payments in lump sums, or with energy assistance payments when they are in danger of termination. This practice results in less than twelve cash payments made over the course of a year. The CRP is designed to increase payment regularity by providing an affordable monthly payment.

Table IV-19 shows that customers made an average of under seven cash payments in the year preceding CRP enrollment and an average of eight cash payments in the year following enrollment. This is a significant increase of one and a half cash payments. Customers in the comparison groups had only small changes in the number of cash payments made, so the net impact of the CRP on the number of cash payments averaged an increase of 1.6 cash payments.

- *Total Cash Payments:* This is the dollar value of the cash payments made over the course of the year. Participants made a total of \$711 in cash payments in the year preceding CRP enrollment and \$798 in cash payments in the year following enrollment. This was a gross increase of \$88. Taking the average of the non-participant and 2004 enrollee comparison groups, the net change was a decrease of \$26.
- *Assistance Payments:* Assistance payments that customers can receive include LIHEAP cash and crisis, UESF, and a small amount of other grants. While participating in the CRP, LIHEAP cash grants are not applied to the customer's account, but are rather used to offset the CRP subsidy. Therefore, in this analysis, LIHEAP grants that were received during the time that customers were participating in the CRP are not included in the assistance payments.

This table shows that CRP customers received an average of \$161 in assistance payments to offset their bills in the year prior to program enrollment, and an average of \$22 in energy assistance in the year following enrollment, for a gross decline of \$139. The comparison groups had small increases or decreases in assistance payments. Therefore, the net impact of the CRP on assistance payments applied to the bill was a decline of \$164.

- *Total Payments:* Total payments are the sum of cash and assistance payments. Total payments for CRP participants decreased from \$872 in the year preceding enrollment to \$821 in the year following enrollment, for a gross decline of \$51. The non-participant and 2004 enrollee comparison groups experienced increases in total payments ranging from \$122 to \$155. Therefore, the average net impact of the program on total payments was a decline of \$190. Some of this large decrease was due to the fact that LIHEAP payments received by the CRP participants no longer counted towards required monthly payments, and were not included in the table.
- *Cash Coverage Rate:* The cash coverage rate is defined as the total cash payments for the year divided by the asked to pay amount for the year. It is the average percentage of the asked to pay amount that was covered with cash payments. Participants had an

average cash coverage rate of 57 percent in the year preceding enrollment and an average cash coverage rate of 82 percent in the year following CRP enrollment, an increase of 25 percentage points. This was a result of both the increase in total cash payments made by CRP participants, and a decrease in the bill that they were asked to pay as program participants. The comparison groups experienced a change in the cash coverage rate that ranged from a decline of 13 percentage points to an increase of three percentage points. Therefore, the average net impact was an increase of 30 percentage points.

- *Total Coverage Rate:* The total coverage rate is defined as total payments (cash payments plus assistance payments) divided by the asked to pay amount for the year. Participants had an average total coverage rate of 71 percent in the year preceding enrollment, and an average total coverage rate of 84 percent in the year following enrollment, for a gross increase of 13 percentage points. The net change averaged an increase of 19 percentage points.
- *Shortfall:* The shortfall is the asked to pay amount for the year minus the total payments for the year. A positive shortfall indicates that on average, customers did not pay their entire asked to pay amount. Participants had an average shortfall of \$475 in the year preceding enrollment and an average shortfall of \$222 in the year following enrollment. The gross change in shortfall was a decline of \$253. The net change in shortfall was a decline of \$357.
- *Arrearage Forgiveness:* In addition to the percentage of income payment, customers are asked to make a monthly payment of \$3 to contribute towards their pre-program arrearages. PGW will also forgive the 1/36 of the customers' arrearages each month that the customer pays the bill on time and in full, and is current on all CRP bills since enrollment. Customers received \$38 in arrearage forgiveness in the year preceding CRP enrollment²⁶ and \$125 in the year following enrollment for a gross increase of \$87.
- *Balance:* We examine participants' balances immediately prior to enrolling in the CRP and after one year of participation in the CRP. Balances were calculated based on the balance at the end of all transactions received and the addition or subtraction of credits and charges in the time between the data were received and the two time periods of interest.²⁷ If CRP participants were successful on the program, their balances would decline. Table IV-19 shows that balances increased from \$1539 at

²⁶ Customers who participated in the CRP in the year prior to the 2003 enrollment were excluded from the treatment group if they had any CRP discounts in the year preceding enrollment. However, customers may have had arrearage forgiveness credited to their account at the beginning of the pre-enrollment year if they made a payment at the end of the prior year. This explains the small amount of arrearage forgiveness received by CRP participants in the year preceding the 2003 CRP enrollment.

²⁷ These calculations are not an exact statement of customer balances, as the only transactions received were bills, payments, and arrearage forgiveness. Other charges or credits for late payments, services, or other would not be included in the balance calculation, as these transactions were not received from PGW.

the end of the year preceding enrollment to \$1611 at the end of the year following enrollment, for a gross increase of \$72. Balances for CG1 increased by \$30 and balances for CG2 increased by \$571. The net impact on balances was a decline of \$229.

Table IV-19
Payment Impacts
All Customers

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	8,371			93,159		6,276	
Asked to Pay Amount	\$1347	\$1042	-\$304**	137**	-\$441**	\$348**	-\$652**
Number Cash Payments	6.7	8.1	1.4**	0.1**	1.3**	-0.4**	1.8**
Total Cash Payments	\$711	\$798	\$88**	\$143**	-\$55**	\$84**	\$3
Assistance Payments	\$161	\$22	-\$139**	\$13**	-\$151**	\$38**	-\$177**
Total Payments	\$872	\$821	-\$51**	\$155**	-\$206**	\$122**	-\$173**
Cash Coverage Rate	57%	82%	25%**	3%**	22%**	-13%**	37%**
Total Coverage Rate	71%	84%	13%**	2%**	11%**	-12%**	26%**
Shortfall	\$475	\$222	-\$253**	-\$18**	-\$235**	\$225**	-\$479**
Arrearage Forgiveness ²⁸	\$38	\$125	\$87**	\$0	\$87**	-\$13**	\$100**
Balance	\$1539	\$1611	\$72**	\$30**	\$42*	\$571**	-\$499**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-20 examines net payment impacts by quarter of participation. This table shows the following differences by quarter.

- *Asked to Pay Amount:* Customers who enrolled in the CRP in the fourth quarter of 2003 experienced the greatest decline in bills, a net decline ranging from \$580 to \$791, depending on the comparison group used.
- *Number of Cash Payments:* The change in the number of cash payments made by participants did not differ consistently across quarters.
- *Total Cash Payments:* The change in the total cash payments made by participants did not differ consistently across quarters.

²⁸ Customers in the treatment group (TG) enrolled in the CRP in 2003 and did not participate in the CRP in the year prior to enrollment. They were counted as not participating in the CRP in the year prior to enrollment if they did not receive a discount or a reverse discount in the year prior to enrollment. However, they may have received a small amount of arrearage forgiveness related to their participation in the CRP in the two years prior to enrollment.

- *Total Payments:* Customers who enrolled in the fourth quarter of 2003 had a consistent decline in total payments made. The net decline, compared to the comparison groups was \$145.
- *Cash Coverage Rate:* The net increase in the cash coverage rate, as compared to CG1 and CG2, was higher for fourth quarter enrollees than other enrollees, averaging an increase of 38 percentage points.
- *Total Coverage Rate:* The net increase in the total coverage rate, as compared to CG1 and CG2, was larger for fourth quarter enrollees than for the other quarters, averaging 28 percentage points.
- *Shortfall:* Customers who enrolled in the CRP in the fourth quarter of 2003 had the greatest net decline in shortfall, averaging \$542.
- *Arrearage Forgiveness:* Customers who enrolled in the CRP in the fourth quarter of 2003 received more arrearage forgiveness than those who enrolled in the other quarters of the year. The net impact on arrearage forgiveness for the fourth quarter enrollee was about \$175.²⁹
- *Balance:* Customers who enrolled in the fourth quarter of 2003 had a significant decline in their balances, averaging \$286, as compared to CG1 and CG2.

Table IV-20
Net Payment Impacts
All Customers
By Quarter

Sample	2003 Q1 Enrollees		2003 Q2 Enrollees		2003 Q3 Enrollees		2003 Q4 Enrollees	
	CG1	CG2	CG1	CG2	CG1	CG2	CG1	CG2
Number of Customers Treatment	2,138		2,669		2,064		1,500	
Number of Customers Control	24,190	1,570	23,869	1,947	22,954	1,425	22,146	1,334
Asked to Pay Amount	-\$367**	-\$558**	-\$417**	-\$689**	-\$481**	-\$614**	-\$580**	-\$791**
# of Cash Payments	0.9**	1.3**	1.0**	1.9**	1.2**	1.9**	2.4**	2.4**
Total Cash Payments	-\$185**	-\$72**	-\$67**	\$49**	-\$34**	\$41	\$16	-\$15
Assistance Payments	-\$162**	-\$189**	-\$145**	-\$225**	-\$152**	-\$132**	-\$148**	-\$142**
Total Payments	-\$287**	-\$261**	-\$211**	-\$176**	-\$186**	-\$91**	-\$133**	-\$157**
Cash Coverage Rate	16%**	31%**	18%**	41%**	24%**	36%**	33%**	43%**
Total Coverage Rate	6%**	19%**	8%**	26%**	13%**	27%**	22%**	33%**

²⁹ Monthly arrearage forgiveness for CRP participants who paid their bills on time and in full did not begin until 9/1/03, so fourth quarter enrollees would be expected to have greater arrearage forgiveness in the first year after enrollment.

Sample Comparison Group	2003 Q1 Enrollees		2003 Q2 Enrollees		2003 Q3 Enrollees		2003 Q4 Enrollees	
	CG1	CG2	CG1	CG2	CG1	CG2	CG1	CG2
Shortfall	-\$80**	-\$297**	-\$205**	-\$513**	-\$295**	-\$523**	-\$448**	-\$635**
Arrearage Forgiveness	\$38**	\$54**	\$67**	\$86**	\$104**	\$108**	\$170**	\$180**
Balance	-\$33*	-\$418**	\$60**	-\$620**	\$118**	-\$412**	-\$28*	-\$543**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-21 examines the payment impacts for those customers who remained on the CRP for a full year, defined as at least eleven discounted bills during the year following CRP enrollment. These customers increased their net total coverage rates by an average of 22 percentage points.

Their shortfall declined by \$428. While these customers only reduced their balance by \$19, their average net decline in their balances, was \$282.

**Table IV-21
Payment Impacts
Customers Who Stay on the CRP for a Full Year**

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	6,633			93,159		6,276	
Asked to Pay Amount	\$1383	\$973	-\$410**	\$137**	-\$547**	\$348**	-\$758**
Number Cash Payments	6.6	8.3	1.7**	0.1**	1.6**	-0.4**	2.1**
Total Cash Payments	\$701	\$767	\$66**	\$143**	-\$76**	\$84**	-\$18
Assistance Payments	\$169	\$17	-\$152**	\$13**	-\$164**	\$38**	-\$190**
Total Payments	\$870	\$784	-\$86**	\$155**	-\$241**	\$122**	-\$208**
Cash Coverage Rate	55%	84%	29%**	3%**	26%**	-13%**	41%**
Total Coverage Rate	69%	85%	16%**	2%**	14%**	-12%**	29%**
Shortfall	\$514	\$190	-\$324**	-\$18**	-\$306**	\$225**	-\$549**
Arrearage Forgiveness	\$26	\$141	\$115**	\$0	\$115**	-\$13**	\$128**
Balance	\$1612	\$1631	\$19*	\$30**	-\$11	\$571**	-\$552**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-22 examines the payment impacts for those customers who did not remain on the CRP for a full year. These customers did not experience the benefits of those who remained on the program. They did not experience a gross decline in their bills. However, their gross bills declined as compared to CG1 and CG2. These customers did not increase their gross

coverage rates, but increased their net coverage rates as compared to CG2. These customers had a gross increase in their balances of \$276, and an average net reduction of \$25.

**Table IV-22
Payment Impacts
Customers Who Do Not Stay on the CRP for a Full Year**

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	1,738			93,159		6,276	
Asked to Pay Amount	\$1208	\$1306	\$98**	\$137**	-\$39**	\$348**	-\$249**
Number Cash Payments	7.0	7.4	0.4**	0.1**	0.3**	-0.4**	0.8**
Total Cash Payments	\$747	\$917	\$171**	\$143**	-\$28*	\$84**	\$86
Assistance Payments	\$133	\$44	-\$89**	\$13**	-\$102**	\$38**	-\$127**
Total Payments	\$880	\$962	\$82**	\$155**	-\$74**	\$122**	-\$41*
Cash Coverage Rate	66%	75%	9%**	3%**	6%**	-13%**	22%**
Total Coverage Rate	78%	80%	1%	2%**	-1%	-12%**	14%**
Shortfall	\$328	\$344	\$17	-\$18**	\$35**	\$225**	-\$209**
Arrearage Forgiveness	\$82	\$62	-\$19	\$0	-\$19**	-\$13**	-\$6
Balance	\$1260	\$1536	\$276**	\$30**	\$245**	\$571**	-\$295**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Tables IV-23 through IV-24 examine the payment impacts for the CRP participants by their CRP status. Customers whose latest CRP status was active had the greatest reduction in their bills, the greatest increase in the number of cash payments made, the greatest increase in cash and total coverage rates, the greatest reduction in shortfall, and the greatest amount of arrearage forgiveness received. They were also the only group to have a significant reduction in their balance. These customers had a net reduction in balance owed averaging \$462.

Inactive customers experienced the smallest decline in the asked to pay amount, and the smallest decline in total payments made. Broken customers were the only customers to not have an increase in the number of cash payments made, they had the greatest decline in the total payments made, the smallest decline in shortfall, and the greatest increase in their balances.

**Table IV-23
Payment Impacts
Non-Participant Comparison Group
Net Change By CRP Status**

	Net Change Compared with CG1					
	Active	Broken	Curable	Defaulted	Suspended	Inactive
Number of Customers – TG	2,814	370	516	536	2,591	1,544
Asked to Pay Amount	-\$578**	-\$311**	-\$373**	-\$503**	-\$503**	-\$121**
Number Cash Payments	2.2**	-0.6**	1.1**	1.9**	1.1**	.0.5**
Total Cash Payments	-\$85**	-\$155**	\$8	-\$44*	-\$64**	\$17
Assistance Payments	-\$180**	-\$136**	-\$166**	-\$187**	-\$144**	-\$98**
Total Payments	-\$265**	-\$292**	-\$158**	-\$230**	-\$209**	-\$81**
Cash Coverage Rate	30%**	-2%	17%**	22%**	23%**	12%**
Total Coverage Rate	18%**	-11%*	6%	8%*	12%**	5%*
Shortfall	-\$313**	-\$19	-\$216**	-\$273**	-\$295**	-\$39**
Arrearage Forgiveness	\$143**	-\$6*	\$47**	\$88**	\$80**	\$33**
Balance	-\$213**	\$682**	\$310**	-\$10	\$117**	\$158**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

**Table IV-24
Payment Impacts
2004 Participant Comparison Group
Net Change By CRP Status**

	Net Change Compared with CG2					
	Active	Broken	Curable	Defaulted	Suspended	Inactive
Number of Customers – TG	2,814	370	516	536	2,591	1,544
Asked to Pay Amount	-\$727**	-\$495**	-\$485**	-\$629**	-\$634**	-\$289**
Number Cash Payments	2.8**	0.0	1.6**	2.4**	1.6**	1.0**
Total Cash Payments	-\$28	-\$122**	\$48	\$49	-\$12	\$81**
Assistance Payments	-\$186**	-\$155**	-\$188**	-\$176**	-\$159**	-\$107**
Total Payments	-\$215**	-\$276**	-\$140**	-\$127**	-\$172**	-\$25

	Net Change Compared with CG2					
	Active	Broken	Curable	Defaulted	Suspended	Inactive
Cash Coverage Rate	44%**	12%**	33%**	36%**	35%**	.28%**
Total Coverage Rate	31%**	3%	18%**	24%**	23%**	20%**
Shortfall	-\$513**	-\$218**	-\$345**	-\$502**	-\$462**	-\$264**
Arrearage Forgiveness	\$154**	-\$8	\$98**	\$116**	\$100**	\$52**
Balance	-\$711**	\$220**	-\$201**	-\$529**	-\$368**	-\$354**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Tables IV-25 through IV-26 examine the change in payment impacts by the CRP type. These tables show that as the amount of payment required declined, the number of cash payments made increased, the total amount of payments made declined, coverage rates increased, arrearage forgiveness increased, and balances declined.

- Customers with an eight percent payment arrangement had the following average net impacts:
 - The asked to pay amount declined by \$1,015.
 - The number of cash payments made increased by 2.0.
 - Total payments declined by \$427.
 - Total coverage rates increased by 27 percentage points.
 - Balances declined by \$361.
- Customers with a nine percent payment arrangement had the following average net impacts:
 - The asked to pay amount declined by \$619.
 - The number of cash payments made increased by 1.8.
 - Total payments declined by \$232.
 - Total coverage rates increased by 19 percentage points.
 - Balances declined by \$285.
- Customers with a ten percent payment arrangement had the following average net impacts:

- The asked to pay amount declined by \$165.
- The number of cash payments made increased by 1.2.
- Total payments increased by \$21.
- Total coverage rates increased by 12 percentage points.
- Balances decreased by \$68.

Table IV-25
Payment Impacts
Non-participant Comparison Group
Net Change By CRP Type

	Net Change Compared with CGI			
	\$18/Minimum	8%	9%	10%
Number of Customers	246	1,397	3,901	2,678
Asked to Pay Amount	-\$1028**	-\$910**	-\$514**	-\$60**
Number Cash Payments	2.5**	1.7**	1.5**	0.9**
Total Cash Payments	-\$286**	-\$227**	-\$84**	\$100**
Assistance Payments	-\$252**	-\$216**	-\$163**	-\$96**
Total Payments	-\$538**	-\$443**	-\$248**	\$4
Cash Coverage Rate	60%**	34%**	23%**	11%**
Total Coverage Rate	41%**	19%**	11%**	4%**
Shortfall	-\$490**	-\$467**	-\$266**	-\$63**
Arrearage Forgiveness	\$106**	\$96**	\$95**	\$79**
Balance	-\$231**	-\$91**	-\$14	\$203**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-26
Payment Impacts
2004 Comparison Group
Net Change By CRP Type

	Net Change Compared with CG2			
	\$18 Minimum	8%	9%	10%
Number of Customers	246	1,397	3,901	2,678
Asked to Pay Amount	-\$1239**	-\$1120**	-\$724**	-\$270**
Number Cash Payments	3.0**	2.2**	2.0**	1.4**
Total Cash Payments	-\$228**	-\$169**	-\$26*	\$158**
Assistance Payments	-\$278**	-\$242**	-\$189**	-\$121**
Total Payments	-\$505**	-\$410**	-\$215**	\$37*
Cash Coverage Rate	76%**	49%**	39%**	26%**
Total Coverage Rate	56%**	34%**	26%**	19%**
Shortfall	-\$734**	-\$710**	-\$510**	-\$307**
Arrearage Forgiveness	\$119**	\$109**	\$108**	\$92**
Balance	-\$772**	-\$631**	-\$555**	-\$338**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

J. Payment Impact – Coverage of GS Bill

This section examines the impact of the CRP on coverage of the full, non-discounted bill.

- *Total Assistance:* In these tables, assistance payments and total payments include all LIHEAP cash payments received, while off or on the CRP, as these payments helped to cover the costs of the CRP subsidy. There was a gross decline in the amount of energy assistance received by CRP participants of \$29. The net impact on energy assistance averaged a decline of \$54.
- *Total Payments:* Gross total payments increased by \$59, but declined as compared to the non-participant and 2004 controls. The average net decline was \$80.
- *Total Coverage Rates:* The gross total coverage rate declined by nine percentage points, and the net total coverage rate declined by an average of five percentage points.

- *Shortfall:* There was a gross and net increase in shortfall, the amount of the GS bill that was not covered by cash or assistance payments. The average net change in shortfall was an increase of \$194.

Table IV-27
GS Bill Payment Impacts
All Customers

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	8,371			93,159		6,276	
GS Bill	\$1347	\$1703	\$356**	\$137**	\$219**	\$348**	\$8
Total Cash Payments	\$711	\$798	\$88**	\$143**	-\$55**	\$84**	\$4
Assistance Payments	\$161	\$132	-\$29**	\$13**	-\$41**	\$38**	-\$66**
Total Payments	\$872	\$931	\$59**	\$155**	-\$96**	\$122**	-\$63**
Cash Coverage Rate	57%	52%	-5%**	3%**	-8%**	-13%**	8%**
Total Coverage Rate	71%	62%	-9%**	2%**	-12%**	-13%**	3%**
Shortfall	\$475	\$772	\$297**	-\$18**	\$315**	\$226**	\$72**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Tables IV-28 and IV-29 examine the GS bill payment impacts by quarter of CRP enrollment. Quarter four enrollees had smaller gross increases in their GS bills than the other 2003 enrollees. They also did not experience the gross declines in the total coverage rates that the other 2003 enrollees experienced. This is largely due to the fact that their pre-enrollment coverage rates were lower than those of the other 2003 enrollees. The fourth quarter enrollees also experienced a smaller gross increase in shortfall than the other 2003 enrollees, due to their smaller increases in their bills.

Table IV-28
GS Bill Gross Payment Impacts
All Customers
By Quarter

Sample	2003 Q1 Enrollees			2003 Q2 Enrollees			2003 Q3 Enrollees			2003 Q4 Enrollees		
	Pre	Post	Change									
Number of Customers	2,138			2,669			2,064			1,500		
GS Bill	\$1122	\$1680	\$557**	\$1388	\$1755	\$367**	\$1436	\$1684	\$248**	\$1471	\$1669	\$198**
Total Cash Payments	\$774	\$844	\$70**	\$720	\$805	\$85**	\$669	\$774	\$106**	\$660	\$754	\$93**
Assistance Payments	\$135	\$149	\$14*	\$175	\$124	-\$50**	\$166	\$124	-\$41**	\$169	\$134	-\$35**

Sample	2003 Q1 Enrollees			2003 Q2 Enrollees			2003 Q3 Enrollees			2003 Q4 Enrollees		
	Pre	Post	Change									
Total Payments	\$909	\$993	\$84**	\$895	\$930	\$35**	\$834	\$899	\$65**	\$829	\$888	\$59**
Cash Coverage Rate	71%	56%	-15%**	56%	51%	5%**	50%	51%	0%	49%	52%	3%*
Total Coverage Rate	85%	67%	-18%**	71%	59%	-12%**	64%	60%	-4%	62%	62%	0%
Shortfall	\$213	\$687	\$474**	\$493	\$825	\$332**	\$602	\$785	\$183**	\$642	\$781	\$140**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-29
GS Bill Net Payment Impacts
All Customers
By Quarter

Sample	2003 Q1 Enrollees		2003 Q2 Enrollees		2003 Q3 Enrollees		2003 Q4 Enrollees	
	CG1	CG2	CG1	CG2	CG1	CG2	CG1	CG2
Number of Customers Treatment	2,138		2,669		2,064		1,500	
Number of Customers Control	24,190	1,570	23,869	1,947	22,954	1,425	22,146	1,334
GS Bill	\$253**	\$61**	\$225**	-\$48**	\$157**	\$25	\$202**	-\$9
Total Cash Payments	-\$125**	-\$72**	-\$67**	\$49**	-\$34**	\$41	\$16	-\$15
Assistance Payments	-\$44**	-\$71**	-\$46**	\$126**	-\$44**	-\$24*	-\$26**	-\$19
Total Payments	-\$169**	-\$143**	-\$113**	-\$77**	-\$78**	\$16	-\$10	-\$34
Cash Coverage Rate	-11%**	4%*	-9%**	14%**	-5%**	7%*	-3%*	6%**
Total Coverage Rate	-15%**	-1%	-14%**	5%**	-9%**	5%	-6%**	5%*
Shortfall	\$422**	\$205**	\$337**	\$29	\$236**	\$8	\$212**	\$25

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-30 examines the GS bill payment impacts for customers who remained on the CRP for a full year. These customers experienced similar impacts to all CRP customers. Cash payments were slightly lower for customers who remained on for a full year and the increase in shortfall for these customers was slightly greater than for all CRP customers.

**Table IV-30
GS Bill Payment Impacts
Customers Who Stay on the CRP for a Full Year**

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	6,633			93,159		6,276	
GS Bill	\$1383	\$1738	\$355**	\$137**	\$220**	\$348**	\$7
Total Cash Payments	\$701	\$767	\$66**	\$143**	-\$76**	\$84**	-\$18
Assistance Payments	\$169	\$140	-\$28**	\$13**	-\$41**	\$38**	-\$66**
Total Payments	\$870	\$907	\$38**	\$155**	-\$117**	\$122**	-\$84**
Cash Coverage Rate	55%	48%	-6%**	3%**	-9%**	-12%**	-6%**
Total Coverage Rate	69%	58%	-11%**	2%**	-13%**	-13%**	2%
Shortfall	\$514	\$831	\$317**	-\$18**	\$335**	\$226**	\$92**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Customers who did not stay on the CRP for a full year experienced similar impacts on payment coverage of their GS bill. Their payments, however, increased by more than those who remained on the CRP for a full year, and their shortfall did not increase as much as those who remained on the CRP for a full year.

**Table IV-31
GS Bill Payment Impacts
Customers Who Do Not Stay on the CRP for a Full Year**

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	1,738			93,159		6,276	
GS Bill	\$1208	\$1568	\$360**	\$137**	\$223**	\$348**	\$13
Total Cash Payments	\$747	\$917	\$171**	\$143**	-\$28**	\$84**	\$86**
Assistance Payments	\$133	\$103	-\$30**	\$13**	-\$43**	\$38**	-\$68**
Total Payments	\$880	\$1020	\$140**	\$155**	-\$15**	\$122**	\$18
Cash Coverage Rate	66%	68%	1%	3%**	-2%	-13%**	14%**
Total Coverage Rate	78%	75%	-3%	2%**	-5%**	-13%**	10%**

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Shortfall	\$358	\$548	\$220**	-\$18**	\$238**	\$226**	\$5

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Tables IV-32 through IV-33 examine the change in GS bill payment impacts by CRP status. Broken customers had the greatest declines in total payments and coverage rates. Active customers had the largest increases in their shortfall. Inactive customers had the smallest increase/ greatest decline in shortfall.

**Table IV-32
GS Bill Payment Impacts
Non-participant Comparison Group
Net Change By CRP Status**

	Net Change Compared with CG1					
	Active	Broken	Curable	Defaulted	Suspended	Inactive
Number of Customers	2,814	370	516	536	2,591	1,544
GS Bill	\$316**	\$161**	\$246**	\$257**	\$169**	\$118**
Total Cash Payments	-\$85**	-\$155**	\$8	-\$44*	-\$64**	-\$17
Assistance Payments	-\$17**	-\$76**	-\$62**	-\$35**	-\$60**	-\$41**
Total Payments	-\$103**	-\$231**	-\$54*	-\$78**	-\$124**	-\$25*
Cash Coverage Rate	-14%**	-21%**	-1%	-8%*	-6%**	1%
Total Coverage Rate	-17%**	-27%**	-6%	-12%**	-11%**	-1%
Shortfall	\$419**	\$392**	\$299**	\$335**	\$294**	\$142**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

**Table IV-33
GS Bill Payment Impacts
2004 Participant Comparison Group
Net Change By CRP Status**

	Net Change Compared with CG2					
	Active	Broken	Curable	Defaulted	Suspended	Inactive
Number of Customers	2,814	370	516	536	2,591	1,544
GS Bill	\$106**	-\$50	\$35	\$46	-\$42**	-\$93**
Total Cash Payments	-\$27*	-\$97**	\$66*	\$15	-\$6	\$75**
Assistance Payments	-\$42**	-\$101**	-\$87**	-\$60**	-\$85**	-\$66**
Total Payments	-\$70**	-\$198**	-\$21	-\$45	-\$91**	\$8
Cash Coverage Rate	2%	-6%	15%**	7%**	10%**	17%**
Total Coverage Rate	-2%	-12%**	9%**	3%	4%**	14%**
Shortfall	\$176**	\$148**	\$56	\$91*	\$50*	-\$101**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Tables IV-34 through IV-35 examine the GS bill payment impacts by CRP type. These tables show that as the amount of payment required declined, the total payments made declined, coverage of the GS bill declined, and shortfall increased. While customers with the eight percentage payment decreased total payments by \$275, customers with the ten percentage payment increased their total payments by \$79. Customers with the eight percentage payment increased their shortfall by \$368 and customers with the ten percentage payment increased their shortfall by \$122.

**Table IV-34
GS Bill Payment Impacts
Non-participant Comparison Group
Net Change By CRP Type**

	Net Change Compared with CG1			
	\$18/Minimum%	8%	9%	10%
Number of Customers	246	1,397	3,901	2,678
GS Bill	\$119**	\$199**	\$219**	\$252**

	Net Change Compared with CG1			
	\$18 Minimum	8%	9%	10%
Total Cash Payments	-\$286**	-\$227**	-\$84**	\$100**
Assistance Payments	\$35*	-\$65**	-\$40**	-\$37**
Total Payments	-\$250**	-\$291**	-\$124**	\$62**
Cash Coverage Rate	-15%**	-15%**	-9%**	-2%
Total Coverage Rate	-16%**	-21%**	-13%**	-4%*
Shortfall	\$370**	\$491**	\$343**	\$190**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-35
GS Bill Payment Impacts
2004 Comparison Group
Net Change By CRP Type

	Net Change Compared with CG2			
	\$18 Minimum	8%	9%	10%
Number of Customers	246	1,397	3,901	2,678
GS Bill	-\$91*	-\$12	\$8	\$42**
Total Cash Payments	-\$228**	-\$167**	-\$26*	\$158**
Assistance Payments	\$10	-\$90**	-\$65**	-\$62**
Total Payments	-\$217**	-\$258**	-\$91**	\$95**
Cash Coverage Rate	1%	0%	7%**	14%**
Total Coverage Rate	-1%	-6%**	2%	10%**
Shortfall	\$126*	\$245**	\$100**	-\$54**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

K. Energy Assistance

This section examines the impact of the CRP on energy assistance received by CRP participants.

- *Percent Received LIHEAP*: This is the percent of customers in the group that received LIHEAP assistance in the pre or post enrollment year. Thirty-six percent of

customers in the treatment group received LIHEAP in the year prior to enrollment, and 45 percent received LIHEAP in the year after enrollment, an increase of nine percentage points. The average net change was not significant.³⁰

- *Mean LIHEAP Grant:* This is the mean amount of LIHEAP received for those customers who did receive a LIHEAP grant. Average LIHEAP grants increased from \$233 to \$256 between the pre and post enrollment years.
- *LIHEAP Cash Assistance:* This is the total amount of LIHEAP cash assistance received, both while participating in the CRP and while not participating in the CRP. This is the average amount received, over customers who did and those who did not receive a grant. LIHEAP cash assistance increased from \$82 in the period prior to CRP enrollment to \$114 in the period following CRP enrollment, a gross increase of \$32. The average net change was not significant.
- *LIHEAP on CRP:* This refers to the amount of LIHEAP cash assistance that customers received while participating in the CRP. These LIHEAP payments are not credited to the customer's monthly payment or arrearages, but contribute to the CRP subsidy amount. Customers were considered to be on the CRP when the LIHEAP cash grant was received if they received a CRP discount on the bill prior to the date of the assistance. Customers received an average of \$110 in LIHEAP assistance while participating in the CRP.
- *LIHEAP off CRP:* This refers to the amount of LIHEAP cash assistance that customers received when they were not participating in the CRP. Customers were considered to be off the CRP if they did not receive a CRP discount on the bill prior to the date of the grant payment. Customers received an average of \$4 in LIHEAP assistance after they enrolled in the CRP but while they were not participating in the program.
- *Crisis Assistance:* Customers are eligible for CRISIS assistance if they have income below 135 percent of the Federal Poverty Level and their gas service is terminated or they are in danger of having their service terminated. The customer is required to provide a current termination notice when applying for the grant. Customers received an average of \$57 in crisis assistance in the period prior to CRP enrollment, and an average of \$17 in the year after enrollment, a gross decline of \$40. Customers are expected to receive less in crisis after enrollment if they are better able to pay their bills while participating in the CRP. The average net change in crisis assistance was a decrease of \$44.
- *UESF:* The Utility Emergency Service Funds provides a small amount of grants to help customers restore gas service or to avoid shutoff of service. Customers are

³⁰ Customers must have income below 135 percent of the Federal Poverty Level to qualify for LIHEAP, so some of the CRP participants with income between 135 and 150 percent of the Federal Poverty Level would not qualify for LIHEAP.

eligible for UESF if they have income below 175 percent of the Federal Poverty Level; they have not received assistance from UESF in the past 24 months; they applied for LIHEAP cash and Crisis grants if the programs were open; they have had their service terminated or have received a service termination letter from their utility; and a \$500 grant will eliminate the customer's arrearages. Customers received an average of \$21 in assistance in the year prior to participating and an average of \$1 in assistance in the year after enrollment. Because this assistance is to help customers in crisis, it is expected that this type of assistance will decline for customers after they enroll in the CRP.

- *Total Grants Applied to Balance:* This is the sum of LIHEAP cash grants received while the customer was not on the CRP, crisis assistance, UESF, and other grant assistance. Customers received a total of \$161 in this assistance in the year prior to enrollment and \$22 in assistance in the year following enrollment, for a gross decline of \$139. The average net change in this assistance was a decline of \$164.
- *Total Grants Received:* This is the sum of all LIHEAP cash assistance, crisis assistance, UESF, and other grants received. Customers received a total of \$161 in this assistance in the year prior to enrollment, and \$132 in the year following enrollment, for a gross decline of \$29. The average net change was a decline of \$54.

**Table IV-36
Energy Assistance Impacts
All CRP Participants**

	TC			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	8,371			93,159		6,276	
Percent Received LIHEAP	36%	45%	9%**	6%**	3%**	11%**	-2%**
Mean LIHEAP Grant	\$233	\$256	\$24**	\$16**	\$8*	\$6	-\$17**
LIHEAP Cash	\$82	\$114	\$32**	\$28**	\$4*	\$32**	\$0
LIHEAP on CRP	\$0	\$110	\$110**	\$0	\$110**	\$0	\$110**
LIHEAP off CRP	\$82	\$4	-\$78**	\$28**	-\$106**	\$32**	-\$110**
Crisis	\$57	\$17	-\$40**	-\$11**	-\$30**	\$16**	-\$57**
UESF	\$21	\$1	-\$20**	-\$5**	-\$15**	-\$10**	-\$10**
Total Grants Applied to Balance	\$161	\$22	-\$139**	\$13**	-\$151**	\$38**	-\$176**
Total Grants Received	\$161	\$132	-\$29**	\$13*	-\$41**	\$38**	-\$66**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

L. Terminations

This section examines the change in service terminations for participating CRP customers. Table IV-37 shows the change in the percentage of customers who received a service termination in the year preceding and the year following CRP enrollment. Fifteen percent of the treatment group customers received a shutoff in the year preceding enrollment and four percent in the year following enrollment, a gross decline of ten percentage points. The net decline was approximately 12 percentage points. A greater number of customers had shutoffs at the curb in the year preceding enrollment, and the decline in these shutoffs was greater than the decline in the percentage of customers with shutoffs at the meter.

**Table IV-37
Service Termination Impacts
Percent of Customers Who Received At Least One Shutoff
All CRP Participants**

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	8,371			93,159		6,276	
Total Shutoffs	0.15	0.04	-0.10**	0.00	-0.10**	0.03**	-0.13**
Shutoffs at Meter	0.05	0.01	-0.03**	-0.01**	-0.02**	0.00	-0.03**
Shutoffs at Curb	0.11	0.03	-0.08**	0.00	-0.08**	0.03**	-0.11**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-38 shows the average number of shutoffs per customer rather than the percentage of customers that received a shutoff. This table shows that customers received an average of .17 service terminations in the year prior to enrollment and .05 service terminations in the year following enrollment, for a gross decline of 0.12 service terminations. The CG2 group experienced an increase in the rate of service terminations. The average net decrease in the number of service terminations was .14 terminations. Both shutoffs at the meter and shutoffs at the curb declined.

**Table IV-38
Service Termination Impacts
All CRP Participants**

	TG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	8,371			93,159		6,276	
Total Shutoffs	0.17	0.05	-0.12**	0.00	-0.11**	0.04**	-0.16**
Shutoffs at Meter	0.05	0.01	-0.03**	-0.01**	-0.02**	0.00	-0.03**
Shutoffs at Curb	0.12	0.03	-0.09**	0.00	-0.09**	0.04**	-0.13**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

M. Collections Actions

This section examines the impact of the CRP on collections actions. The program is expected to reduce the number of collections actions needed if customers can better afford their bill and are less likely to miss payments.

PGW's collections actions were divided into five different categories – automated office actions, returned checks, mail actions, phone actions, and field actions.

- *All Collections Actions:* Table IV-39 shows that customers experienced an average of 8.7 collections actions in the year prior to enrollment, and 8.8 actions in the year following enrollment, a gross change that was not statistically significant. The comparison groups, however, experienced significant increases in the total number of collections actions. Therefore, the average net impact on the total number of collections actions was a decline of 1.4 actions.
- *Automated Office Actions:* Customers had 0.5 automated office actions in the year prior to enrollment, and 0.7 automated office actions in the year following enrollment, a gross increase of 0.1 actions. The net change was an increase of 0.5 actions.
- *Returned Checks:* Customers had an average of 0.4 returned checks in the year preceding enrollment and 0.3 returned checks in the year following enrollment. The gross change was a decline of 0.2 returned checks.
- *Mail Actions:* Customers had 5.6 mail actions in the year preceding enrollment and 5.2 mail actions in the year following enrollment, a gross decline of 0.4 actions. The net change in mail actions was a decline of 0.6 actions.

- *Phone Actions:* Customers had 1.0 phone actions in the year preceding enrollment and 1.9 phone actions in the year following enrollment, an increase of 0.9 actions. The net change in phone actions was an increase of 0.1 phone actions.
- *Field Actions:* Customers had 1.6 field actions in the year preceding enrollment and 1.0 field actions in the year following enrollment, a gross decline of 0.6 actions. The net change was a decline of 1.1 actions.

**Table IV-39
CRP Impacts on Collection Actions
All CRP Participants**

	TCG			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	8,371			93,159		3,647	
All Collections Actions	8.7	8.8	0.0	0.6**	-0.5**	2.4**	-2.3**
Automated Office Action	0.5	0.7	0.1**	0.0	0.1**	0.1**	0
Returned Check	0.4	0.3	-0.1**	0.0	-0.1**	0.1	-0.2**
Mail Action	5.6	5.2	-0.4**	-0.2**	-0.2**	0.5**	-0.9**
Phone Action	1.0	1.9	0.9**	0.5	0.4**	1.1**	-0.2**
Field Action	1.6	1.0	-0.6**	0.3**	-0.9**	0.6**	-1.2**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

N. Usage Impacts

This section examines the impact of the CRP on customers’ gas usage. Customers who participate in the CRP are not expected to reduce their usage, as only a small percentage of these customers receive the Conservation Works Program, due to the available CWP budget. Without energy conservation services, the weather-normalized energy usage of these customers is not expected to decline. However, concerns have been raised that some customers may increase their usage when placed on a percentage of income payment plan, where bills are not directly related to the amount of gas that the customer uses. The analyses in this section aims to determine whether there is such an increase in gas usage after customers begin participating in the CRP.

Table IV-40 displays additional attrition of sample for the usage analysis. Customers were removed from the usage analysis for the following reasons:

- Usage data were not available

- The data did not fit well to the model
- There were not enough usage data or reads available
- There were less than 40 percent of the normal heating degree days in the customer's usage periods
- There were more than 395 days of usage data or more than 13 reads

Between 83 and 88 percent of the customers in the analysis groups had enough data to be included in the usage analysis.

**Table IV-40
Data Attrition**

	TG	CG1	CG2
Analysis group	8,371	93,159	6,276
Usage Data Not Available	6	79	3
Poor Fit	783	8,321	660
Not enough days of usage data or reads	257	1,136	248
Less than 40% of normal HDD	127	825	109
Days >395 or Reads >13	62	547	42
Good Usage Data	7,136	82,251	5,214
Percent of analysis group with good usage data	85%	88%	83%

Table IV-41 displays gas usage changes. This table shows that both the raw change in usage and the weather normalized change in usage were very small, less than two percent of pre enrollment usage.

- *Day Adjusted Usage:* The day adjusted usage is the customer's annual usage, adjusted to 365 days of usage. Customers used an average of 1,203 ccf in the year preceding CRP enrollment, and an average of 1,180 ccf in the year following CRP enrollment, a decline of 23 ccf, or two percent of pre-enrollment usage. The net change in day adjusted usage was a decline of 33 ccf.
- *Weather Normalized Usage:* The weather normalized usage is annualized usage that has been adjusted to control for the weather, by modeling the relationship between the average daily temperature and the customer's gas usage, and then predicting the customer's usage in an average weather year. Customers had an average weather-normalized usage of 1,184 ccf in the year preceding enrollment and usage of 1,199 ccf in the year following enrollment, an increase of 15 ccf, or one percent of pre-

enrollment usage. The net change in weather normalized usage was an increase of 8 ccf.

**Table IV-41
Usage Impacts
All Customers**

	TC			CG1		CG2	
	Pre	Post	Change	Change	Net Change	Change	Net Change
Number of Customers	7,136			82,251		5,214	
Day Adjusted Usage	1,203	1,180	-23**	-47**	24**	67**	-90**
Weather Normalized Usage	1,184	1,199	15**	-17**	32**	31**	-16**

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

Table IV-42 displays the net usage impacts by quarter of enrollment in the CRP. While there was a small increase in raw usage in the first quarter, there were small decreases in the other quarters. There was a small increase in weather-normalized usage in the first, third, and fourth quarters, and a small decrease in weather-normalized usage in the second quarter.

**Table IV-42
Net Usage Impacts
All Customers
By Quarter**

Sample	2003 Q1 Enrollees		2003 Q2 Enrollees		2003 Q3 Enrollees		2003 Q4 Enrollees	
	CG1	CG2	CG1	CG2	CG1	CG2	CG1	CG2
Number of Customers Treatment	1,782		2,314		1,775		1,265	
Number of Customers Control	20,614	1,258	21,061	1,616	20,583	1,213	19,993	1,127
Day Adjusted Usage	53**	-114**	22**	-159**	-3	-47**	11*	-24*
Weather Normalized Usage	27**	-2	26**	-35**	30**	-20*	46**	-1

**Denotes significance at the 99 percent level. *Denotes significance at the 95 percent level.

O. Summary of Data Analysis Findings

This section summarizes findings from the data analysis.

- *Retention rates:* Ninety-seven percent of the original treatment group that enrolled in the fourth quarter of 2003 remained on the CRP for the first three months, 94 percent for the first six months, 89 for the first nine months, and 63 for the full year after

enrollment. Ninety-two percent of the final treatment group that enrolled in the fourth quarter of 2003 remained on the CRP for a full year after enrollment.

Households whose primary source of income was Social Security had the highest retention rates and households whose primary source of income was employment had the lowest retention rates.³¹ Ninety-four percent of households with Social Security income remained on the CRP for a full year after enrollment and 90 percent of households with employment income remained on the CRP for a full year.

- *Arrearage forgiveness:* Customers have 1/36 of their pre-program arrears forgiven each month that they pay their bill on time and in full. The data analysis showed that on average, customers who enrolled in the fourth quarter of 2003 received arrearage forgiveness in four of the 12 months following enrollment. One fourth of customers did not receive arrearage forgiveness in any month in the year following enrollment, and 26 percent received arrearage forgiveness in 10 to 12 of the months following enrollment. The average amount of arrearage forgiveness received was \$182. Only nine percent of customers received greater than \$500 in arrearage forgiveness.

Households with elderly members received arrearage forgiveness in more months following enrollment. While 47 percent of households with elderly members received arrearage forgiveness in 10 to 12 months in the year following enrollment, only 24 percent of households that did not have elderly members did so.

Customers whose primary source of income was Social Security received the greatest number of months of arrearage forgiveness and customers whose primary source of income was public assistance and employment received the fewest number of months of arrearage forgiveness. While customers whose primary income source was Social Security received arrearage forgiveness in an average of 5.6 months after enrollment, customers whose primary source of income was employment received arrearage forgiveness in 3.4 months in the year following enrollment, and customers whose primary source of income was public assistance received arrearage forgiveness in 3.3 months in the year following enrollment.

Customers on the \$18 minimum payment and in the active status category at the time of data download received the greatest number of months of arrearage forgiveness. Customers in the active status category received an average of \$240 in arrearage forgiveness, compared to \$31 for broken customers, \$68 for curable customers, \$94 for inactive customers, \$169 for defaulted customers, and \$205 for suspended customers.

- *Re-certification rates:* Forty one percent of the original treatment group re-certified by the time of the data download in early 2005. Forty nine percent of the final treatment group re-certified. As expected, nearly all active customers re-certified and very few suspended customers re-certified.

³¹ This reaffirms PGW's analysis that has showed that the seniors have the best payment records.

- *Affordability impact:* The CRP had a positive impact on affordability for program participants. Customers received an average CRP discount of \$660, had a gross reduction in bills of \$304, and a net reduction of \$547. Their average energy burden declined from 15.5 percent to 9.5 percent, for a gross reduction of six percentage points and a net reduction of 11 percentage points.

The CRP was modified in September 2003 so that customers received payments of an \$18 minimum, or eight, nine, or ten percent of income, instead of the previous, \$30 minimum payment, 7.35 percent of income, or budget plus two percent of arrears. However, discounts were higher for fourth quarter enrollees due to a change in the composition of participants. Participants who enrolled in the fourth quarter of 2003 were more likely to be placed in the \$18 minimum or eight percent payment arrangement, than customers who enrolled in the other quarters of 2003. Customers who enrolled in the fourth quarter had an average discount of \$782, compared to an average discount of \$630 for customers who enrolled in the other quarters. These customers also experienced a greater decline in their bills, a gross decline of almost \$600 compared to gross declines of under \$100 for Q1 enrollees, under \$300 for Q2 enrollees, and under \$400 for Q3 enrollees.

Customers who remained on the CRP for a full year experienced a greater impact on bill payment affordability than those who do not.

- Customers who remained on the CRP for a full year received an average CRP discount of \$765 compared to an average discount of \$262 for customers who did not remain on the CRP for a full year.
- Customers who remained on the CRP for a full year had a gross decline in their bills of \$410 and a net decline in their bills of \$653, compared to a gross increase of \$98 and a net decline of \$144 for customers who did not remain on the CRP for a full year.
- Customers who remained on the CRP for a full year had a gross reduction in energy burden of seven percentage points and a net reduction of 12 percentage points, compared to a gross reduction of one percentage point and a net reduction of six percentage points for customers who did not remain on the CRP for a full year.

Customers who were still classified as active at the time of the data download received the greatest discounts and experienced the greatest declines in their gas bills. Customers in the lower percentage payment plans had greater discounts and greater reductions in their bills. They also experienced the greatest net reductions in energy burden, as high as 47 percentage points for customers in the \$18 minimum group and 20 percentage points for customers in the eight percentage group.

- *Payment impact – coverage of the asked to pay amount:* Total customer payments declined but coverage of bills increased following enrollment in the CRP.

- Customers increased the number of cash payments made from under seven payments in the year preceding enrollment to eight payments in the year following enrollment, a gross increase of 1.4 payments, and a net increase of 1.6 payments.
- Cash payments increased from \$711 to \$798, a gross increase of \$88 and a net decline of \$26.
- Assistance payments credited to the customer's bill decreased from \$161 to \$22, a gross decrease of \$139 and a net decrease of \$164.
- Total payments declined from \$872 to \$821, a gross decline of \$51 and a net decline of \$190.
- Cash coverage rates increased from 57 percent to 82 percent, a gross increase of 25 percentage points and a net increase of 30 percentage points.
- Total coverage rates increased from 71 percent to 84 percent, a gross increase of 13 percentage points and a net increase of 19 percentage points.
- Shortfall declined from \$475 to \$222, a gross decline of \$253 and a net decline of \$357.
- Balances increased from \$1,539 to \$1,611, a gross increase of \$72 and a net decline of \$229.

Customers who enrolled in the fourth quarter of 2003 had the greatest increases in their cash and total coverage rates, and the greatest declines in shortfall and balances, due to their large declines in their asked to pay amounts.

Customers who remained on the CRP for a full year had greater impacts than those who did not.

- Customers who remained on the CRP for a full year had a net increase in total coverage rates of 22 percentage points, compared to an increase of 7 percentage points for those who did not remain on the CRP for a full year.
- Customers who remained on the CRP for a full year had a net decline in shortfall of \$428, compared to a decline of \$87 for those who did not remain on the CRP for a full year.
- Customers who remained on the CRP for a full year had a net decline in their balances of \$282, compared to a net decline of \$25 for customers who did not remain on the CRP for a full year.

Customers whose latest CRP status was active had the greatest reduction in their bills, the greatest increase in the number of cash payments made and total coverage rates, and the greatest reduction in shortfall and balances.

Customers with lower percentage payment plans had greater increases in the number of cash payments made and coverage rates, and the greatest decreases in their balances. These customers also had the greatest declines in the amount of payments made.

- *Payment impact – coverage of the GS bill:* After enrolling in the CRP, total customer payments covered less of the GS bill, both as compared to their pre enrollment levels, and compared to the change for the comparison groups.
 - There was a gross decline in total assistance payments applied to PGW of \$29 and a net decline of \$54.
 - Total payments increased from \$872 to \$931 for a gross increase of \$59, but the net change was a decline of \$80.
 - Total coverage rates declined from 71 percent to 62 percent for a gross decline of nine percentage points and a net decline of five percentage points.
 - Shortfall increased from \$475 to \$772, for a gross increase of \$297 and a net increase of \$194.

Fourth quarter enrollees experienced a smaller gross increase in shortfall than the other 2003 enrollees, due to their smaller increase in GS bills. Their shortfall increased from \$642 to \$781, for a gross increase of \$140 and a net increase of \$119.

Customers who remained on the CRP for a full year had lower coverage of their GS bills than those who did not remain on the CRP.

- Customers who remained on the CRP for a full year had a gross increase in total payments of \$38, but a net decline of \$101. This compares to customers who did not remain on the CRP for a full year and had a gross increase in total payments of \$140 and an insignificant net change. This difference was due to a smaller amount of cash payments made by those customers who remained on the CRP for a full year, not to a difference in the amount of assistance payments received.
- Customers who remained on the CRP for a full year had a gross reduction in total coverage rates of 11 percentage points and a net reduction in total coverage rates of 6 percentage points. In comparison, customers who did not remain on the CRP for a full year had an insignificant gross and net change in total coverage rates.

- Customers who remained on the CRP for a full year had a gross increase in shortfall on the GS bill of \$317, and a net increase in shortfall of \$214. This compares to customers who did not remain on the CRP for a full year and had a gross increase in shortfall on the GS bill of \$220, and a net increase in shortfall of \$122.

Customers whose latest CRP status was broken had the greatest declines in total payments and coverage rates. Active customers had the largest increase in shortfall on the GS bill. Inactive customers had the smallest increase in shortfall on the GS bill.

Customers in the lower percentage payment plans had the greatest declines in coverage rates and the greatest increases in shortfall. While customers in the eight percent plan decreased their net coverage rates by 14 percentage points, customers in the ten percent plan increased their net coverage rates by three percentage points. While customers in the eight percent plan increased their net shortfall on the GS bill by \$368, customers in the ten percent plan increased their net shortfall by \$68.

- *Energy Assistance:* Thirty-six percent of customers in the treatment group received LIHEAP in the year prior to enrollment and 45 percent received LIHEAP in the year following enrollment, a gross increase of nine percentage points and an insignificant net increase. The mean LIHEAP grant averaged about \$240. Participants had a small gross increase in the total amount of LIHEAP received, and a small decrease in the total amount of Crisis and UESF assistance received in the year after enrollment, resulting in a gross decline in total energy assistance of \$29, and a net decline in total energy assistance of \$54.
- *Terminations:* Customers received an average of 0.17 shutoffs in the year preceding enrollment and 0.05 shutoffs in the year following enrollment, for a gross reduction of 0.12 shutoffs and a net decline of 0.14 shutoffs. Both shutoffs at the meter and shutoffs at the curb declined.
- *Collections actions:* Customers had fewer collections actions after enrolling in the CRP. Customers had an average of 8.7 collections actions in the year preceding enrollment and 8.8 collections actions in the year following enrollment, for an insignificant gross change, but a net decline of 1.4 collections actions. Customers experienced declines in returned checks, mail actions, and field actions, and an increase in the number of phone actions. The greatest decline experienced was in the number of field actions.
- *Usage impacts:* Customers in the treatment group increased their weather-normalized usage from 1,184 ccf in the year preceding enrollment to 1,199 in the year following enrollment, a gross increase of 15 ccf, one percent of pre-enrollment usage. The net change was an increase of 8 ccf, less than one percent of pre-enrollment usage. Customers who enrolled in the fourth quarter of 2003 had the largest net increase of 23 ccf, still only about two percent of pre-enrollment usage.

V. Customer Survey

In the customer survey, we interviewed CRP participants and low-income customers who never participated in the CRP. The CRP customer survey was designed to measure the following:

- Household demographics
- Reasons for participation or nonparticipation
- Barriers to enrollment
- Understanding of the program
- CRP re-certification process
- Financial obligations and bill payment difficulties
- Application and receipt of energy assistance
- Program success
- Impacts of the CRP
- Satisfaction with the CRP

A. Customer Survey Methodology

This section describes the methodology for the customer survey, including procedures for sample selection and survey implementation, and response rates.

Differences between active, broken, curable or defaulted, suspended, and inactive CRP customers, and non-participants; and between current participants, past participants, and non-participants are highlighted when appropriate. The survey assigned CRP customers to current and past participant groups using their responses to two questions. The survey first asked respondents whether they were currently participating in the CRP. Respondents who reported that they were currently participating in the CRP were classified as current participants. Respondents who reported that they were not currently participating in the CRP were asked whether they had ever participated in the CRP. Respondents who reported that they had participated were classified as past participants. Respondents who were classified by PGW as CRP participants, but who reported that they had never participated in the CRP were not asked to complete the survey.

1. Survey Implementation

An advance letter was sent to all customers who were selected for the survey. This letter notified customers that they would be called to participate in the survey, explained the purpose of the survey, and gave customers the option to call into the phone center to complete the survey at their convenience.

APPRISE retained Braun Research to conduct the survey through its call center. A researcher from APPRISE trained Braun's employees on the survey instrument and monitored survey implementation. Braun's manager in charge of the survey instructed

interviewers how to use the computerized version of the survey to record customer responses.

Interviewer training consisted of two hour-long sessions – one for daytime and one for evening interviewers. Training included an explanation of the Customer Responsibility Program, an introduction to the CRP customer population, an explanation of field codes included in the survey instrument, an overview of each question, and in-depth discussion of survey questions requiring special attention.

Interviewer monitoring allowed APPRISE researchers to both listen to the way interviewers conducted surveys and see the answers they chose on the computerized data entry form. Braun's manager facilitated open communication between the monitors and interviewers, which allowed the monitors to further instruct interviewers on how to implement the survey and accurately record customer responses.

2. Sample Selection and Response Rates

The sample was designed to furnish data on CRP participants and low-income non-participants. The sample was stratified by the customer's most recent CRP status – active, broken, curable or defaulted, suspended, and inactive.

Table V-1 details the number of customers selected to complete the survey, number of completed interviews, cooperation rates, and response rates for each of the three groups. The table presents the following information for each group and the total sample:

- **Number selected:** Initially, there were 200 active CRP customers, 100 broken CRP customers, 44 curable CRP customers, 56 defaulted CRP customers, 100 suspended CRP customers, 100 inactive CRP customers, and 100 non-participants selected to complete the survey. Due to a large number of unusable phone numbers in the initial sample, additional sample was selected to increase the number of respondents in selected groups. For the additional sample, there were 50 broken CRP customers, 8 curable CRP customers, 12 defaulted CRP customers, 50 suspended CRP customers, 100 inactive CRP customers, and 46 non-participants selected to complete the survey. The goal was to obtain 100 responses from active CRP customers, and 50 responses from each of the following groups: broken, defaulted or curable, suspended, and inactive CRP customers, and non-participants.
- **Unusable:** There were 422 cases deemed unusable because no one was present in the home during the survey who was able to answer questions related to the household gas bills and the CRP, or because phone numbers were unavailable, disconnected, or incorrect.³² These households are not included in the

³²386 cases were deemed unusable because phone numbers were unavailable, disconnected, or incorrect. This may be related to incorrect customer information or to interruptions in telephone service. However, we do not believe that these unusable numbers will bias the results of the survey.

denominator of the response rate or the cooperation rate. They are included in the denominator of the completed interview rate.

- **Non-Interviews:** There were 80 cases classified as non-interviews because the qualified respondent refused to complete the interview, or because the respondent asked the interviewer to call back to complete the interview at a later time, but did not complete the interview during the field period. These households are included in the denominator of the cooperation rate, the response rate, and the completed interview rate.
- **Unknown eligibility:** There were 70 cases that were determined to have unknown eligibility to complete the interview, due to answering machines, no answers, and language barriers.³³ These households are not included in the denominator of the cooperation rate. They are included in the denominator of the response rate and the completed interview rate.
- **Not eligible – does not know about CRP:** There were 33 cases that were deemed not eligible to complete the interview because the respondent did not remember participating in the CRP. These households are not included in the denominator of the response rate or the cooperation rate. They are included in the denominator of the completed interview rate.
- **Completed interviews:** The completed interviews are households that were reached and that answered the full set of survey questions. In total, 361 interviews were completed.
- **Cooperation rate:** The cooperation rate is the percent of eligible households contacted who completed the survey. This is calculated as the number of completed interviews divided by the interviews plus the number of non-interviews (refusals plus non-completed call backs³⁴). Overall, this survey achieved an 82 percent cooperation rate.
- **Response rate:** The response rate is the number of completed interviews divided by the number of completed interviews plus the number of non-interviews (refusals plus non-completed call backs) plus all cases of unknown eligibility (due to answering machines and language barriers). This survey attained a 71 percent response rate.
- **Completed Interview Rate:** The completed interview rate is the percentage of households selected that completed the survey. This survey attained a 37 percent completed interview rate.

³³ There were 29 cases deemed to have unknown eligibility due to a language barrier. This may bias the results if customers with a language barrier had difficulty accessing program services or information. However, PGW has Spanish-speaking representatives at the district offices and at the telephone customer services centers. In addition, PGW uses the AT&T Language Line to assist any customers who do not speak English or Spanish. Therefore, we do not believe that failing to interview these customers will bias the results of the survey.

³⁴ Non-completed callbacks include respondents who asked the interviewer to call back at a later time to complete the interview, but did not complete the interview by the end of the field period.

As seen in Table V-1, cooperation rates ranged from 74 percent for inactive CRP customers to 86 percent for non-participants. Response rates varied from 56 percent for inactive CRP customers to 76 percent for broken CRP customers. Inactive CRP customers were more difficult to reach and interview, as evidenced by cooperation and response rates that are consistently lower than those for other groups.

**Table V-1
Sample and Response Rates
By CRP Participation Group**

	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Non- Participants	Total
Number selected	200	150	120	150	200	146	966
Unusable – wrong or missing telephone number	41	76	35	57	118	59	386
Unusable – no one home who could answer the survey	7	3	1	5	11	9	36
Non-Interviews	22	9	16	11	13	9	80
Unknown eligibility	14	7	7	15	15	12	70
Not eligible – does not know about CRP	9	4	5	8	7	0	33
Completed interviews	107	51	56	54	36	57	361
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Non- Participants	Total
Cooperation rate	83%	85%	78%	83%	74%	86%	82%
Response rate	75%	76%	71%	68%	56%	73%	71%
Completed interview rate	54%	34%	47%	36%	18%	39%	37%

B. Demographics

This section examines the demographic characteristics of survey respondents. All customers, except non-participants, were asked whether they currently participate in the CRP and whether they have ever participated in the CRP. Table V-2 shows the responses to these questions.³⁵

³⁵ Customers' CRP statuses are based upon their recorded status at the time of the PGW data download in February 2005. A customer's status may have changed between the date of the data download and the time of the survey. For example an active customer may have broken his/her CRP agreement, or a broken, suspended, or inactive customer may have re-enrolled in the CRP.

Table V-2
Customer-Defined CRP Participation Status
By CRP Participation Group

Are you currently participating in the Customer Responsibility Program? Have you ever participated in the Customer Responsibility Program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Non- Participants	Total
Current Participants	102	25	49	22	20		218
Past Participants	5	26	7	32	16		86
Non-Participants						57	57

Customers were asked whether they own or rent their home. Table V-3 shows that two-thirds of non-participants own their homes, compared to 55 percent of current participants and 50 percent of past participants.

Table V-3
Home: Own or Rent

Do you own or rent your home?								
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants
Own	53%	43%	50%	54%	64%	55%	50%	67%
Rent	46%	55%	48%	46%	31%	44%	47%	32%
No stable housing	1%	0%	0%	0%	3%	1%	0%	0%
Refused	0%	2%	2%	0%	3%	0%	3%	2%

Table V-4 shows the total number of household members. Non-participants are more likely than current and past CRP participants to have only one household member. Active CRP customers are more likely than customers in other CRP groups to have only one household member.

Table V-4
Number of Household Members

Including yourself, how many people normally live in this household?								
	Number of Household Members							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants
1	40%	16%	27%	20%	14%	34%	11%	42%
2	28%	26%	14%	24%	19%	22%	29%	23%
3	13%	18%	21%	24%	22%	17%	19%	12%
4	8%	14%	16%	15%	11%	11%	12%	12%
5	6%	18%	10%	9%	11%	8%	14%	4%

Including yourself, how many people normally live in this household?								
	Number of Household Members							
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non-Participants
6 or more	6%	8%	11%	8%	20%	8%	13%	5%
Don't know	0%	0%	0%	0%	3%	0%	2%	0%
Refused	0%	2%	0%	0%	0%	0%	1%	2%

Table V-5 shows the percentage of customers that have a disabled member, an elderly member (60 years of age or older), or one or more children (18 years of age and younger). Non-participants are more likely than current and past CRP participants to have at least one elderly member and are less likely to have at least one disabled member. Current participants are more likely than past CRP participants and non-participants to have one or more children. Active CRP customers are more likely than those in other CRP statuses to have at least one elderly member and are less likely to have one or more children under 18.

**Table V-5
Percent with Vulnerable Household Members**

How many are 60 or older? How many are disabled? How many are 18 or under?								
	Percent With Vulnerable Household Members (Respondent Reported)							
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non-Participants
Elderly (60 or older)	37%	6%	20%	19%	17%	29%	17%	48%
Disabled	50%	35%	46%	44%	25%	47%	30%	33%
Children 18 or under	43%	67%	62%	63%	75%	53%	67%	39%

Table V-6 shows that 21 percent of non-participants are married, compared to 12 percent of current participants and 14 percent of past participants.

**Table V-6
Marital Status**

What is your marital status?								
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non-Participants
Married	8%	22%	11%	11%	19%	12%	14%	21%
Single	68%	67%	77%	76%	58%	69%	71%	53%
Widow/Widower	22%	10%	13%	11%	19%	19%	12%	25%
Don't know	1%	0%	0%	0%	0%	1%	0%	0%
Refused	0%	2%	0%	2%	3%	0%	3%	2%

Respondents were asked to report the highest level of education attained by any member of their household. Table V-7 shows that more than half of respondents do not have education past the high school level. Past participants were more likely than current and non-participants to report that they have at least a high school diploma. Only seven percent of past participants reported that they did not have a high school diploma, compared to 20 percent of current participants and 25 percent of past participants.

Table V-7
Education Level

What is the highest level of education reached by any member of your household?								
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants
Less than high school	21%	14%	16%	17%	8%	20%	7%	25%
High school diploma / GED	43%	51%	43%	44%	50%	45%	47%	44%
Some college / Associates Degree	25%	28%	36%	28%	25%	27%	29%	19%
Bachelor's Degree	3%	6%	4%	7%	14%	3%	13%	7%
Master's Degree or higher	3%	0%	0%	2%	0%	2%	1%	2%
Vocational training	3%	0%	0%	0%	0%	2%	0%	2%
Don't know	2%	0%	0%	0%	0%	1%	0%	0%
Refused	1%	2%	2%	2%	3%	1%	4%	2%

Table V-8 displays the respondents' reported annual household income. The majority of current and past participants reported annual incomes below \$20,000. Past participants were more likely than current participants and non-participants to report annual incomes over \$20,000. Inactive CRP customers were less likely than those in other CRP statuses to report annual incomes less than \$10,000.

Table V-8
Annual Household Income

What is your household's annual income?								
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants
≤ \$10,000	54%	39%	52%	32%	14%	50%	20%	30%
\$10,001 - \$20,000	23%	22%	23%	37%	36%	26%	31%	33%
\$20,001 - \$30,000	3%	20%	9%	17%	28%	8%	24%	4%
\$30,001 - \$40,000	2%	4%	2%	0%	11%	3%	5%	5%
> \$40,000	0%	4%	2%	0%	0%	1%	1%	2%
Don't know	12%	6%	9%	7%	3%	9%	8%	7%
Refused	6%	6%	4%	7%	8%	5%	10%	19%

Respondents were asked to report on several sources of income and benefits received by members of their household:

- Employment income from salaries and wages, or self-employment income from a business or farm
- Retirement income, including Social Security, pensions, and other retirement funds
- Public assistance benefits from TANF, SSI, AFDC, or general assistance or public assistance
- Non-cash benefits, including food stamps or public housing

Table V-9 shows that past participants were more likely than current participants and non-participants to report that they receive employment income. About two-thirds of past participants receive employment income, compared to about one-third of current participants and non-participants. Current participants were more likely to report that they receive public assistance and non-cash benefits, and non-participants were more likely to report that they receive retirement income.

Inactive CRP customers were more likely than those in other CRP statuses to report that they receive employment income, and less likely to report that they receive public assistance and non-cash benefits. Active CRP customers were least likely to report that they receive wages or self-employment income.

**Table V-9
Types of Income and Benefits Received**

In the past 12 months, did you or any member of your household receive employment income from wages and salaries or self-employment 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? Receive Food Stamps or live in public/subsidized housing?								
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants
Wages or self-employment income	25%	53%	36%	56%	64%	33%	64%	32%
Retirement income	22%	4%	18%	17%	22%	20%	16%	47%
Public assistance	57%	43%	50%	43%	19%	53%	26%	35%
Non-cash benefits	45%	49%	48%	39%	22%	46%	26%	32%

C. Enrollment and Reasons for Participation and Non-Participation

This section examines the reasons for participation and for nonparticipation in the Customer Responsibility Program, and experiences with the CRP enrollment process. Non-participants were asked whether they were aware of the CRP. Table V-10 shows that 19 percent of non-participants knew about the CRP, while 79 percent said that they were not aware of the program.

**Table V-10
Non-Participants Know About the CRP**

Are you aware that PGW offers a program called the Customer Responsibility Program to help make gas bills more affordable for customers?	
	Percent
Yes	19%
No	79%
Don't know	2%

Table V-11 displays the ways in which respondents heard about the CRP. Respondents were most likely to say that they heard about the program from a customer service representative, through a community agency, or from a friend or relative. Non-participants were also very likely to say that they heard about the program through an informational mailing.³⁶ Answers total more than 100 percent because respondents could provide more than one answer.

**Table V-11
How Respondent Became Aware of the CRP**

How did you find out about the Customer Responsibility Program?								
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non-Participants ¹
Customer service representative	34%	51%	34%	35%	39%	34%	45%	18%
Agency	18%	26%	25%	20%	42%	24%	26%	9%
Friend or relative	18%	10%	18%	24%	8%	17%	12%	18%
Informational mailing	8%	0%	7%	0%	3%	6%	3%	27%
Application mailed to home	3%	0%	2%	0%	0%	2%	0%	0%
Newspaper ad	3%	0%	2%	0%	0%	1%	3%	0%

³⁶ Previous research has shown that customers who participate in more than one type of assistance program sometimes confuse the information about these programs. This issue may be apparent when customers are asked how they became aware of the program.

How did you find out about the Customer Responsibility Program?								
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants ¹
Bill insert	2%	2%	0%	2%	3%	2%	0%	9%
Flyers	2%	0%	2%	0%	0%	2%	0%	0%
Television / Radio	1%	0%	2%	2%	3%	2%	0%	0%
Other	1%	0%	0%	4%	0%	1%	0%	9%
Don't know	14%	14%	9%	13%	6%	12%	11%	9%

¹11 Respondents.

Current and past participants were asked why they enrolled in the CRP. Table V-12 shows that the majority of respondents said that they decided to enroll to reduce their gas bills. Respondents also said that they enrolled to reduce arrearages, because of low-income or unemployment, to prevent termination of their gas service, or to obtain even monthly payments. Answers total more than 100 percent because respondents could provide more than one answer.

**Table V-12
Reason for Enrolling in the CRP**

Why did you decide to enroll in the Customer Responsibility Program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Reduce gas bills	61%	78%	72%	70%	67%	65%	73%
Reduce arrearages	20%	26%	20%	24%	22%	21%	23%
Low-income	14%	4%	16%	4%	0%	11%	5%
Prevent shut-off	3%	2%	0%	2%	6%	3%	3%
Even monthly payments	1%	2%	2%	0%	0%	1%	1%
Unemployment	0%	2%	0%	2%	0%	0%	1%
Other	2%	4%	2%	4%	0%	2%	2%
Don't know	4%	0%	2%	4%	11%	5%	3%

Non-participants who reported that they knew about the CRP were asked why they had not enrolled in the program. Table V-13 shows that four percent of non-participants said that they do not need energy assistance and two percent said their income was too high to be eligible.

**Table V-13
Reason for Not Enrolling in the CRP
Non-Participants**

What are the reasons that you have not enrolled in the CRP?	
	Percent
Do not need energy assistance	4%
Income is too high	2%
Other	11%
Don't know	4%
Did not know about the CRP	79%

Respondents were asked about the difficulty of enrolling in the CRP. As seen in Table V-14, about 90 percent of current and past participants said that the enrollment process was not too difficult or not at all difficult. Respondents who said that the enrollment process was somewhat or very difficult were asked which parts of the process were most difficult. These respondents said that providing proof of income, going to the district office to apply for the CRP, providing Social Security numbers, and completing the application were the most difficult parts of enrollment.

**Table V-14
Difficulty of Enrollment**

How difficult was it to enroll in the Customer Responsibility Program? Would you say it was very difficult, somewhat difficult, not too difficult, or not at all difficult?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Very difficult	2%	4%	4%	6%	0%	2%	5%
Somewhat difficult	5%	6%	9%	6%	11%	7%	6%
Not too difficult	26%	22%	2%	9%	11%	17%	18%
Not at all difficult	66%	67%	81%	72%	75%	72%	67%
Don't know	1%	2%	4%	7%	3%	2%	4%
Refused	0%	0%	2%	0%	0%	0%	1%

D. Re-certification

This section examines the re-certification process for the Customer Responsibility Program and the reasons that CRP customers failed to re-certify for the CRP.

Respondents were asked whether they had ever re-certified for the CRP. Table V-15 shows that current participants were more likely than past participants to report that they had re-certified for the CRP. Sixty-three percent of current participants said that they had re-certified for the program, compared to 27 percent of past participants.

**Table V-15
Respondent Has Re-Certified for the CRP**

Have you ever re-certified for the Customer Responsibility Program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Yes	65%	43%	70%	39%	33%	63%	27%
No	26%	51%	25%	54%	50%	28%	63%
Don't know	9%	6%	5%	7%	17%	9%	10%

Current and past participants who said they had re-certified for the CRP were asked about the difficulty of re-certifying for the CRP. Table V-16 shows that 90 percent of current participants and 85 percent of past participants reported that the re-certification process was not too difficult or not at all difficult. Curable/defaulted CRP customers were more likely than other CRP customers to say that the re-certification process was very difficult or somewhat difficult.

Respondents who said that the re-certification process was somewhat or very difficult were asked which parts of the process were most difficult. These respondents said that going to the district office to re-certify and completing the application were the most difficult parts of re-certifying. However, customers are not required to visit a district office to re-certify for the CRP. All customers receive a re-certification package in the mail and can send the required information to PGW in the enclosed envelope.

**Table V-16
Difficulty of CRP Re-Certification**

How difficult was it to re-certify for the Customer Responsibility Program? Would you say it was very difficult, somewhat difficult, not too difficult, or not at all difficult?							
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Current Participants ⁶	Past Participants ⁷
Very difficult	3%	5%	8%	5%	0%	4%	7%
Somewhat difficult	6%	5%	10%	0%	0%	6%	5%
Not too difficult	22%	9%	5%	14%	8%	17%	6%
Not at all difficult	68%	77%	77%	76%	92%	73%	79%
Don't know	1%	5%	0%	5%	0%	1%	3%

¹ 69 Respondents. ² 22 Respondents. ³ 39 Respondents. ⁴ 21 Respondents. ⁵ 12 Respondents. ⁶ 141 Respondents. ⁷ 22 Respondents.

Suspended CRP customers were asked whether they were aware that they had been suspended from the CRP because they failed to re-certify for the program. Table V-17 shows that 39 percent of suspended CRP customers were not aware that they had been suspended from the program because of a failure to re-certify.

**Table V-17
Respondent is Aware of Suspension from the CRP
Because of a Failure to Re-Certify
Suspended Customers**

Do you know that you were suspended from the CRP because you did not re-certify for the program?	
	Percent
Yes	57%
No	39%
Don't know	4%

Suspended CRP customers were asked whether they received a re-certification notice from PGW. Table V-18 shows that 22 percent of suspended CRP customers reported that they received a re-certification notice.³⁷

**Table V-18
Respondent Remembers Receiving Re-Certification Notice
Suspended Customers**

Did you receive a re-certification notice from the CRP?	
	Percent
Yes	22%
No	65%
Don't know	13%

Suspended CRP customers who reported that they received a re-certification notice were asked whether they responded to the notice. As seen in Table V-19, 15 percent of suspended CRP customers said that they responded to the re-certification notice. Respondents who said that they did not respond to the re-certification notice were asked why they did not respond. These respondents said that they forgot to respond to the notice.

**Table V-19
Respondent Responded to Re-Certification Notice
Suspended Customers**

Did you respond to the re-certification notice?	
	Percent
Received notice, responded	15%
Received notice, did not respond	7%

³⁷ All CRP customers should have received a re-certification package in the mail, as these notices are automatically generated by PGW's computer system.

Did you respond to the re-certification notice?	
	Percent
Reported that they did not receive notice	65%
Reported that they did not know if they received notice	13%

E. Understanding of the Program

This section examines how well CRP participants understand the program. Current and past participants were asked whether they have a good understanding of the services provided by the CRP. Table V-20 shows that current participants were more likely than past participants to say that they have a good understanding of the program. Seventy-nine percent of current participants said that they have a good understanding of the CRP, compared to 64 percent of past participants.

**Table V-20
Understand Services Provided by the Program**

Do you feel that you have a good understanding of the services provided by PGW's Customer Responsibility Program?							
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants	Past Participants
Yes	80%	75%	79%	67%	64%	79%	64%
No	17%	26%	16%	30%	36%	18%	36%
Don't know	3%	0%	5%	4%	0%	3%	0%

Current and past participants were asked what their responsibility was in the CRP. As seen in Table V-21, the majority of respondents said that their responsibility was to keep up with their payments. Nine percent of current participants and eight percent of past participants said that they do not know what their responsibility was in the program. Answers total to more than 100 percent because respondents could provide more than one answer.

**Table V-21
Customer's Responsibility in the CRP**

What is your understanding of your responsibility in this program?							
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants	Past Participants
Keep up with payments	81%	92%	89%	87%	83%	83%	90%
Reduce gas usage	7%	4%	4%	4%	0%	5%	2%
Apply for LIHEAP	5%	2%	0%	2%	6%	4%	1%
Notify PGW if income changes	2%	2%	2%	4%	0%	2%	1%

What is your understanding of your responsibility in this program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Accept weatherization services	2%	2%	0%	0%	0%	1%	0%
Re-certify for the Program	2%	0%	0%	2%	0%	1%	0%
Other ³⁸	4%	0%	0%	2%	3%	3%	1%
Don't know	10%	2%	7%	6%	14%	9%	8%

Current and past participants were asked what their responsibility was if their income changed while they were enrolled in the program. Table V-22 shows that more than three-quarters of current and past participants said that they must notify PGW if their income changed while enrolled in the CRP. Answers total to more than 100 percent because respondents could provide more than one answer.

Table V-22
Customer's Responsibility if Income Changes

What do you need to do if your income changes while you are enrolled in the program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Notify PGW	77%	75%	69%	83%	81%	76%	79%
Reapply for the program	5%	6%	9%	0%	0%	5%	0%
Provide new proof of income	6%	2%	5%	4%	0%	5%	1%
Nothing	2%	2%	2%	4%	0%	2%	2%
Other	3%	2%	0%	4%	0%	2%	1%
Don't know	12%	16%	20%	7%	19%	14%	17%

Current and past participants were asked how long the CRP lasts. Table V-23 displays the responses to this question. Forty-one percent of current participants and 37 percent of past participants reported that the program lasts one year.³⁹ Twelve percent of current participants and five percent of past participants said that the program lasts as long as their income does not increase. This is essentially correct, as participants may re-certify for the program each year. A large share of respondents, 41 percent of current participants and 52 percent of past participants, said that they do not know how long the program lasts.

³⁸ Examples of responses included in the other category include the customer's responsibility to hold up his/her end of the deal, to follow the rules, and to demonstrate to PGW that he/she cannot pay his/her bills.

³⁹ Customers may believe that the CRP lasts one year because they must re-certify for the program each year.

Table V-23
Participants' Understanding of CRP Duration

How long does the program last?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
1 year	39%	43%	37%	46%	39%	41%	37%
2 years	3%	4%	0%	0%	6%	3%	3%
As long as bill is paid on time	1%	2%	0%	2%	0%	1%	1%
As long as customer is low-income/needs assistance	15%	10%	11%	7%	3%	12%	5%
Other	0%	0%	7%	2%	3%	2%	1%
Don't know	42%	41%	45%	43%	50%	41%	52%

Current and past participants were asked what they felt were the benefits of the CRP. Table V-24 shows the responses to this question. The most common answer for both current and past participants was that the program offered equal monthly payments. This suggests that even monthly payments should be explained and encouraged to all low-income customers, regardless of whether they enroll in the CRP. The second most common answer provided for both current and past participants was that the program provided lower gas bills. Other benefits cited by participants were lower arrearages and maintaining their gas service. Answers total to more than 100 percent because respondents could provide more than one answer.

Table V-24
Benefits of the CRP - Unprompted

What do you feel are the benefits of the program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Even payments	38%	40%	45%	35%	47%	41%	38%
Lower gas bills	37%	31%	25%	32%	14%	30%	31%
Reduced arrearages	17%	18%	14%	11%	11%	16%	13%
Maintaining service	16%	16%	13%	9%	17%	16%	9%
None	2%	4%	2%	9%	14%	4%	10%
Other	1%	4%	3%	2%	0%	1%	3%
Confused CRP with CWP	1%	0%	0%	4%	3%	2%	0%
Don't know	6%	16%	12%	13%	8%	9%	11%

After the unprompted question about program benefits, current and past participants were asked specifically whether they felt lower bills, reduced arrearages, and maintaining gas service were benefits of participating in the CRP. Table V-25 displays the responses to these questions. Current participants were more likely than past participants to agree that

lower gas bills, reduced arrearages, and keeping their gas service turned on were benefits of the program. Eighty-eight percent of current participants agreed that a lower gas bill was a benefit of the program, compared to 79 percent of past participants, and 74 percent of current participants believed that reduced arrearages was a benefit of the program, compared to 54 percent of past participants. Inactive CRP customers were less likely than other CRP customers to agree that lower gas bills and reduced arrearages were benefits of the program.

**Table V-25
Benefits of the CRP – Prompted**

Do you feel lower energy bills are a benefit of the program? Do you feel a reduction in your past due balance or in the amount of past bills that were not paid is a benefit of the program? Do you feel not having your gas service turned off is a benefit of the program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Lower energy bills	92%	84%	87%	85%	69%	88%	79%
Reduced arrearages	69%	71%	84%	69%	56%	74%	54%
Keeping gas service	85%	77%	95%	82%	89%	88%	80%

Participants were then asked what they felt was the most important benefit of the program. Table V-26 shows that the largest share of current participants, 31 percent, said that keeping their gas service turned on was the most important benefit of the program. Twenty-six percent of past participants agreed that this was the most important benefit. The second most common benefit mentioned was even payments. Twenty-eight percent of current participants and 26 percent of past participants said that even monthly payments was the most important benefit of the program. Current and past participants were also likely to say that lower gas bills and reduced arrearages were the most important benefit of the CRP. Curable/defaulted CRP customers were more likely than other CRP customers to say that keeping their gas service turned on was the most important benefit of the program.

**Table V-26
Most Important Benefit of the CRP**

What do you feel is the most important benefit of the program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Keeping gas service	25%	26%	45%	28%	31%	31%	26%
Even monthly payments	33%	28%	21%	19%	25%	28%	26%
Lower gas bills	17%	10%	13%	20%	25%	18%	15%
Reduced arrearages	8%	10%	5%	7%	8%	8%	8%
Receive assistance	3%	0%	7%	7%	0%	3%	4%

What do you feel is the most important benefit of the program?							
Customer service	2%	2%	0%	2%	0%	1%	2%
None	1%	2%	0%	4%	6%	1%	6%
Other	6%	2%	2%	2%	6%	5%	2%
Confused CRP with CWP	0%	2%	0%	2%	0%	1%	0%
Don't know	5%	20%	7%	9%	0%	5%	1%
Refused	1%	0%	0%	0%	0%	1%	0%

Table V-27 displays the amount of money that respondents said they save on a typical monthly gas bill in the winter months as a result of the CRP. Fourteen percent of current participants said that they saved between \$1 and \$50 on a typical bill, and 37 percent said that they saved more than \$50. In comparison, five percent of past participants said they received between \$1 and \$50, and 35 percent said they saved more than \$50.

Seven percent of current participants and 13 percent of past participants said that they did not receive any savings on a typical monthly gas bill. Almost half of respondents said they did not know how much money they saved on a typical bill. Suspended CRP customers were more likely than those in other CRP statuses to say that they did not know how much money they saved.

Table V-27
Money Saved on a Typical Gas Bill in the Winter Months
As a Result of CRP Participation

How much money does the CRP save you on a typical monthly gas bill in the winter months?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
\$1 - \$25	5%	0%	2%	6%	3%	4%	2%
\$26 - \$50	10%	8%	11%	6%	3%	10%	3%
\$51 - \$100	22%	14%	14%	9%	22%	18%	18%
\$101 or more	17%	22%	27%	11%	17%	19%	17%
None	4%	10%	9%	11%	17%	7%	13%
Don't know	43%	47%	38%	57%	39%	42%	48%

Customers were asked to report their arrearages at the time they enrolled in the CRP, arrearages at the time of the survey, and arrearages at the time they were removed from the CRP. Table V-28 displays the responses to these questions. This table shows that current participants perceive a small decline in their arrears since the time that they began participating in the CRP. Past participants perceive a decline in their arrears from the time that they enrolled in the CRP to the time that they were removed from the program.

Non-participants were most likely to report that they do not currently have an arrearage. Forty percent of non-participants reported that they did not have an arrearage. However, 28 percent reported that they have an arrearage between \$100 and \$500, indicating a need for a payment assistance program.

**Table V-28
Customer Arrearages
At CRP Enrollment, Survey Response Date, and Program Removal**

	How much money did you owe PGW for past due balances or for past bills that were not paid before participating in the CRP?		How much money do you currently owe PGW for past due balances or for past bills that were not paid?			How much money did you owe PGW for past due balances or for past bills that were not paid when you left the CRP?
	Arrearages Prior to Enrolling in the CRP		Current Arrearages			Arrearages at Removal
	Current Participants	Past Participants	Current Participants	Past Participants	Non-Participants	Past Participants
\$1-100	1%	2%	3%	2%	11%	2%
\$101-500	13%	7%	15%	7%	28%	10%
\$501-1000	19%	24%	14%	14%	4%	15%
\$1001-2000	15%	13%	12%	7%	4%	4%
\$2001 or more	10%	12%	6%	19%	4%	14%
None	14%	3%	19%	19%	40%	19%
Don't Know	28%	40%	31%	32%	11%	37%

Customers were asked how much arrearage forgiveness they received each month if they reported that they had arrearages. Table V-29 shows that only 12 percent of customers could provide a dollar estimate of their arrearage forgiveness.

**Table V-29
Customer Awareness of Arrearage Forgiveness
Current Participants**

How much of what you owe PGW for past due balances or for past bills that were not paid is forgiven each month? ¹						
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants
Dollar amount greater than \$0	12%	24%	16%	5%	5%	12%
\$0 / None	15%	24%	12%	32%	20%	17%
Don't know	51%	52%	69%	55%	70%	57%
Reported no arrears	22%	0%	4%	9%	5%	14%

¹This question was only asked of current participants.

Current participants who reported that they currently have an arrearage and that they currently receive arrearage forgiveness were asked whether arrearage forgiveness makes them more likely to pay their gas bill. Table V-30 shows that all of these customers said that that arrearage forgiveness made them more likely to pay their bill. However, only 11 percent of customers reported that they receive arrearage forgiveness.

Table V-30
Impact of Arrearage Forgiveness on Bill Payment
Current Participants

Does this forgiveness of money owed for past due balances or for past bills that were not paid make you more likely to pay your gas bill? ¹						
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants
Yes	12%	20%	12%	5%	5%	11%
No	0%	4%	2%	0%	0%	0%
Don't know	0%	0%	2%	0%	0%	0%
Reported no arrears or unaware of arrearage forgiveness	88%	76%	84%	95%	95%	88%

¹This question was only asked of current participants.

F. Energy Assistance Benefits

One of the requirements for CRP participation is that CRP participants must apply for LIHEAP benefits and assign those benefits to PGW. The survey asked respondents whether they applied for energy assistance benefits from LIHEAP in the past 12 months. Table V-31 shows that 79 percent of current participants reported that they applied for LIHEAP in the past 12 months, compared to 56 percent of past participants and 68 percent of non-participants. Curable and defaulted CRP customers were more likely than those in other CRP statuses to report that they applied for LIHEAP.

Table V-31
Respondent Applied for LIHEAP

In the past 12 months, did you or any member of your household apply for LIHEAP?								
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants
Yes	76%	63%	84%	67%	69%	79%	56%	68%
No	23%	37%	16%	30%	31%	20%	43%	28%
Don't know	1%	0%	0%	4%	0%	1%	1%	2%
Refused	0%	0%	0%	0%	0%	0%	0%	2%

The survey asked respondents whether they received energy assistance benefits from LIHEAP in the past 12 months. Table V-32 shows that 62 percent of current participants reported that they received LIHEAP in the past 12 months, compared to 30 percent of past participants and 51 percent of non-participants. Curable and defaulted CRP customers were more likely than those in other CRP statuses to report that they received LIHEAP benefits.

Table V-32
Respondent Received LIHEAP Benefits

In the past 12 months, did you or any member of your household receive home energy assistance benefits from LIHEAP?								
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants
Yes	60%	45%	68%	35%	47%	62%	30%	51%
No	12%	16%	12%	32%	22%	14%	26%	14%
Don't know	4%	2%	4%	0%	0%	3%	0%	4%
Did not apply or do not know if applied	24%	37%	16%	33%	31%	21%	44%	32%

Table V-33 shows that 59 percent of current participants reported that they received LIHEAP and assigned their LIHEAP benefits to PGW, compared to 25 percent of past participants and 49 percent of non-participants. Curable/defaulted CRP customers were more likely than other CRP customers to report that they assigned LIHEAP benefits to PGW.

Table V-33
Respondent Assigned LIHEAP Benefits to PGW

Did you assign the LIHEAP grant to PGW?								
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants
Yes	58%	41%	68%	30%	39%	59%	25%	49%
No	0%	4%	0%	4%	8%	2%	4%	2%
Don't know	2%	0%	0%	2%	0%	1%	1%	0%
Did not receive LIHEAP	40%	55%	32%	64%	53%	38%	70%	49%

Table V-34 shows that 94 percent of current participants and 97 percent of non-participants who received LIHEAP benefits reported that they assigned their benefits to PGW, compared to 84 percent of past participants who received LIHEAP benefits. All of the curable and defaulted customers who reported that they received LIHEAP, said that they awarded those benefits to PGW.

Respondents who reported that they did not assign their LIHEAP benefits to PGW were most likely to say that they assigned their benefits to PECO or to their electric company. They were likely to say that they assigned their LIHEAP benefits to a company other than

PGW because they needed the grant on another account to retain utility service or because they owed more money to another company (table not shown).

Table V-34
Percent of LIHEAP Recipients Who Assigned LIHEAP Benefits to PGW

Did you assign the LIHEAP grant to PGW?								
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Current Participants ⁶	Past Participants ⁷	Non- Participants ⁸
Yes	97%	91%	100%	84%	82%	94%	84%	97%
No	0%	9%	0%	11%	18%	3%	13%	3%
Don't know	3%	0%	0%	5%	0%	2%	3%	0%

¹64 Respondents. ²23 Respondents. ³38 Respondents. ⁴19 Respondents. ⁵17 Respondents. ⁶135 Respondents. ⁷26 Respondents. ⁸29 Respondents.

Respondents who reported that they did not apply for LIHEAP benefits were asked why they did not apply for LIHEAP. Table V-35 shows that the largest share of current and past participants said that they did not have time to apply for LIHEAP benefits.⁴⁰ The largest share of non-participants said that they did not know about LIHEAP. Other reasons that respondents gave for not applying for LIHEAP were that they did not have proper income documentation, their income is too high to qualify for benefits, and that they did not know how to apply or where to apply for benefits.

Table V-35
Reason Respondents Did Not Apply for LIHEAP

Why did you not apply for LIHEAP?								
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Current Participants ⁶	Past Participants ⁷	Non- Participants ⁸
Did not have time to apply	52%	5%	22%	38%	18%	39%	23%	0%
Did not know about LIHEAP	20%	11%	11%	19%	9%	15%	15%	31%
Did not have income documentation	8%	11%	0%	0%	9%	9%	4%	0%
Income too high	4%	26%	23%	19%	18%	3%	30%	25%
Did not know how to apply	4%	21%	0%	0%	27%	12%	8%	13%
Did not know where to apply	0%	5%	0%	0%	0%	1%	0%	0%
Applied, denied benefits	8%	0%	0%	0%	9%	9%	0%	0%
Other	4%	26%	11%	13%	9%	6%	17%	25%

⁴⁰ Customers can apply for LIHEAP by mail or online. In addition, each year, DPW sends a pre-printed application to any household that has received LIHEAP benefits in the past year.

Why did you not apply for LIHEAP?								
	Active ¹	Broken ²	Curable/Defaulted ³	Suspended ⁴	Inactive ⁵	Current Participants ⁶	Past Participants ⁷	Non-Participants ⁸
Don't know	0%	5%	33%	13%	9%	10%	4%	6%

¹25 Respondents. ²19 Respondents. ³9 Respondents. ⁴16 Respondents. ⁵11 Respondents. ⁶42 Respondents. ⁷38 Respondents. ⁸16 Respondents.

The survey asked respondents whether they applied for energy assistance benefits from UESF in the past 12 months. Table V-36 shows that only six percent of current participants, eight percent of past participants, and four percent of non-participants reported that they applied for UESF benefits in the past 12 months.

**Table V-36
Respondent Applied for UESF**

In the past 12 months, did you or any member of your household apply for an energy assistance grant from UESF?								
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non-Participants
Yes	7%	10%	9%	4%	3%	6%	8%	4%
No	86%	84%	88%	91%	94%	87%	91%	91%
Don't know	8%	6%	4%	6%	3%	7%	1%	5%

The survey asked respondents whether they received energy assistance benefits from UESF in the past 12 months. Table V-37 shows that only three percent of current and past participants and two percent of non-participants reported that they received benefits from UESF. All PGW customers who said that they received grants from UESF reported that they assigned their grants to PGW (table not shown).

**Table V-37
Respondent Received UESF Benefits**

In the past 12 months, did you or any member of your household receive an energy assistance grant from UESF?								
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non-Participants
Yes	3%	6%	3%	4%	0%	3%	3%	2%
No	3%	2%	5%	0%	3%	2%	5%	2%
Don't know	1%	2%	0%	0%	0%	1%	0%	0%
Did not apply or do not know if applied	94%	90%	91%	96%	97%	94%	92%	97%

LIHEAP benefits are credited to the CRP discount, and do not decrease the CRP customer's monthly bill or arrearage. The survey included a question to determine whether the participants understood this element of the Program. Current participants who reported that they received benefits from LIHEAP in the past 12 months were asked how their LIHEAP grants are credited to their gas accounts. Table V-38 shows that only 13 percent of current participants who received LIHEAP benefits reported that their LIHEAP benefits are credited

to their CRP subsidy. About 20 percent of current participants reported that their LIHEAP benefits are credited to arrearages and to their current bill.

Table V-38
LIHEAP Benefit Crediting
Current Participants

How does PGW credit your LIHEAP benefits to your gas bill?						
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Current Participants ⁶
To past arrearages/balance	16%	8%	23%	27%	40%	21%
To current amount due	20%	12%	17%	18%	40%	20%
To CRP subsidy/credit	13%	8%	9%	27%	20%	13%
Does not reduce what I owe	0%	8%	0%	0%	0%	1%
Other	7%	0%	3%	9%	0%	5%
Don't know	46%	58%	57%	27%	10%	44%
Refused	2%	0%	0%	0%	0%	1%

¹61 Respondents. ²12 Respondents. ³35 Respondents. ⁴11 Respondents. ⁵10 Respondents. ⁶129 Respondents.

The survey asked whether current participants who received benefits from LIHEAP or the UESF had any questions or concerns about the way that their benefits are credited. Table V-39 shows that only 17 percent said that they do have concerns about the procedure. Some respondents who reported concerns said that they did not understand how grants were applied to their gas bill, that they did not understand how grant dollars were allocated, and that the procedure to credit grant dollars to their gas bill took too much time.

Table V-39
Concerns About the Way in Which LIHEAP or
UESF Benefits are Credited to Account
Current Participants

Do you have any questions or concerns about the way your LIHEAP or UESF grants are credited to your gas bill?						
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Current Participants ⁶
Yes	13%	25%	31%	8%	10%	17%
No	82%	75%	69%	92%	90%	80%
Don't know	3%	0%	0%	0%	0%	2%
Refused	2%	0%	0%	0%	0%	1%

¹61 Respondents. ²12 Respondents. ³35 Respondents. ⁴12 Respondents. ⁵10 Respondents. ⁶130 Respondents.

G. Financial Obligations and Bill Payment Difficulties

Payment-troubled customers may not pay their gas bill in full, or they may pay their gas bill at the expense of other household necessities, such as food, mortgage or rent, or medical care. This section examines the financial difficulties that survey respondents reported.

Current and past participants were asked how difficult it was to make their monthly gas payments prior to enrolling and while they were enrolled in the CRP. Table V-40 shows that 63 percent of current participants and 68 percent of past participants said that it was very difficult to pay their gas bills prior to participating in the CRP, compared to 15 percent of current participants and 24 percent of past participants who said it was very difficult to pay their gas bills while enrolled in the program. These data demonstrate that customers perceive that the CRP increased the affordability of their gas bills. Active CRP customers were less likely than other CRP customers to say that it was very difficult to pay their gas bills prior to participating in the CRP and while they were enrolled in the program.

Non-participants were asked how difficult it was to make their monthly gas bill payments in the past 12 months. Forty-four percent of non-participants said that it was very difficult to make their gas bill payments in the past 12 months, and 32 percent said it was somewhat difficult. In comparison, 63 percent of current participants and 68 percent of past participants reported that it was very difficult to make their gas bill payments prior to enrolling in the CRP. This shows that non-participants do not perceive the same need for the CRP as current and past participants.

**Table V-40
Gas Bill Payment Problems**

How difficult was/is it to make your monthly PGW payments?										
	Active		Broken		Curable/Defaulted		Suspended		Inactive	
	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP
Very difficult	52%	9%	71%	27%	79%	18%	76%	15%	69%	31%
Somewhat difficult	26%	28%	20%	51%	16%	45%	7%	39%	17%	36%
Not too difficult	8%	37%	6%	16%	0%	18%	7%	32%	0%	14%
Not at all difficult	12%	24%	2%	6%	4%	18%	6%	15%	11%	19%
Don't know	0%	1%	0%	0%	0%	2%	0%	0%	0%	0%

How difficult was/is it to make your monthly PGW payments?					
	Current Participants		Past Participants		Non-Participants
	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	In the Past 12 Months
Very difficult	63%	15%	68%	24%	44%
Somewhat difficult	20%	34%	20%	41%	32%
Not too difficult	5%	29%	4%	23%	16%
Not at all difficult	10%	1%	6%	13%	5%
Don't know	1%	1%	3%	0%	4%
Refused	1%	0%	0%	0%	0%

Current and past participants were asked to report whether they had to forego paying for the following necessities in order to make ends meet:

- Food
- Medicine
- Medical or dental service
- Mortgage or rent
- Telephone or cable
- Credit card or loan
- Car payment

Table V-41 shows that current and past participants were less likely to report that they had to forego or delay spending on these other bills while they were enrolled in the CRP than they were prior to participating in the program. While 64 percent of current participants and 66 percent of past participants said that they had to forego or delay spending on food prior to participating in the CRP, 34 percent of current participants and 42 percent of past participants said that they had to do so while participating in the program. In general, active CRP customers reported that they had to forego or delay spending on these other bills while they were enrolled in the CRP at lower rates than other CRP customers.

Non-participants were asked whether they had to forego or delay paying for other household necessities in the past 12 months. Non-participants reported that they had to forego or delay most of these necessities at higher rates than current participants did while participating in the CRP, but not at the rates that current and past participants reported prior to enrolling in the CRP.

**Table V-41
Other Bill Payment Problems**

In the year before participating in the CRP / While participating in the CRP, did you ever have to delay or skip paying the following bills or service in order to make ends meet?										
	Active		Broken		Curable/Defaulted		Suspended		Inactive	
	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP
Food	56%	25%	75%	45%	77%	46%	76%	46%	58%	39%
Medicine	34%	15%	39%	24%	43%	29%	41%	35%	39%	25%
Medical or dental	28%	14%	37%	20%	36%	27%	26%	20%	31%	25%
Mortgage or rent	35%	15%	67%	41%	63%	32%	48%	28%	39%	19%
Telephone or cable	43%	22%	77%	51%	59%	31%	52%	30%	56%	50%
Credit card or loan	16%	8%	26%	16%	20%	11%	13%	7%	17%	6%
Car payment	8%	4%	8%	8%	14%	5%	7%	6%	11%	0%

In the year before participating in the CRP / While participating in the CRP, did you ever have to delay or skip paying the following bills or service in order to make ends meet?					
	Current Participants		Past Participants		Non-Participants
	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	In the Past 12 Months
Food	64%	34%	66%	42%	53%
Medicine	35%	20%	44%	30%	30%
Medical or dental	29%	18%	34%	25%	26%
Mortgage or rent	42%	21%	53%	29%	25%
Telephone or cable	52%	30%	54%	39%	42%
Credit card or loan	18%	9%	16%	7%	23%
Car payment	8%	3%	14%	6%	7%

Customers who reported that they experienced a bill payment difficulty were asked how frequently they faced this problem. Table V-42 shows that current and past participants reported that they experienced bill payment difficulties with lower frequency than they did prior to enrolling in the program.

**Table V-42
Frequency of Bill Payment Difficulty**

In the year before participating in the CRP / While participating in the CRP, did you ever have to delay or skip paying the following bills or service in order to make ends meet?												
	Active				Broken				Curable/Defaulted			
	Prior to Enrolling in the CRP		While Enrolled in the CRP		Prior to Enrolling in the CRP		While Enrolled in the CRP		Prior to Enrolling in the CRP		While Enrolled in the CRP	
	Always	Freq	Always	Freq	Always	Freq	Always	Freq	Always	Freq	Always	Freq
Food	6%	18%	5%	2%	12%	18%	12%	8%	13%	20%	4%	5%
Medicine	5%	12%	4%	4%	8%	8%	4%	4%	7%	9%	3%	7%
Medical or dental	2%	8%	2%	3%	6%	12%	4%	10%	9%	4%	5%	4%
Mortgage or rent	4%	12%	3%	5%	14%	12%	8%	8%	9%	4%	4%	2%
Telephone or cable	5%	9%	3%	3%	20%	22%	8%	8%	7%	11%	2%	4%
Credit card or loan	2%	4%	2%	0%	8%	4%	4%	0%	5%	4%	2%	2%
Car payment	1%	2%	1%	0%	0%	4%	2%	2%	0%	2%	0%	2%

In the year before participating in the CRP / While participating in the CRP, did you ever have to delay or skip paying the following bills or service in order to make ends meet?									
	Suspended				Inactive				
	Prior to Enrolling in the CRP		While Enrolled in the CRP		Prior to Enrolling in the CRP		While Enrolled in the CRP		
	Always	Freq	Always	Freq	Always	Freq	Always	Freq	
Food	13%	15%	4%	12%	14%	19%	17%	14%	
Medicine	9%	13%	4%	6%	8%	11%	11%	6%	
Medical or dental	6%	9%	0%	4%	6%	14%	11%	8%	
Mortgage or rent	4%	11%	2%	6%	11%	6%	11%	0%	
Telephone or cable	7%	13%	4%	6%	14%	17%	8%	14%	
Credit card or loan	0%	4%	0%	0%	6%	8%	0%	6%	
Car payment	0%	2%	0%	0%	3%	3%	0%	0%	

In the year before participating in the CRP / While participating in the CRP, did you ever have to delay or skip paying the following bills or service in order to make ends meet?										
	Current Participants				Past Participants				Non-Participants	
	Prior to enrolling in the CRP		While enrolled in the CRP		Prior to enrolling in the CRP		While enrolled in the CRP		In the past 12 months	
	Always	Freq	Always	Freq	Always	Freq	Always	Freq	Always	Freq
Food	9%	19%	6%	5%	12%	16%	11%	10%	7%	14%
Medicine	6%	10%	4%	3%	9%	14%	7%	10%	5%	7%
Medical or dental	4%	9%	4%	4%	7%	11%	5%	7%	2%	9%
Mortgage or rent	6%	8%	4%	4%	9%	15%	7%	5%	4%	5%

In the year before participating in the CRP / While participating in the CRP, did you ever have to delay or skip paying the following bills or service in order to make ends meet?										
	Current Participants				Past Participants				Non-Participants	
	Prior to enrolling in the CRP		While enrolled in the CRP		Prior to enrolling in the CRP		While enrolled in the CRP		In the past 12 months	
	Always	Freq	Always	Freq	Always	Freq	Always	Freq	Always	Freq
Telephone or cable	8%	13%	4%	5%	12%	10%	6%	8%	2%	1%
Credit card or loan	3%	4%	2%	2%	7%	5%	1%	0%	9%	2%
Car payment	1%	2%	1%	0%	2%	4%	0%	2%	0%	0%

Respondents were asked whether they used their kitchen stove or oven to provide heat in the past year, a dangerous practice that is sometimes used by low-income customers who cannot afford to pay their gas bills or service their heating systems. Table V-43 shows that about one-third of current and past participants reported that they used their kitchen stove or oven to provide heat in the year prior to enrolling in the CRP, compared to approximately 20 percent who reported that they did so while participating in the program. Twenty-two percent of non-participants said that they used their stove or oven to provide heat in the past 12 months.

**Table V-43
Use Kitchen Stove or Oven for Heat**

In the year before participating the CRP, did you use your kitchen stove or oven to provide heat? While participating in the CRP, have you used your kitchen stove or oven to provide heat?										
	Active		Broken		Curable/Defaulted		Suspended		Inactive	
	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP
Always	6%	0%	8%	4%	2%	2%	2%	7%	8%	14%
Frequently	4%	3%	6%	0%	6%	0%	7%	2%	8%	3%
Sometimes	21%	10%	35%	14%	25%	14%	30%	11%	28%	8%
Never/No	70%	86%	51%	82%	66%	84%	61%	80%	56%	75%
Don't know	0%	1%	0%	0%	2%	0%	0%	0%	0%	0%

In the year before participating the CRP, did you use your kitchen stove or oven to provide heat? While participating in the CRP, have you used your kitchen stove or oven to provide heat?					
	Current Participants		Past Participants		Non-Participants
	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	In the Past 12 Months
Always	5%	4%	5%	6%	2%
Frequently	6%	1%	5%	5%	4%
Sometimes	24%	12%	29%	10%	16%

In the year before participating the CRP, did you use your kitchen stove or oven to provide heat? While participating in the CRP, have you used your kitchen stove or oven to provide heat?					
	Current Participants		Past Participants		Non-Participants
	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	In the Past 12 Months
Never/No	65%	83%	61%	80%	79%
Don't know	0%	1%	0%	0%	0%

Respondents were asked whether there was a time that they could not use their main source of heat for one or more of the following reasons:

- Their heating system was broken and they were unable to pay for a repair or replacement
- The utility company discontinued their gas service because they were unable to pay their bill

Table V-44 shows that current and past participants were less likely to report that they did not have heat at the time that they were enrolled in the program than they were to report that they did not have heat in the year prior to enrollment.

Twenty-eight percent of current participants and 21 percent of past participants reported that they were not able to use their main source of heat because their heating system was broken in the year prior to enrolling in the CRP, compared to about 15 percent of current and past participants who reported that they faced this problem while they were enrolled in the program. Likewise, 31 percent of current participants and 37 percent of past participants reported that they were not able to use their main source of heat because their gas service was discontinued in the year prior to enrolling in the CRP, compared to 11 of current participants and 17 percent of past participants who reported that they faced this problem while enrolled in the program.

Sixteen percent of non-participants said that in the past 12 months, there was a time when they could not use their main source of heat because the heating system was broken, and 12 percent said they could not use their main source of heat because their gas service was discontinued.

Broken CRP customers were more likely than other CRP customers to report that they were not able to use their main source of heat because their gas service was discontinued in the year prior to enrolling in the CRP and while they were enrolled in the program.

**Table V-44
Main Source of Heat Was Not Available**

Was there ever a time when you wanted to use your main source of heat, but could not for one or more of the following reasons:										
	Active		Broken		Curable/Defaulted		Suspended		Inactive	
	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP
Your heating system broken and you were unable to pay for its repair or replacement	27%	11%	28%	12%	23%	22%	24%	19%	28%	17%
The utility company discontinued your gas service because you were unable to pay your bill	18%	7%	71%	35%	38%	13%	44%	17%	31%	11%

Was there ever a time when you wanted to use your main source of heat, but could not for one or more of the following reasons:					
	Current Participants		Past Participants		Non-Participants
	Prior to Enrolling in the CRP	While Enrolled in the CRP	Prior to Enrolling in the CRP	While Enrolled in the CRP	In the Past 12 Months
Your heating system broken and you were unable to pay for its repair or replacement	28%	15%	21%	14%	16%
The utility company discontinued your gas service because you were unable to pay your bill	31%	11%	37%	17%	12%

H. Program Impact

This section examines the impact the CRP has had on participants' lives. Current and past participants were asked how important the CRP has been in helping them meet their needs. Table V-45 shows that 70 percent of current participants reported that the CRP was very important in helping them to meet their needs, compared to 56 percent of past participants. Active and curable/defaulted CRP customers were more likely than other CRP customers to report that the CRP was very important in helping them to meet their needs.

**Table V-45
Importance of the CRP**

How important has the CRP been in helping you to meet your needs?							
	Active	Broken	Curable/Defaulted	Suspended	Inactive	Current Participants	Past Participants
Very important	74%	63%	70%	56%	56%	70%	56%
Somewhat important	16%	22%	14%	22%	14%	16%	18%

How important has the CRP been in helping you to meet your needs?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Of little importance	3%	0%	9%	7%	8%	4%	8%
Not at all important	4%	14%	6%	9%	17%	5%	17%
Don't know	4%	2%	2%	4%	6%	5%	0%
Refused	0%	0%	0%	2%	0%	0%	1%

Respondents were asked whether their gas usage changed while they participated in the CRP.⁴¹ Table V-46 shows that 39 percent of current participants and 30 percent of past participants said that their gas usage decreased while they were participating in the program. About one-quarter of current and past participants said that their usage increased,⁴² and approximately one-third said that their gas usage had not changed.

Respondents who reported that their gas usage had changed were asked why it had changed. CRP participants who reported that their gas usage had increased were likely to attribute their increase in usage to colder winter weather, faulty heating equipment, and inadequate weatherization. CRP participants who reported that their gas usage had decreased were likely to attribute their decrease in usage to their own efforts to reduce their gas usage, and to services from WAP or the Conservation Works Program (CWP).

Table V-46
Change in Gas Usage

While participating in the program, would you say that your gas usage was higher, lower, or has not changed in comparison to what it was before participating in the program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Higher	11%	20%	14%	15%	17%	22%	24%
Lower	16%	22%	21%	22%	22%	39%	30%
No change	65%	51%	61%	50%	56%	33%	37%
Don't know	8%	6%	4%	11%	6%	7%	9%
Refused	0%	2%	0%	2%	0%	0%	1%

All respondents were asked whether they need more assistance to pay their gas bill. Table V-47 shows that current participants were less likely than past participants and non-participants to say that they needed more assistance to pay their gas bill. Fifty-seven percent of current participants said that they needed more assistance, compared to 84 percent of past

⁴¹ This is a difficult question to ask low-income customers who have been shown to focus on their bill amount, rather than on the amount of gas used. Therefore, the accuracy of these responses may be subject to question.

⁴² Given the numbers of current and past participants who said that their gas usage had increased since enrolling in the CRP, PGW may want to consider re-instating an excess usage charge or introducing a cap on the CRP discount.

participants and 74 percent of non-participants. Active CRP customers were less likely than other CRP customers to say that they needed more assistance to pay their gas bill.

**Table V-47
Need Additional Assistance With Gas Bills**

Do you feel that you need additional assistance to pay your gas bill?								
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants	Non- Participants
Yes	45%	80%	73%	87%	75%	57%	84%	74%
No	50%	20%	27%	13%	22%	40%	16%	25%
Don't know	6%	0%	0%	0%	3%	4%	0%	2%

I. Program Success

This section examines the extent of program success among current and past CRP participants. Table V-48 displays the reasons that past participants said they are no longer enrolled in the program. Twenty-four percent said that they are no longer enrolled because they are no longer income eligible for the program. Fifteen percent said that they missed a payment and were removed from the CRP, and another 14 percent said that they did not re-certify for the program. Eleven percent of respondents did not see the benefit of the program and asked to be removed from the CRP. Inactive CRP customers were more likely than other past participants to report that they were no longer enrolled in the program because they were no longer income eligible for the CRP or because they did not see the benefit of the program and asked to be removed from the program.

**Table V-48
Reason No Longer Participating
Past Participants**

Why are you no longer participating in the CRP?						
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Past Participants
No longer income-eligible	0%	15%	14%	19%	44%	24%
Missed payment	20%	31%	29%	13%	0%	15%
Did not re-certify	0%	8%	14%	31%	6%	14%
Asked to be removed / Did not see benefit	0%	0%	0%	9%	25%	11%
Respondent is in CRP	20%	0%	14%	3%	13%	8%
Late payment	0%	12%	0%	0%	0%	3%
Other	40%	31%	14%	25%	6%	21%
Don't know	0%	8%	14%	0%	6%	5%

Why are you no longer participating in the CRP?						
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Past Participants
Refused	20%	0%	0%	3%	0%	3%

¹5 Respondents. ²26 Respondents. ³7 Respondents. ⁴32 Respondents. ⁵16 Respondents.

Past participants were asked whether there was anything else that PGW could have done to help them stay on the CRP. Sixty percent of respondents said that there was something else that PGW could have done (table not shown). Table V-49 shows that 16 percent of past participants said that PGW could have helped them stay on the CRP by improving communication and reminders about the program. Thirteen percent said that PGW could have helped them stay on the program by improving flexibility in payment arrangements, and another 11 percent said they could have lowered gas bills. Eleven percent of past participant said that PGW could have helped them stay on the CRP by making the re-certification and application processes easier.

Table V-49
How PGW Could Help Customers to Stay on the CRP
Past Participants

What could PGW have done to help you stay on the CRP?						
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Past Participants
Improve communication / reminders	40%	8%	0%	25%	13%	16%
Improve flexibility with payments	0%	19%	29%	9%	13%	13%
Lower bills	0%	19%	0%	16%	6%	11%
Make re-certification / application process easier	0%	0%	0%	16%	19%	11%
Nothing	0%	0%	0%	3%	0%	1%
Other	0%	12%	0%	0%	6%	5%
Don't know	20%	4%	0%	3%	0%	4%
PGW could not have helped	40%	39%	71%	31%	44%	41%

¹5 Respondents. ²26 Respondents. ³7 Respondents. ⁴32 Respondents. ⁵16 Respondents.

Broken, curable, and defaulted CRP customers were asked about the main reason that they were unable to pay one or more of their CRP bills. Table V-50 shows that the majority of respondents, 63 percent of broken CRP customers and 70 percent of curable/defaulted CRP customers, said that they did not pay one or more of their CRP bills because they did not have enough money for the bill. Other reasons that broken and curable/defaulted CRP customers gave for not paying one or more of their bills included unemployment, medical expenses, and that they forgot to pay the bill.

Table V-50
Main Reason Customers Were Unable to Pay One or More CRP Bills
Broken, Curable, and Defaulted CRP Customers

What was the main reason that you were unable to pay one or more of your CRP bills?				
	Broken	Curable/ Defaulted	Current Participants ¹	Past Participants ²
Could not afford it / Did not have enough money	63%	70%	70%	60%
Unemployment	18%	16%	13%	25%
Medical expenses	6%	7%	6%	10%
Forgot to pay bill	2%	0%	1%	0%
Other	10%	5%	8%	6%
Don't know	2%	2%	3%	0%

¹74 Respondents. ²33 Respondents.

Broken, curable, and defaulted CRP customers were asked about their understanding of what PGW would do if they did not pay their CRP bills. Table V-51 shows that the largest share of respondents, 43 percent of broken CRP customers and 56 percent of curable/defaulted CRP customers, said that PGW would terminate their gas service if their missed one or more of their CRP bills. Thirty-seven percent of broken CRP customers and 39 percent of curable/defaulted CRP customers said that PGW would remove them from the CRP if they did not pay one or more of their CRP bills.

Table V-51
Customer's Understanding of What PGW Would Do If Customers
Did Not Pay Their CRP Bills – Unprompted
Broken, Curable, and Defaulted CRP Customers

What was your understanding of what PGW would do if you did not pay your CRP bills?				
	Broken	Curable/ Defaulted	Current Participants ¹	Past Participants ²
PGW would terminate customer's gas service	43%	56%	52%	46%
Customer would have to make up missed payments	8%	4%	4%	8%
PGW would remove customer from program	37%	39%	38%	38%
PGW would suspend customer from program	8%	7%	8%	6%
Nothing	2%	0%	1%	0%
Other	2%	0%	1%	0%
Don't know	12%	7%	8%	11%

¹74 Respondents. ²33 Respondents.

After the unprompted question about consequences of not paying their CRP bills, broken and curable/defaulted CRP customers were asked specifically whether they were aware that PGW would terminate their gas service and that they would have to make up the missed

payments. Table V-52 displays the responses to these questions. Curable/defaulted CRP customers were more likely than broken customers to be aware that PGW would terminate their gas service and that they would have to make up their missed payments. Eighty-six percent of broken CRP customers and 96 percent of curable/defaulted customers were aware that PGW would terminate their gas service if they did not pay one or more of their CRP bills. Sixty-nine percent of broken CRP customers and 80 percent of curable/defaulted customers were aware that they would have to make up their missed payments if they did not pay one or more of their CRP bills.

Table V-52
Customer's Understanding of What PGW Would Do If Customers
Did Not Pay Their CRP Bills – Prompted
Broken, Curable, and Defaulted CRP Customers

Did you know that PGW would do the following if you did not pay your CRP bills:				
	Broken	Curable/ Defaulted	Current Participants ¹	Past Participants ²
PGW would terminate customer's gas service	86%	96%	95%	85%
Customer would have to make up missed payments	69%	80%	73%	79%

¹74 Respondents. ²33 Respondents.

Past participants were asked whether they would re-enroll in the CRP if they were eligible. Table V-53 shows that 89 percent said they would re-enroll, nine percent said they would not re-enroll, and three percent said they did not know whether they would re-enroll.

Table V-53
Would Re-Enroll in CRP if Available
Past Participants

If you were currently eligible under program rules, would you be interested in re-enrolling in the program?						
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Past Participants
Yes	100%	92%	100%	94%	75%	89%
No	0%	4%	0%	6%	19%	9%
Don't know	0%	4%	0%	0%	6%	3%

¹5 Respondents. ²26 Respondents. ³7 Respondents. ⁴32 Respondents. ⁵16 Respondents.

Current participants were asked whether they would continue to participate in the CRP. Table V-54 shows that the majority of respondents, 89 percent, said that they were very likely to continue to participate, and six percent said that they are somewhat likely to continue to participate.

Table V-54
Likelihood of Continued Participation in the CRP
Current Participants

How likely are you to continue to participate in the program?						
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Current Participants
Very likely	90%	88%	86%	86%	90%	89%
Somewhat likely	5%	8%	8%	9%	5%	6%
Not too likely	1%	0%	0%	0%	5%	1%
Not at all likely	3%	0%	0%	0%	0%	2%
Don't know	0%	4%	6%	5%	0%	2%
Refused	1%	0%	0%	0%	0%	1%

¹102 Respondents. ²25 Respondents. ³49 Respondents. ⁴22 Respondents. ⁵20 Respondents.

Current participants were asked how long they would continue to participate in the CRP. Table V-55 shows that 78 percent of respondents said that they would continue to participate as long as they were income-eligible, and another five percent said they would continue to participate until the program ends. Eleven percent of respondents did not know how long they would continue to participate.

Table V-55
How Long Customer Will Participate in the CRP
Current Participants

How long do you think you will continue to participate in the program?						
	Active ¹	Broken ²	Curable/ Defaulted ³	Suspended ⁴	Inactive ⁵	Current Participants
0 – 12 months	2%	0%	0%	0%	0%	2%
More than 12 months	1%	0%	6%	5%	0%	2%
Until the Program ends	5%	12%	4%	0%	5%	5%
As long as income-eligible	76%	76%	80%	91%	85%	78%
Other	4%	0%	0%	0%	0%	2%
Don't know	13%	12%	10%	5%	10%	11%

¹102 Respondents. ²25 Respondents. ³49 Respondents. ⁴22 Respondents. ⁵20 Respondents.

J. Customer Satisfaction with the CRP

This section examines current and past participants' satisfaction with the CRP. Table V-56 shows that 94 percent of current participants said that they were somewhat satisfied or very satisfied with the program, compared to 82 percent of past participants. Active participants

were more likely than CRP customers in other statuses to say that they were very satisfied with the program.

Table V-56
Program Satisfaction

Overall, how satisfied were you with the program?							
	Active	Broken	Curable/ Defaulted	Suspended	Inactive	Current Participants	Past Participants
Very satisfied	71%	61%	61%	56%	64%	69%	54%
Somewhat satisfied	23%	22%	29%	33%	25%	25%	28%
Somewhat dissatisfied	2%	4%	2%	4%	3%	2%	3%
Very dissatisfied	4%	2%	8%	4%	6%	2%	10%
Don't know	0%	4%	7%	2%	3%	2%	4%
Refused	0%	2%	0%	2%	0%	0%	1%

Current and past participants were asked whether they had any recommendations for improvement to the CRP. Table V-57 shows that eight percent of current participants and 14 percent of past participants said that the program could be improved by lowering monthly payments. Other recommendations included improving communication about the program, making the re-certification and application processes easier, offering better customer service or more office hours, increasing flexibility in payment arrangements, crediting LIHEAP benefits to the customer's bill or arrearage, and explaining the gas bill more clearly. Answers total more than 100 percent because respondents could provide more than one answer.

Table V-57
Recommendations for Program Improvement

Do you have any recommendations for improvements to the program?		
	Current Participants	Past Participants
Lower payments	8%	14%
Improve communication about the program	5%	9%
Make re-certification / application process easier	4%	10%
Offer better customer service / more office hours	4%	7%
Flexibility in payment arrangements	3%	4%
Credit LIHEAP benefits to bill / arrearage	3%	2%
Explain bill and charges better	2%	2%
Offer Weatherization/energy efficiency services	2%	0%
Offer more programs to help with bills	1%	2%

Do you have any recommendations for improvements to the program?		
	Current Participants	Past Participants
Other	3%	2%
Don't know	1%	4%
No recommendations	68%	47%

K. Summary of Customer Survey Findings

Key findings from the customer survey are summarized below.

- *Indicators of Need for the Customer Responsibility Program:* Past participants showed less of a need for CRP benefits than current and non-participants. They are more likely to have annual income above \$20,000 and to receive employment income, and are less likely to receive public assistance, non-cash benefits, or LIHEAP. However, past participants are more likely to have disabled household members.
- *Participation in the Customer Responsibility Program:* Non-participants are not likely to report that they know about the CRP. Only 19 percent of non-participants said that they were aware of the program. Those who were aware of the program were likely to have heard about it through informational mailings, customer service representatives, or friends or relatives. Non-participants who know about the program did not enroll because they believe their income is too high or they do not think they need energy assistance.

Current and past participants reported that they heard about the CRP through a customer service representative, an agency, a friend or relative, or an informational mailing and that they enrolled in the program to reduce their bills, to reduce their arrearages, or because they have a low-income. They reported that the enrollment was generally not difficult.

- *Re-Certification and Reasons for Not Re-Certifying:* Current participants were more likely than past participants to report that they have re-certified for the CRP. Most current and past participants who have re-certified for the CRP reported that the process was not difficult. Ten percent of current participants and 12 percent of past participants reported that the re-certification process was somewhat or very difficult.

Fifty-seven percent of suspended CRP customers were aware that they had been suspended from the program because of a failure to re-certify. Twenty-two percent of suspended CRP customers reported that they received a re-certification notice, and 15 percent reported that they responded to the notice. However, PGW's computer system automatically generates re-certification notices, and all customers should have received these notices.

- *Understanding of the CRP:* Current participants were more likely than past participants to report that they understood the CRP. Most current and past participants reported that their responsibility was to keep up with payments, and that they were required to notify PGW if their income changed. Customers were less likely to know the duration of the program.

Current and past participants were most likely to state that keeping their gas service and even monthly payments were benefits of participating in the program. Other common benefits that customers cited were lower gas bills and reduced arrearages.

Nearly half of current and past participants reported that they did not know how much money the CRP saved them on a typical gas bill in the winter months. Current participants perceived a small decline in their arrears since the time that they began participating in the CRP. Past participants perceived a decline in their arrears from the time that they enrolled in the CRP to the time that they were removed from the program.

Non-participants were most likely to report that they do not currently have an arrearage. About 11 percent of current customers said that the arrearage forgiveness that they receive makes them more likely to pay their bills.

- *Energy Assistance Benefits:* Current participants were more likely than past and non-participants to report that they applied for and received LIHEAP benefits. The majority of respondents who received LIHEAP benefits assigned them to PGW. Respondents who did not apply for LIHEAP were likely to say that they did not apply because they did not have time to apply, did not know about LIHEAP, did not know where to apply, or because their income was too high to qualify.

Only 13 percent of current participants reported that their LIHEAP benefits are credited to their CRP subsidy. Seventeen percent of current participants who received benefits reported that they had concerns about how their LIHEAP or UESF benefits are credited. These respondents were likely to say that they did not understand how grant dollars were applied to their gas bill, that they did not understand how grant dollars were allocated, or that the procedure to credit grant dollars to their gas bill took too much time.

- *Financial Obligations and Bill Payment Difficulties:* Current and past participants felt that the CRP had a large impact on their ability to pay their gas bills. While 63 percent of current participants said that it was very difficult to pay their gas bills prior to participating in the program, only 15 percent said that it was very difficult to pay their bills while participating in the program. Sixty-eight percent of past participants said that it was very difficult to pay their bills prior to participating in the program, compared to 24 percent who said it was very difficult to pay their bills while participating in the program. Active CRP customers were less likely than other CRP customers to say that it was very difficult to pay their gas bills prior to participating in the CRP and while they were enrolled in the program.

Current and past participants also reported that the CRP helped them to meet their other needs. While 64 percent of current participants said that they had to forego or delay spending on food prior to participating in the program, 34 percent said that they had to do so while participating in the program. Likewise, 66 percent of past participants said that they had to forego or delay spending on food prior to participating in the program, while 42 percent said that they had to do so while participating in the program. They were less likely to say that they had to forego several other bills as well while they were on the CRP.

While non-participants were less likely than current and past participants to report bill payment difficulties, they also showed a need for the program. Forty-four percent said that it was very difficult to pay their gas bills, 53 percent said that they had to forego or delay spending on food, and 12 percent said that there was a time in the past year that they could not use their main source of heat because their gas service was discontinued.

- *Program Impact:* Respondents reported that the CRP has been very important in helping them to meet their needs. Seventy percent of current participants reported that the program was very important, and 16 percent reported that it was somewhat important. Fifty-six percent of past participants reported that the program was very important, and 18 percent reported that it was somewhat important.

Respondents felt that they need additional assistance to pay their gas bills. Fifty-seven percent of current participants, 84 percent of past participants, and 74 percent of non-participants said that they need additional assistance.

- *Program Success:* Past participants were most likely to report that they were no longer participating in the CRP because they were no longer income-eligible, they missed a payment, they did not re-certify, or they asked to be removed because they did not see the benefit of the program. They felt that PGW could help customers to stay on the program by providing better communication and reminders about the program, greater flexibility with payments, lower payments, and an easier application and re-certification process. Most said that they would re-enroll in the program if they were eligible.

Broken, curable, and defaulted CRP customers were most likely to say that they were unable to pay one or more of their CRP bills because they did not have enough money, or due to unemployment or medical expenses. The majority of these respondents were aware that PGW would terminate their gas service and that they would have to make up the missed payments if they did not pay their CRP bills.

Most current participants were very or somewhat satisfied with the program. However, thirteen percent of past participants said that they were somewhat or very dissatisfied with the program. Most current participants said that they were very

likely to continue to participate in the program and would do so as long as they were income-eligible.

VI. Financial Analysis

This section of the report analyzes CRP customers' coverage of the variable and fixed costs of gas service, as well as the cost-benefit statistics of the CRP.

A. *CRP Customers' Coverage of Variable and Fixed Costs of Gas Service*

The CRP was originally developed to provide an affordable payment for low-income customers that still covered the variable cost and some of the fixed costs of gas service. Gas prices have risen dramatically over the past several years. PGW's cost of gas has increased from \$4.37/Mcf in 2002 to \$8.31/Mcf in 2005, a 90 percent increase. Given this rise in prices, PGW is concerned that customer payments and energy assistance grants may no longer cover the variable costs of serving these customers. This is a concern for the company, as it has suffered severe financial distress, and is now asking other low-income or near low-income customers to take responsibility for the growing CRP subsidies.

As part of this evaluation, APPRISE was asked to analyze the variable and fixed costs of providing gas service to CRP customers. These costs are compared to the amount that CRP customers pay for each unit of gas that they use. The theory is that if the customers cover the variable costs and contribute to the fixed costs of gas service, these customers lower the costs for the other ratepayers. While PGW does not have a choice of whether or not to serve these low-income customers, the rationale for this comparison relates to the argument that paying more than a certain amount for gas is unsustainable for low-income customers, and that a customer with bills above a certain level will eventually leave the system. However, there is no evidence to suggest that all customers would leave the system if the CRP was not available.

The comparison of the variable and fixed costs of gas to the amount that CRP customers pay is an analysis that PGW payment program evaluation reports have included since the introduction of the Energy Assistance Program (EAP) Pilot in 1988.⁴³ This analysis was required by the EAP advisory group and was part of the scope of work included in the RFP for the evaluation contract. Another method of determining the financial viability of the CRP is to compare bill coverage and collections costs under to the CRP to those that would be realized if the CRP was not available (as is done in the following section). The determination of which analysis method should be used to assess the financial viability of the CRP is a regulatory decision.

⁴³ Energy Assurance Program Pilot Year One Report, Response Analysis Corporation, January 1993.

PGW provided APPRISE with detailed breakdowns of commodity and administrative costs, and APPRISE developed a methodology for determining the variable and fixed costs of gas delivery.⁴⁴

The short-run variable cost of gas service is the cost to PGW of the commodity supplied to the CRP customers plus the demand costs that PGW could reduce in the short-term through capacity release. PGW estimates that the average 2004 cost was \$8.0789/Mcf. PGW averaged 58,573 customers on the CRP in 2004. The usage analysis found that CRP customers were using an average of 118 Mcf in 2004. Using these estimates, the total gas cost for CRP customers is estimated at \$55.8 million.

The short-run variable demand cost relates to the capacity release, or PGW's ability to sell unneeded gas transmission capacity to the supplier, marketer, or pipeline. PGW provided data that they received \$1.5 million in credits for capacity release of 12.9 million DTH. This converts to \$0.1196 per Mcf. This is the amount that PGW could obtain in the short-run by releasing the gas used by the CRP customers.

The long-run variable cost of the CRP includes PGW's gas cost, demand costs, plus the cost reduction they could achieve by removing these customers. This generally includes the labor costs of the department or function, except when otherwise noted, as PGW could cancel contracts in these areas if they were no longer serving the CRP customers. The length of time until the cost savings from removing the CRP customers could be achieved relates to the length of time for which these contracts are in place.

The costs included in the short-run variable cost and the long-run variable cost are described below and are included in Table VI-1.

- *Demand Cost:* The demand cost is the amount that PGW must pay to reserve capacity from the gas supplier. This is meant to cover the supplier's cost of providing the capacity to deliver PGW's maximum demand.
- *Customer Affairs:* These are the costs that the Customer Affairs Department incurs for work related to the CRP.
- *Call Center:* The call center is responsible for answering customer calls. CRP customers call the customer service number to make a change in their service. However, the customer service representatives also handle payment-related issues, depending on the work-flow of the collections representatives.
- *District Offices:* The district offices enroll customers in the CRP, conduct CRP re-certification, handle LIHEAP applications, make payment agreements, and take customer payments.

⁴⁴ In 2002, PGW developed a methodology for estimating the percent of each function or department that relates to CRP customers. This methodology was approved by PGW's auditing department. Each year they interview the managers of the relevant departments and update the fraction of costs that are due to CRP customers. They then apply this percentage to the total costs for the department to determine the costs for CRP customers.

- *Dispute Resolution:* This department handles internal customer disputes that do not involve the Public Utility Commission.
- *Administration:* This is a small budget for general customer service administration and includes only the cost of some administrative staff.
- *Collections:* This department is responsible for phoning, mailing, and visiting customers who have not paid their PGW bills.
- *Accounts Management:* The budget for Accounts Management, as it relates to CRP, is calculated based on the time spend correcting CRP accounts that must be manually corrected in cases of bankruptcy, special prorates, and other issues.
- *Mail Receipts:* Includes the costs of applying payments to customer accounts.
- *Bill Prep:* This is an outsourced function that includes the creation and mailing of customer bills, as well as the mailing of 10-day notices.
- *Customer Review:* This includes the costs of responding to the BCS regarding customer disputes.
- *Field Services:* Includes all of the field work related to CRP customers such as service, shut-offs, and reconnections.

Table VI-1 shows the cost estimates.

- The short-run variable cost of serving the CRP customers is estimated at \$56.7 million, or \$8.1985/Mcf.
- The long-run variable cost of serving the CRP customers is estimated at \$65.7 million, or \$9.5047/Mcf.

Table VI-1
2004 CRP Customer Costs

Cost Component	Short-Run Variable Cost		Long-Run Variable Cost	
	Total Cost for CRP Customers	Cost Per Mcf	Total Cost for CRP Customers	Cost Per Mcf
Gas Cost	\$55,838,318	\$8.0789	\$55,838,318	\$8.0789
Demand Cost	\$826,630	\$0.1196	\$8,184,054	\$1.1841
Customer Affairs	\$0	\$0	\$144,954	\$0.0210
Customer Service – Call Center	\$0	\$0	\$748,144	\$0.1082
Customer Service – District Offices	\$0	\$0	\$259,593	\$0.0376
Customer Service – Dispute Resolution	\$0	\$0	\$9,722	\$0.0014

Cost Component	Short-Run Variable Cost		Long-Run Variable Cost	
	Total Cost for CRP Customers	Cost Per Mcf	Total Cost for CRP Customers	Cost Per Mcf
Customer Service – Admin	\$0	\$0	\$2,688	\$0.0004
Collections	\$0	\$0	\$110,408	\$0.0160
Accounts Management	\$0	\$0	\$28,650	\$0.0041
Mail Receipts	\$0	\$0	\$6,124	\$0.0009
Bill Prep	\$0	\$0	\$75,224	\$0.0109
Customer Review	\$0	\$0	\$10,460	\$0.0015
Field Services	\$0	\$0	\$274,150	\$0.0397
TOTAL	\$56,664,948	\$8.1985	\$65,692,489	\$9.5047

The payment analysis showed that 2003 CRP enrollee payments, in the year after CRP enrollment, averaged \$798 in cash payments and \$132 in assistance payments, for a total of \$931.⁴⁵ These customers averaged 118 Mcf in usage, for a rate of \$7.8898/Mcf in payments. The coverage rate of CRP customer costs was 96 percent for the short-run variable cost and 83 percent for the long-run variable cost.

Table VI-2
2004 Variable Cost and Payment Summary

	Cost/Mcf	Total Payments/Mcf	Cost Coverage Ratio
Short-Run Variable Cost	\$8.1985	\$7.8898	96.23%
Long-Run Variable Cost	\$9.5047	\$7.8898	83.01%

The analysis above showed that CRP customers covered 96 percent of the short-run variable costs in 2004, and did not cover any of the fixed costs. This implies that the other PGW customers provide a small subsidy to cover the costs of serving CRP customers. However, changes in several factors could change the calculations above.

1. *Gas prices:* If gas prices continue to increase and customer payments and assistance remain at the same level, a greater CRP subsidy will be required. If gas prices fall, CRP customer payments may cover the short and even long-run variable costs.

PGW reported that gas prices increased from an average of \$8.0789/Mcf in 2004 to an average of \$9.8127 in 2005, more than a 20 percent increase. If customer payments remained at the same level during this time period, customers would only cover 79 percent of the short-run variable costs of gas service.

⁴⁵ Some of these payments are credited toward arrearage forgiveness, rather than the current cost of gas service. However, we do not make this distinction in the financial analysis.

**Table VI-3
Cost and Payment Summary
2005 Gas Prices**

	Cost/Mcf	Total Payments/Mcf	Cost Coverage Ratio
Short-Run Variable Cost	\$9.9323	\$7.8898	79.44%
Long-Run Variable Cost	\$11.2385	\$7.8898	70.20%

2. *Weather*: The year that was analyzed was an average weather year. In a colder than normal year, the coverage rate will decrease and the subsidy will increase. In a warmer than normal year, the coverage rate will increase and the subsidy will decrease.
3. *LIHEAP*: Currently, LIHEAP makes up for an average of 14 percent of the payments received by CRP customers. If LIHEAP is reduced or eliminated, the coverage rate will decrease and the subsidy will increase. If LIHEAP is increased, the coverage rate will increase and the subsidy will decrease.

Another goal of the financial analysis is to examine the percentage of total costs of gas service that CRP payments cover. Table VI-4 examines the total costs of gas as of January 2006. This table shows that at this time, the commodity charge was \$12.5632 per Mcf, the distribution charge was \$6.6618 per Mcf, and the customer charge was \$1.2203 per Mcf, for a total cost of \$20.4453 per Mcf. CRP charges do not change with the cost of providing service, as they are based on the customer's income, and there is no reason to expect that CRP payments would change. Therefore, at the CRP payment rate of \$7.8898 per Mcf, CRP customers covered 39 percent of the costs of gas service.

**Table VI-4
Total Costs of Gas Service
January 2006**

	Per Mcf
Commodity Charge	\$12.5632
Distribution Charge	\$6.6618
Customer Charge	\$1.2203
Total Cost	\$20.4453
CRP Payments	\$7.8898
Coverage Rate	39%

There are opportunities for PGW to take actions to increase the coverage rate by increasing customer cash or energy assistance payments. Recommendations for changes that may achieve these goals are included in Section VIII.

B. CRP Cost-Benefit Calculation

The previous section compared the cost of providing gas to the CRP customers, to the cash and assistance payments received by these customers. This section analyzes whether it is more cost-effective for PGW to have customers participate in the CRP than to participate in the regular payment paths by comparing the change in bill coverage, administrative costs, and collections costs for CRP customers to those payments and costs for the non-CRP customers.

Administrative costs of serving CRP and non-CRP customers are approximately equal. Table VI-5 displays the net changes in shortfall, shutoffs, and collections actions experienced by CRP customers after enrolling in the program. This table shows that while collections and shutoff costs decreased by approximately \$16 per customer, shortfall increased by \$194, resulting in a net cost increase of \$178 for CRP participants.

Table VI-5
CRP Costs and Savings

Cost Category	Net Change	Cost Per Action	Cost Change
Shortfall	\$194	NA	\$194
Shutoffs			
Shutoff at Curb	-0.11	\$12.47	-\$1.37
Shutoff at Meter	-0.025	\$17.62	-\$0.44
Service Restoration			
Collections Actions			
Returned Check	-0.15	\$20	-\$3
Mail Action	-0.55	\$0.32	-\$0.176
Phone Action	0.1	\$2.25	\$0.225
Field Action	-1.05	\$10	-\$10.50
TOTAL			\$178

VII. Payment Program Design Options

This report describes the design of PGW's Customer Responsibility Program, and analyzes the impact of the program on customer payment behavior and program outcomes. Incremental changes to the program design are considered when making recommendations for potential program modifications. However, when analyzing the CRP and how the program may be designed to provide the greatest benefit for PGW's low-income customers and other ratepayers, it is important to consider the full range of program options that exist, and the potential advantages and disadvantages of these program alternatives. This section of the report summarizes the key elements of the PGW CRP, describes options for each element that have been implemented by other states and utilities, and summarizes advantages and disadvantages of each element based on our research and experience analyzing other program designs and outcomes. Four potential modifications to the program, implemented by other states and utilities, are put forth as potential program options for the CRP.

A. State or Utility Level Administration and Funding

Universal Service Programs in Pennsylvania are designed and implemented by the individual utility companies, under the direction and oversight of the Pennsylvania Public Utility Commission, Bureau of Consumer Services. The programs are funded through the individual utilities' customer bases.

Low income programs in New Jersey, Ohio (electric only), Maryland, and Wisconsin are statewide, run by a statewide program office or utility commission. Utility customers throughout the state receive the same program services and benefits. In some cases the benefits are distributed to customers throughout the state as needed, regardless of where the funding came from. In other cases, the funding must be spent in the utility territories where it was obtained.

Potential advantages of a uniform statewide program include:

- **Equity:** A uniform statewide program provides the same benefits for customers, regardless of where they reside.
- **Integration:** A statewide program may allow for easier integration between ratepayer funded programs and state weatherization and LIHEAP programs. There is currently some coordination between LIHEAP and CRP, in that customers are encouraged to apply for LIHEAP when applying for the CRP. However, a statewide program would allow for easier integration between the programs, such as by making the ratepayer-funded program benefit take into account the LIHEAP benefit. A statewide program may also allow for easier integration between utility LIURP and state weatherization programs.

- **Funding:** A statewide program allows for redistribution of ratepayer funds from more affluent to less affluent areas. For example, New Jersey has implemented a statewide system benefits charge that distributes benefits as needed to residential customers throughout the state. All customers pay an additional \$0.000946/kWh and \$0.0093/therm for the Universal Service Program, approximately one percent of their bill, and all low-income customers are eligible to participate. Approximately 125,000 NJ households currently receive benefits. This model reduces the overwhelming burden for some territories, while placing only a modest increase in rates on those in more affluent territories.

Potential disadvantages of a uniform statewide program are:

- **Not tailored:** A statewide program cannot take into account the needs of a specific utility company's customers.
- **Potential for less utility involvement:** In some instances, utilities are less involved when programs are administered by the state, and there is less knowledge about current utility practice and experience in the program design and implementation team.

The statewide program model may be a more beneficial model for PGW ratepayers. Such a program can provide affordable gas to low-income participants while restricting the burden that is placed on other low income customers and customers who are just above the program income limit.

B. Program Integration

There is some coordination between PGW's CRP and LIHEAP, as mentioned above. Some examples of program integration in other states include:

- The NJ USF program is directly integrated with the NJ LIHEAP program (HEA). There is a joint application and the size of a household's HEA benefit has a direct impact on the size of a household's USF benefit.
- In Maryland, both the LIHEAP program (MEAP) and the Electric Universal Service Program (EUSP) are operated by the state Office of Home Energy Programs. However, receipt of electric MEAP benefits are not yet integrated into a household's EUSP benefit calculation. (The 2004 EUSP report suggests that such integration is planned).
- In Wisconsin, the state LIHEAP office receives funding from the ratepayer-funded systems benefit charge. The funds are used to make grants to households for a non-heating electric benefit.

In general, coordination between LIHEAP and a ratepayer-funded energy assistance program is preferred, since coordination helps to ensure that a customer pays the target percent of income. PGW's method of allocating LIHEAP grants to the CRP credit assures that customers pay the percentage of income for gas based on their poverty level, but it does not provide an incentive for the customer to apply for the LIHEAP grant and reduce the cost of the CRP subsidy to other ratepayers. Therefore, integration of LIHEAP with the CRP may be advantageous for PGW ratepayers.

C. Percent of Income

Like the CRP, most ratepayer-funded programs attempt to reduce a customer's energy bill to a target percentage of income. This is true in Maryland, Ohio, and New Jersey. The alternative is a rate discount program that gives customers a percentage discount on their electric and/or gas bills. For example, the California CARE program furnishes a 20 percent discount on electric and gas rates for participating customers. The PECO CAP furnishes rate discounts that vary from 25 percent to 85 percent, depending on the circumstances for the individual customer.

A percent of income approach is generally thought to do a better job of targeting energy assistance benefits because it reduces customers' energy burdens to the same level, rather than providing customers with the same percentage discount. We recommend that PGW continue to use the percent of income approach.

D. Affordability Standard

The PGW CRP has set an eight, nine, or ten percent of income burden for gas usage. By comparison, the median energy burden for both fuels for all households in the Northeast Region is three percent. Among states that use a percent of income approach to their ratepayer funded energy assistance programs, the range of affordability standards is quite wide.

- Maryland EUSP – 3 percent of income for electric usage.
- New Hampshire – 4 percent of income for electric usage.
- New Jersey – 3 percent of income for electric usage and 3 percent of income for gas usage (6 percent for electric heating usage).
- Ohio – 5 percent of income for electric usage and 10 percent of income for gas usage (15 percent of income for electric heating usage).

There is no national standard for energy affordability. PGW currently provides one of the higher burdens provided by these programs. However, the program places a high burden on

other ratepayers – an average of \$163 per customer in 2005.⁴⁶ A state funded program may allow for a broader distribution of costs and therefore a lower percentage of income payment for CRP participants.

E. All Eligible Customers

The PGW CRP is available to any customer who meets the income eligibility criteria. Some ratepayer funded low-income programs are available only to those customers who are payment-troubled. The advantages of a program that do not limit program participation to customers who meet a payment-troubled definition are:

- Other measures of need: customers who have other indicators of need for program assistance, such as going without food or medical care, can be served by the program without utility arrearages or payment problems.
- Incentives: Programs that do not require customers to be payment-troubled do not provide incentives for customers to miss bills so that they qualify for the program.

The advantage of a program that limits participation to the payment-troubled is that limited resources may be targeted to those customers who show the most need for utility assistance.

Given the difficulty of targeting a payment program to those who are most in need, and the customer survey research in this report that showed PGW's current eligibility rules result in participation by those who are most in need of the program, we recommend that PGW continue to allow all eligible customers to participate in the CRP.

F. Fixed Credit Program

PGW has implemented a fixed payment program, the more common type of payment assistance program. Under the fixed payment plan, the customer's monthly payment is set by multiplying the affordability standard times the customer's monthly income. Each month, the utility applies a variable credit to make up for the difference between the actual bill and the customer's fixed payment.

The other option is a fixed credit program. The New Jersey and the Maryland programs are fixed credit programs. Under the fixed credit plan, the customer's annual energy bill is estimated. The customer is assigned a fixed monthly credit that will limit energy bills to the target percent of income for the year, if the customer uses the expected amount.

The advantages of the fixed payment program are that it protects the customer against changes in weather, prices, and other changes in energy bills. However, this type of program can lead to wide fluctuations in program costs.

⁴⁶ If arrearage forgiveness is included, as well as the CRP net subsidy, the per customer cost was \$185 in 2005.

The advantages of the fixed credit program are that it is easier to implement and it makes program expenditures more predictable. The disadvantage is that the customer is at risk for changes in usage and energy prices.

We recommend that PGW consider a fixed credit program to reduce the uncertainty of program costs for other PGW ratepayers.

G. Annual Income Certification

The CRP requires customers to annually re-certify by mailing their income documentation to PGW in response to a recertification notice.⁴⁷ This is a common program requirement. However, the California CARE program allows customers to self-certify for the program and does not require them to re-certify.

The disadvantage of a re-certification requirement is that it is costly to administer and it presents a barrier to program participation. The advantage of a re-certification requirement is that household income changes, and the requirement helps to ensure that limited program resources go to those that are most in need of assistance.

We recommend that PGW continue the annual income certification, with a two-year requirement for LIHEAP recipients.

H. Annual Participation Requirement

The CRP currently does not require customers to remain on the program for a full year. Customers can choose to exit the CRP at any point if they feel that the program is no longer beneficial.

Other programs require that a customer remain on the program for a full year. The advantage of this model is that it is much simpler to administer. The customer's responsibilities are defined over a one-year period and the customer's benefits are defined over a one-year period. Such a model also does not allow the customer to leave the program at a time of year when it is not beneficial, and therefore may reduce the program churning costs. We recommend that PGW consider adding an annual participation requirement to the CRP.

I. Arrearage Forgiveness

PGW provides arrearage forgiveness to CRP customers at a rate of 1/36 of pre-program arrearages each month that bills are paid on time and in full and there are no outstanding CRP bills. The customer is also required to contribute \$3 each month to reduce pre-program arrearages.

⁴⁷ Customers who receive LIHEAP are only required to re-certify every other year.

Most programs take this approach where customers contribute to arrearage reduction and receive a certain amount of arrearage forgiveness when bills are paid on time. The advantage of such a program is that it provides customers with an extra incentive to pay their bills on time and to remain current on their bills. We recommend that PGW continue to include arrearage forgiveness as part of the CRP.

J. Summary of Findings

In this section of the report we documented the characteristics of the PGW CRP and compared it to programs that are currently implemented in other states. PGW's CRP has the following characteristics:

- The CRP is a utility-designed and administered program that is funded by other PGW customers.
- The CRP is coordinated with LIHEAP, but there is no integration between the two programs.
- The CRP targets customers' bills to a fixed percentage of income.
- The CRP sets an affordability standard of 8, 9, or 10 percent of income.
- All income-eligible customers can participate in the CRP.
- The CRP is a fixed payment program. The customer's payment does not change with usage, prices, or weather.
- The CRP requires customers to re-certify for the program, by providing income documentation, on an annual basis, or every other year if they receive LIHEAP.
- The CRP does not have an annual participation requirement.
- The CRP provides arrearage forgiveness on a monthly basis when bills are paid on time and in full. Customers contribute to arrearage reduction.

Some of the alternative program elements that were identified that may provide benefits for PGW customers are:

1. Statewide program design, administration, and funding. PGW's customers currently face a large burden in providing a subsidy for the CRP. The cost to PGW customers, including low-income non-participants, has increased greatly as gas costs have risen. A statewide funded program may allow for a more equitable distribution of the costs of helping low-income customers that are disproportionately found in the Philadelphia area.

2. Program integration. The CRP is not currently integrated with LIHEAP. Better coordination between the programs could lead to lower CRP subsidy costs for other PGW customers.
3. Fixed percent of income. The current fixed percent of income plan places a large burden on other PGW customers. A fixed credit plan would provide less of a safety net for program participants, but would provide a fixed benefit level that could be estimated and planned for.
4. Annual participation requirement. The current CRP model does not require customers to remain on the program for a full year. Adding this requirement would simplify the program. It could also reduce program churning costs.

VIII. Summary of Findings and Recommendations

The previous section of the report identified other payment program models that are currently implemented around the country, and provided recommendations for potential changes to the CRP. This section of the report summarizes the findings and recommendations from the evaluation activities, assuming more incremental program changes. Findings and recommendations are grouped into the categories of program administration and procedures, program impact, customer perspectives, and financial analysis.

A. Program Administration and Procedures

The review of program administration and procedures found that the program is generally well-run and implemented according to documented procedures. However, we recommend that to improve program compliance and reduce administrative costs, PGW continue their new 2005 policy of requiring re-certification only every other year for customers who receive LIHEAP, and that PGW administer additional training to district office representatives to ensure that all program rules and requirements are explained to enrolling customers. We also recommend changes in the CRP bill format.

1. District offices provide valuable services for low-income customers

PGW requires that customers visit the district offices to apply for the CRP. Comparing this requirement to other utilities that allow customers to mail their application and supporting income documentation to an office for processing, this appears to be a more efficient process. Rather than having applications mailed back and forth several times because the required information is not available, customers can speak directly to a representative and have a better understanding of exactly what they must bring if they do not have everything with them that is required on their first visit.

Customers also visit the district offices for other procedures that are not required, including LIHEAP applications and re-certifications, procedures that can be done by mail. Our observations showed that some customers appear to visit the offices for these purposes because they like the direct contact with the representatives. Several of the visitors appeared to know the representatives from previous visits, and friendly greetings were exchanged. However, to attempt to reduce the costs of these operations, PGW should instruct representatives to tell customers that in the future they can apply for LIHEAP through the mail and re-certify for the CRP by responding to the mailed re-certification package. PGW could also look into other ways to facilitate the application process, such as permitting customers to apply for the CRP through the mail, and then only require a visit to the district office if the mailed income documentation was incomplete.

2. Annual re-certification requirement

PGW reported that in 2005 they changed their annual re-certification requirement to every other year for those customers who receive LIHEAP. We recommend that this approach be continued to further reduce administrative costs. Reducing the frequency of re-certification will reduce the number of re-certification packets that need to be mailed, the number of visits to district offices for re-certification, the number of suspensions due to a failure to re-certify, and will reduce the need for re-enrollments that are necessary due to these suspensions.

3. Training for district office representatives

While the district office representatives generally did a good job in providing information to enrolling customers, they did not always provide some of the important program information. The representatives should receive additional training, stressing that they provide the following information to customers at every CRP enrollment.

- *Arrearage forgiveness:* This was only observed in about 75 percent of the intakes.
- *Termination for lack of payment:* Less than one third of the observations included a notification to the customer that his/her gas service could be shut off if he/she missed one CRP payment.
- *LIHEAP grants:* Only two thirds of the contacts included a mention of the LIHEAP grant. This included half that said that LIHEAP application is a requirement of the program, one-third that told the customer how and/or when to apply for LIHEAP, and one fifth that explained how the LIHEAP grant is credited to the customer's account while the customer is participating in the CRP.
- *Energy conservation:* APPRISE evaluators observed in one-third of the instances that the representative told the customer that he/she would be required to accept CWP services if selected for the program. But none provided information or brochures on conservation.
- *Make-up payments:* PGW staff reported that CRP customers often do not understand that the second time they enroll in the program they must make up their missed payments to PGW, and cannot come on the program without an initial payment as they could the first time they enrolled in the program. Customers should be instructed that this is the case at the time of enrollment.

4. Bills are difficult to read

CRP customer bills furnish a great deal of information and it is difficult for customers to discern the important pieces. The CRP credit and the amount of arrearage forgiveness received should be displayed prominently on the bill so that the customer's attention is drawn to these two pieces of information.

5. Program targeting

Those customers who have the most need for the CRP enroll in the program. The analysis of customer characteristics showed that the non-participants were less likely to have arrearages of more than \$500. While 71 percent of the 2003 enrollees had arrearages over \$500, only 23 percent of non-participants had arrearages over this level.

The customer survey also showed that those customers who have the most need for the program are more likely to enroll. While 63 percent of current participants and 68 percent of past participants said that it was very difficult to pay their gas bills prior to participating in the CRP, 44 percent of non-participants said that it was very difficult to make their gas bill payments in the past 12 months.

B. Program Impacts

The data analysis showed that the CRP greatly increases affordability of the gas bill. While participating customers increased coverage of their CRP bill, coverage of the GS bill declined after customers enrolled in the program.

1. Arrearage forgiveness

Ninety-four percent of participants had arrearages at the time of program enrollment. On average, program participants received arrearage forgiveness in only four of the 12 months following enrollment. The arrearage forgiveness component of the program should be stressed at the time of enrollment.

2. Affordability

The CRP had a large impact on affordability. Energy burden was reduced from 15.5 percent to 9.5 percent for program participants, a gross reduction of six percentage points and a net reduction of 11 percentage points.

3. Coverage of the CRP bill

Customers increased their bill coverage rates after enrolling in the CRP, but still did not cover the full CRP bill on average. Total coverage rates were 84 percent in the year following CRP enrollment, shortfall was \$222, and balances increased by \$72.

Customers who remained active on the program increased their total coverage rates from 80 percent in the year preceding program enrollment to 100 percent in the year following enrollment. Customers in the \$18 minimum plan increased total coverage rates from 65 to 108 percent, those in the eight percent plan increased total coverage rates from 62 to 83 percent, those in the nine percent plan increased total coverage rates from 72 to 86 percent, and those in the ten percent plan from 74 to 81 percent.

4. Coverage of the GS bill

After enrolling in the CRP, total customer payments covered less of the GS bill, both as compared to their pre-enrollment levels, and compared to the change for the comparison group. Customers who remained active on the CRP did a worse job of covering their GS bill than all other statuses except the broken status, because they received the greatest amount of bill discounts. Customers in the ten percentage plan did the best job of covering their GS bill. Their total coverage rate increased by three percentage points and their net shortfall increased by only \$68.

5. Energy assistance

Thirty-six percent of customers in the treatment group received LIHEAP in the year prior to enrollment, and 45 percent received LIHEAP in the year after enrollment, a gross increase of nine percentage points. The average net change was not significant. PGW could improve bill coverage rates by increasing the percentage of CRP participants who receive LIHEAP benefits. While they already have extensive outreach procedures, CRP participants currently do not have a personal incentive to apply for LIHEAP if they understand how the benefits are credited to their CRP subsidy. To reduce the CRP subsidy, PGW could integrate the LIHEAP benefit with the CRP payment. For example, PGW could add 1/12 of the expected LIHEAP grant to the monthly bill for customers with income below 135 percent of the Federal Poverty Level.

6. Terminations and collections actions

Customers receive fewer terminations and collections actions when they are participating in the CRP. The gross change in the average number of terminations was a decline of 0.12 and the net change was a decline of 0.14 terminations. The gross change in the average number of collections actions was not significant, but the net change was a decline of 1.4 collections actions.

7. Usage impacts

The CRP did not have a significant impact on gas usage. Customers increased their weather-normalized gas usage by less than one percent of pre-enrollment usage.

C. Customer Perspectives

The customer survey reinforced that the CRP is important in helping customers afford their gas bills. The survey also pointed to the importance of increased customer education on the availability of arrearage forgiveness for customers who pay their bills on time and in full.

1. Arrearage forgiveness

When asked how much they receive in arrearage forgiveness each month when they pay their bills on time, only 12 percent of the current program participants provided a response. Seventeen percent said that they do not receive any arrearage forgiveness, 57 percent said that they did not know how much arrearage forgiveness they received, and 14 percent said that they did not have an arrearage. PGW may be able to increase customers' incentives to pay their bills if they make sure that customers are educated about the CRP arrearage forgiveness at the time of program enrollment.

2. Impact of the CRP

Current and past CRP participants reported that the program had a large impact on their ability to pay their bill. While 63 percent of current participants and 68 percent of past participants said that it was very difficult to pay their gas bill prior to participating in the program, only 15 percent of current participants and 24 percent of past participants said it was very difficult to pay their bills while participating in the program. Respondents reported that the program has been very important in helping them to meet their needs.

3. Program satisfaction

Most current participants were very or somewhat satisfied with the CRP and said that they would continue to participate as long as they were income-eligible.

D. Financial Analysis

The financial analysis showed that CRP customers did not cover the variable costs of gas service and that it is more costly for PGW to serve low-income customers through the CRP than through other bill payment mechanisms. Several options are provided for increasing the contributions of CRP customers.

1. CRP customers' coverage of the costs of gas service

CRP customers covered 96 percent of the short-run variable costs, and did not cover any of the fixed costs of gas service in 2004. This implies that the other PGW customers provided a small subsidy to cover the costs of serving CRP customers. However, changes in gas prices, weather, and the availability of LIHEAP benefits could affect these calculations. Gas prices increased from an average of \$8.0789/Mcf in 2004

to \$9.8127 in 2005. If customer payments remained at the same level, customers would only cover 79 percent of the short-run variable costs of gas service. Given total costs of \$20.4453/Mcf in January 2006, customers covered 39 percent of the total costs of gas service.

2. CRP cost-benefit analysis

We compared the change in bill coverage, administrative costs, and collections costs for CRP customers to those payments and costs for the non-CRP customers to determine whether it is more cost effective for PGW to have its low-income customers participate in the CRP. Administrative costs are approximately equal for CRP and non-CRP customers. While collections and shutoff costs decreased by approximately \$16 per customer when they participated in the CRP, shortfall increased by \$194, resulting in a net cost increase of \$178 for CRP customers.

3. Options to limit costs of the CRP

The financial analysis showed that CRP customers do not cover the variable costs of gas service, and that CRP customers are more expensive for PGW than non-CRP customers. PGW has several options for reducing the costs of the CRP. Below we describe each option and summarize the advantages and disadvantages of each.

a) *Integrate LIHEAP benefit into the CRP payment formula*

The analysis showed that less than half (45 percent) of the CRP participants received LIHEAP and that LIHEAP grants averaged \$240. PGW could reduce the cost of the CRP subsidy by integrating the LIHEAP grant into the payment formula for those customers who qualify for the program. One mechanism by which PGW could implement this approach would be to add 1/12 of the expected LIHEAP benefit to the monthly CRP bill. The LIHEAP grant would then be credited to the customer's account when it was received.

Table VII-1 shows that if PGW added the LIHEAP benefit to the customer's responsibilities, CRP costs would be reduced by \$6.89 million.

Table VII-1
Potential Reduction in CRP Costs
Through Implementation of LIHEAP Penalty

	Percent of CRP Recipients	Projected Number of CRP Recipients	Reduction in CRP Subsidy (\$240 LIHEAP grant)
<135% of Poverty, No LIHEAP	49%	28,701	\$6,888,240
<135% of Poverty, LIHEAP	45%	26,358	\$0

	Percent of CRP Recipients	Projected Number of CRP Recipients	Reduction in CRP Subsidy (\$240 LIHEAP grant)
>135% of Poverty	6%	3,514	\$0
TOTAL	100%	58,573	\$6,888,240

The benefit of this approach is that it would reduce the CRP subsidy. Currently, customers do not have an incentive to apply for LIHEAP because the grant is directed toward the costs of the CRP subsidy, rather than their outstanding bills. PA Code §69.265 states that "A utility may impose a penalty on a CAP participant who is eligible for LIHEAP benefits but who fails to apply for those benefits." A disadvantage of this design feature is that it may be difficult to incorporate into PGW's computer system, and therefore impose costs on PGW.

b) Introduce credit limits that vary by CRP tier

The BCS states that utilities should implement control features to limit program costs. One of the control features that is cited is an annual CAP credit limit of \$840. We found that 37 percent of the 2003 CRP enrollees had a discount of over \$840 in the year following enrollment. However, lower income customers are most likely to have the highest discounts. While 67 percent of those with the \$18 minimum payment and 62 percent of those in the 8 percent payment had credits over \$840, only 39 percent in the 9 percent payment and 21 percent in the ten percent payment had credits over \$840. Therefore, a flat credit limit would disproportionately hurt those in the lowest income groups.

A graduated credit limit may be a more equitable solution for PGW. For example, Table VII-2 shows that a \$840 limit for those in the ten percent plan, a \$1,000 limit for those in the nine percent plan, and a \$1,500 limit for those in the 8 percent or \$18 minimum plan would reduce the cost of the CRP subsidy by nearly \$9.2 million.

**Table VII-2
Potential Reduction in CRP Costs
Through Implementation of CRP Credit Limits**

	2004 CRP Recipients	Proposed Credit Limit	Percent Over Credit Limit	Projected Number of CRP Recipients Over Limit	Average Amount Over Limit	Reduction in CRP Subsidy
\$18 minimum	2,192	\$1,500	27%	592	\$516	\$305,472
8%	13,127	\$1,500	26%	3,413	\$571	\$1,948,823
9%	30,749	\$1,000	30%	9,225	\$575	\$5,304,375
10%	12,075	\$840	21%	2,536	\$643	\$1,630,648
TOTAL	58,143			15,766		\$9,189,318

The advantage of this policy change would be that some customers would increase their bill contributions in response to their increased CRP bills. The disadvantage of this change would be that it would increase customers' energy burden, and that customers may be less likely to succeed on the CRP.

c) Increase charge for arrearage reduction

PGW currently adds \$3 to each CRP bill for payment toward the arrearage. PGW could potentially increase customer contributions by increasing this arrearage contribution, for example by requiring customers in the eight percentage plan to contribute \$5 toward arrearages, requiring customers in the nine percentage plan to contribute \$7 toward arrearages, and requiring customers in the ten percentage plan to contribute \$9 toward arrearages. Table VII-3 shows that the predicted increase in customer charges would be \$2.2 million.

**Table VII-3
Potential Increased CRP Revenue
Through Increased Arrearage Charge**

	Average Number of Customers	Percent with Arrears of At Least \$200	Increased Annual Revenue Per Customer	Increased Annual Revenue Across Average Number of CRP Customers
\$18 Minimum	2,192	83%	\$0	\$0
8%	13,127	86%	\$24	\$270,941
9%	30,749	81%	\$48	\$1,195,521
10%	12,075	86%	\$72	\$747,684
Total	58,143	84%		\$2,214,146

The advantage of this change is that it is a small increase in payments that CRP customers may be able to bear. The disadvantage is that it increases customers' energy burdens, and may make customers less likely to pay their CRP bills.

d) Enforce CWP requirement for customers with the highest usage

Currently the CWP requirement is not enforced for CRP customers. PGW could reduce subsidies for the highest usage customers by requiring those with the highest usage to participate in the CWP as a condition for continued participation in the program.

e) Require a wait-out period

This analysis of CRP participation and enrollment statistics showed that CRP participation is generally higher in the winter months when subsidies are positive,

and that this is at least partially due to the fact that enrollment is lower in the summer.

PGW may be able to reduce administrative costs of the CRP and increase customer contributions if it could increase the retention rate in the program and the percentage of CRP customers that continue to participate in the program throughout the summer. They may be able to do this by requiring a one-year wait out period after customers exit the program. While the BCS has looked unfavorably at such a requirement in the past, they may allow a pilot of this requirement as churning appears to an impediment to program cost-effectiveness.

f) Create other procedures to prevent customers from leaving the CRP in the summer and the re-joining

According to new legislation⁴⁸, customers with income below 135 percent of the poverty level have only one option, which is the CRP. This is true for all customers except where the budget bill is more affordable than the CRP⁴⁹. Previously, customers could have a Level 1 payment arrangement and would not have to pay off all of the missed CRP payments. This new requirement should reduce the number of customers who leave the CRP in the summer and then rejoin. However, customers who do not have arrears can still leave the CRP in the summer and then rejoin again in the winter. PGW could require these customers to remain on the CRP throughout the summer, or require that they make up the negative CRP discount that they would have paid in the summer if they rejoin the program in the winter.

**Table VII-4
Options for Limiting CRP Costs**

	Potential Benefits	Potential Disadvantages	Potential CRP Cost Reduction
Incorporate LIHEAP into Payment Formula	Straight-forward method of reducing CRP costs.	May be costly to implement in PGW's computer system	\$6,888,240
Introduce Credit Limits	Some customers may increase their contributions to their GS energy bills.	Would increase energy burden. Some customers may not increase payments.	\$9,189,318
Increase Arrearage Reduction Charge	Small increase in customer payments that they may be able to comply with.	Would increase energy burden. Some customers may not make payments.	\$2,214,146
Enforce CWP Requirement for Highest Users	Reduce subsidies to those with the highest usage.	Increase in administrative costs.	Minor
Require CRP Wait-Out Period	Reduce administrative costs of the CRP.	May impose hardships on some customers.	Moderate

⁴⁸ Senate bill 677, effective December 15, 2004.

⁴⁹ This would be true for non-heating customers.

	Potential Benefits	Potential Disadvantages	Potential CRP Cost Reduction
Encourage Year-Round CRP Participation	Reduce net CRP discount if customers pay negative discount in the summer.	Difficult to predict effectiveness of this measure.	Moderate

BEFORE THE
PENNSYLVANIA PUBLIC UTILITY COMMISSION

TESTIMONY OF

HOWARD S. GORMAN

ON BEHALF OF
PHILADELPHIA GAS WORKS

Docket No. R-00061931

December 2006

1 **Q. PLEASE STATE YOUR NAME, OCCUPATION AND BUSINESS**
2 **ADDRESS.**

3 A. My name is Howard Gorman. I am a Principal Consultant with Black & Veatch
4 Corporation ("Black & Veatch"). My business address is 898 Veterans Highway,
5 Hauppauge, NY 11788.

6 **Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND**
7 **PROFESSIONAL EXPERIENCE.**

8 A. My educational background and professional experience are outlined in my
9 curriculum vitae that is attached as Attachment A.

10 **Q. PLEASE BRIEFLY DESCRIBE THE SCOPE OF YOUR ENGAGEMENT**
11 **WITH PGW AND THE PURPOSE OF YOUR TESTIMONY.**

12 A. Black & Veatch has been retained by Philadelphia Gas Works ("PGW" or
13 "Company") to perform an unbundled, fully allocated class cost of service study
14 (generally, a "CCOSS" and the particular CCOSS that I address in this testimony,
15 the "PGW CCOSS"). One of the purposes of a CCOSS is to assign the total costs
16 and other elements of the revenue requirements of the Company to each Rate
17 Class. The costs assigned to each Rate Class can then be compared to the revenue
18 produced by the rates in the Company's current Gas Rate Tariff ("Tariff"), as well
19 as to the rates proposed by the Company in this proceeding.

20 I also present the results of a cost of service analysis of PGW's
21 Interruptible Transportation service, which is based on the PGW CCOSS. The
22 Company was directed to present such a cost study by the Commission in its
23 restructuring proceeding in Docket M-00021612.

1 Q. **HAVE YOU PREVIOUSLY TESTIFIED BEFORE THIS COMMISSION**
2 **ON BEHALF OF PGW?**

3 A. Yes, I prepared and sponsored the PGW CCOSS in Docket R- 00006042 and
4 Docket R- 00017034 and prepared and sponsored testimony to support its
5 restructuring in Docket M-00021612.

6 Q. **WHAT WAS THE SOURCE OF THE INFORMATION THAT YOU USED**
7 **IN PERFORMING THIS ENGAGEMENT?**

8 A. All of the information about PGW's operations was provided by PGW, and I
9 relied on the genuineness and completeness of all information presented to me by
10 PGW. Costs and other data were provided by PGW for the Test Year (the Fiscal
11 Year ending August 31, 2007), including a limited number of pro forma
12 adjustments. These data included forecasted test year total system costs of
13 service, forecasted sales and transportation volumes, forecasted customer
14 information and forecasted revenues. In addition, other operating and plant
15 information was supplied by PGW for the purpose of cost classification and the
16 development of direct cost assignments and allocation factors that are required to
17 perform the cost allocation study. The budget was prepared by PGW on the
18 assumption of normal weather. The revenue requirements are set forth in the
19 testimony of Company witness Mr. Bogdonavage.

20 Q. **HOW IS YOUR TESTIMONY ORGANIZED?**

21 A. In Section 1, I provide background information and identify the exhibits that I am
22 sponsoring. In Section 2, I discuss the Class Cost of Service Study methodology.
23 In Section 3, I present the results of the CCOS and discuss the contents of the
24 exhibits. In section 4, I describe the computations that I performed based on the

1 Company's specifications for revenue allocation and proposed rates. In section 5,
2 I present the results of a cost of service analysis of PGW's Interruptible
3 Transportation service, which was prepared based on the results of the PGW
4 CCOSS.

5 **SECTION I – BACKGROUND INFORMATION**

6 **Q. PLEASE STATE PGW'S TARIFF REVENUE REQUIREMENT FOR THE**
7 **TEST YEAR.**

8 A. Based on the Test Year Budget, PGW's Tariff Revenue Requirement is \$1.144
9 billion. Please note that in this testimony, "sales" refers to volumes of natural gas
10 sold to customers and "revenues" refers to dollars received from customers on
11 account of sales, transport service or otherwise.

12 **Q. PLEASE EXPLAIN THE TERM "TARIFF REVENUE REQUIREMENT".**

13 A. As I use the term in my testimony, the "Tariff Revenue Requirement" is the
14 revenue that needs to be produced under PGW's Tariff in order to recover its total
15 cost of providing service, **before reduction for Customer Responsibility**
16 **Program ("CRP") Shortfall and for Senior Discounts.** Under the proposed
17 rates, PGW would not collect the full Tariff Revenue Requirement, because the
18 amounts collected would be reduced by the CRP Shortfall and by Senior
19 Discounts.

20 **Q. DID YOU COMPARE THE REVENUE UNDER THE CURRENT TARIFF**
21 **TO THE REVENUE UNDER THE TARIFF RATES THAT THE**
22 **COMPANY IS PROPOSING?**

23 A. Yes. Based on the costs and physical quantities in the Test Year Budget, PGW's
24 Test Year revenue under the current Tariff would be \$1.044 billion (Exhibit HSG-
25 1, line 10), excluding Other Operating Revenue and Non-operating Revenue and

1 before deducting CRP Shortfall and Senior Discounts. On a comparable basis
2 PGW's Test Year revenue under the Tariff rates proposed by the Company would
3 be \$1.144 billion (Exhibit HSG-6T, line 44 and Exhibit HSG-7, line 9).

4 **Q. PLEASE IDENTIFY THE EXHIBITS¹ THAT ARE INCLUDED WITH**
5 **YOUR TESTIMONY.**

6 A. The following exhibits are included with my testimony. They are discussed in
7 detail in Section 3 of my testimony.

8	Exhibit HSG-1	Summary of Results
9	Exhibit HSG-1A	Revenue Requirement By Functional Classification
10	Exhibit HSG-1B	Total Class Allocation- Revenue Requirement By
11		Rate Class
12	Exhibit HSG-2	Functionalization
13	Exhibit HSG-3	Classifications
14	Exhibit HSG-4A through	
15	Exhibit HSG-4I	Class Allocations
16	Exhibit HSG-5A	Allocator Values – Functionalization
17	Exhibit HSG-5B	Allocator Values – Classification
18	Exhibit HSG-5C	Allocator Values – Class Allocation
19	Exhibit HSG-5D	Assignment or Allocator Used for Each Account
20	Exhibit HSG-6	Development of Allocator Values
21	Exhibit HSG-7	Company's Proposed Revenue Allocation and
22		Proposed Rates
23	Exhibit HSG-8	Interruptible Transportation Cost of Service
24		Analysis

25 **Q. PLEASE SUMMARIZE THE RESULTS OF YOUR WORK AS THEY**
26 **APPLY TO THE CHANGES TO THE TARIFF PROPOSED BY PGW IN**
27 **THIS FILING.**

28 A. I have reached the following results and conclusions based on my work:

- 29 1. Based on the costs and physical quantities in the Test Year Budget, the full
30 Tariff Revenue Requirement has been assigned among the Rate Classes on a
31 **cost causation** basis as shown on Exhibit HSG-1A, line 33.

¹ These exhibits are located in the Cost Service Study which is Volume III of this filing.

- 1 2. The **current** Tariff rates result in the Rate Class under and over-recoveries of
2 the Tariff Revenue Requirements, including the Rate increase requirement, as
3 shown in Exhibit HSG-1, line 25, and the return on rate base as shown on line
4 31.
- 5 3. The Company's **proposed** revenue allocation would result in the under and
6 over-recoveries of Tariff Revenue Requirements, including the Rate increase
7 requirement, as shown in Exhibit HSG-7, line 25.
- 8 4. The current (and proposed) monthly Customer Charges are significantly lower
9 than the customer related costs on a per customer-month basis in the Test Year
10 Budget, as shown on Exhibit HSG-1A, line 36.

11 **SECTION II – PGW CLASS COST OF SERVICE STUDY**

12 **Q. PLEASE BRIEFLY DESCRIBE THE PURPOSE IN PERFORMING A**
13 **CLASS COST OF SERVICE STUDY.**

14 **A. An unbundled fully allocated CCOSS analyzes all the functional components of**
15 **the utility's total cost of service and assigns plant investments and operating**
16 **expenses, including gas supply costs, to determine the costs incurred by the utility**
17 **in providing products and services to each Rate Class. The CCOSS determines**
18 **the Revenue Requirement for each Rate Class. The Revenue Requirement for a**
19 **Rate Class is that portion of the total costs of service incurred by PGW, that can**
20 **be attributed to that Rate Class on a cost-causality basis. An important aspect of a**
21 **CCOSS is that all of the utility's costs of providing service must be analyzed and**
22 **allocated among the Rate Classes, so that the utility can establish rates that ensure,**

1 subject to assumptions such as sales volumes and customer counts, that it recovers
2 all of its costs.

3 **Q. PLEASE EXPLAIN THE TERM “UNBUNDLED” WITH RESPECT TO**
4 **THE COSTS OF PROVIDING NATURAL GAS SERVICE.**

5 A. Unbundling is the separation of the utility’s cost of service into its various product
6 and service components. The PGW CCOSS follows the unbundling of PGW’s
7 rates pursuant to the Commission’s Order in Docket M-00021612. This is further
8 discussed in my discussion of the Functionalization step of the CCOSS.

9 **Q. PLEASE SUMMARIZE THE APPROACH THAT YOU FOLLOWED IN**
10 **PERFORMING THE PGW CCOSS.**

11 A. The most critical task in performing a CCOSS is establishing relationships
12 between customer requirements, load profiles and usage characteristics on the one
13 hand, and the costs incurred to serve those requirements on the other hand.

14 PGW designs its gas distribution system to meet three primary objectives:

- 15 1. To extend distribution services to all customers;
- 16 2. To meet the aggregate peak design day capacity requirements of all
17 customers entitled to receive service on the peak design day, and
- 18 3. To deliver volumes of natural gas to those customers either on a
19 sales or transportation service basis.

20 It is important that the allocation methods used within the CCOSS recognize these
21 *cost causative* characteristics of the company’s plant investments and operating
22 expenses. The CCOSS should objectively reflect cost causation factors
23 attributable to the utility's customers, their gas usage requirements, and system

1 operations, and to the extent possible, should not be influenced by desired end-
2 results, customer equity, or other rate design considerations.

3 The CCOSS was performed using the Rudden proprietary Gas Cost of Service
4 Model ("Model"), an EXCEL based spreadsheet computer model. The Model is a
5 tool that facilitates the allocation of common costs, speeds up computations and
6 eases documentation.

7 The study uses a basic three-step process of cost analysis: 1)
8 *functionalization* of rate base, purchased gas supply costs and expenses among the
9 following functions – supply, storage, transmission, distribution, onsite (including
10 metering and customer accounts) and Universal Service and Education Charge
11 ("USEC"); 2) *classification* of functionalized costs into demand, commodity and
12 customer cost categories; and 3) *class allocation* of functionalized, classified costs
13 among the Rate Classes. The Model provides functionalized and classified cost
14 information by service class, develops unbundled Tariff Revenue Requirements
15 by functional classification and in total for each Rate Class, and calculates unit
16 costs by function for demand, commodity and Rate Classifications.

17 **Q. WHY DID YOU USE BUDGETED DATA FOR THE TEST YEAR IN THE**
18 **PGW CCOSS?**

19 A. The purpose of using budgeted data is to avoid any effect of weather in the
20 CCOSS results and the ensuing rate design. The PGW budget assumes that
21 weather will be normal, and that weather related revenues and costs will be
22 consistent with average weather assumptions. If PGW were to base its cost of
23 service on actual historical data, the data would have to be normalized to remove

1 the effects of weather. It is more reliable to use budget data based on a weather-
2 normal year, than to normalize historical data.

3 **Q. ARE THERE NOTEWORTHY DIFFERENCES IN METHODOLOGY OR**
4 **APPROACH IN THE CURRENT CCOSS FROM THE PREVIOUS CCOSS**
5 **YOU PERFORMED FOR PGW?**

6 A. The methodology that I used is the same as that used in performing prior CCOSS
7 for PGW. In a few cases there were changes in the allocators selected for certain
8 accounts, with very small effect on the results of the CCOSS.

9 **Q. PLEASE DESCRIBE THE FUNCTIONALIZATION STEP OF A CCOSS.**

10 A. In the **functionalization** step, costs are separated by the utility's basic service
11 characteristics. The PGW CCOSS follows the functional unbundling of PGW's
12 Tariff pursuant to the Commission's Order in Docket M-00021612, as follows:

- 13 • *Supply* function includes the cost of purchased gas commodity adjusted for net
14 storage injections and withdrawals and net liquefied natural gas ("LNG")
15 liquefaction and vaporization.
- 16 • *Storage* function reflects costs incurred to ensure that firm customers' demand
17 can be met on the design day. It includes the costs of storage capacity, storage
18 demand, storage injections and withdrawals and annual demand charges.
19 These costs are included in the unbundled Load Balancing Charge.
- 20 • *Transmission* function includes pipeline demand charges.
- 21 • *Onsite* function includes the costs of operating activities starting at the meter
22 on the customer's premises and includes metering, billing and accounting and
23 certain customer assistance expenses.

- 1 • *USEC* function includes items collected through the USEC Charge, such as
2 CRP Shortfall, Senior Discounts, CAP portion of Uncollectible Accounts
3 Expense, and a portion of the costs of the Customer Assistance Program.
- 4 • *Distribution* function includes all other costs, including operating expenses the
5 amounts of Uncollectible Accounts Expense and Customer Assistance
6 Program not included elsewhere, and costs that are part of PGW's regulated
7 utility function.

8 The total of supply, storage and transmission functionalized costs applicable to
9 firm supply customers, excluding certain gas production costs, is recovered
10 through the Gas Cost Recovery charge.

11 **Q. PLEASE DESCRIBE THE CLASSIFICATION STEP OF A CCROSS.**

12 A. In the **classification** step, the previously functionalized costs are separated
13 according to the system design or operating characteristics that cause those costs
14 to be incurred. In this step, each cost is determined to be incurred to serve
15 **customers**, to supply the natural gas **commodity** or to meet various capacity
16 **demands** including coincident and non-coincident peaks.

17 **Customer** related costs are the costs incurred to attach a customer to the
18 distribution system, to meter gas usage and to maintain the customer's account.

19 Customer costs are a function of the number of customers served and continue to
20 be incurred whether or not the particular customer uses any gas. They include
21 capital costs associated with distribution mains, services and meters, and
22 operating costs such as customer service, field service, billing and accounting
23 expenses.

1 **Commodity** related costs are those costs that vary with the natural gas throughput
2 sold to, or transported for, customers. These costs include the cost of the
3 commodity, lost and unaccounted for gas, as well as related procurement and
4 supply management costs.

5 **Demand, or capacity**, related costs are associated with plant that is designed,
6 installed and operated to meet maximum hourly or daily gas flow requirements,
7 such as measuring and regulating equipment. Contracts for gas supply,
8 transportation (from supply source to City Gate) and storage are also demand
9 related, related to meeting design day demand and the demand throughout the
10 peak season. For PGW the peak season is December through February. Demand-
11 related costs associated with serving the *system design day* are allocated among
12 the Rate Classes based upon contribution to the *system design day* requirements.
13 Demand-related costs associated with managing supply throughout the *peak*
14 *season* are allocated among the Rate Classes based upon contribution to the *peak*
15 *season* requirements.

16 **Q. DO ALL EXPENSES FIT NEATLY INTO ONE OF THESE THREE**
17 **CLASSIFICATIONS?**

18 **A.** Most costs do fit neatly into one of the three classifications, but it may be
19 necessary to assign some costs among two classifications based upon special
20 external studies or based upon how related costs have been classified through the
21 use of internal classification allocation factors. For example, Account 376,
22 Mains, was classified as both customer and demand related due to their dual
23 function of connecting customers and meeting peak demand.

1 **Q. PLEASE DESCRIBE THE CLASS ALLOCATION STEP OF A CCOSS.**

2 A. In the **class allocation** step, the functionalized, classified costs are allocated
3 among the Rate Classes, based on causal relationships based on the utility's gas
4 system design and operations, its accounting records and its system and customer
5 load data (e.g., annual and peak period gas consumption levels). From the results
6 of those analyses, direct assignments of costs, as well as class allocators, are
7 chosen for each of the plant and expense elements.

8 **Q. PLEASE EXPLAIN THE TERM "DIRECT ASSIGNMENT."**

9 A. The term "direct assignment" means identifying plant investments or costs
10 incurred exclusively to serve a specific customer or group of customers. Direct
11 assignments best reflect the cost causation of serving individual customers or
12 groups of customers, and should be used whenever the data are available.

13 **Q. ARE A LARGE PORTION OF THE PLANT AND EXPENSES**
14 **TYPICALLY DIRECTLY ASSIGNED?**

15 A. No, it is not. The nature of utility operations is characterized by common or joint
16 use facilities. In addition, direct assignments require detailed information which
17 may be unavailable or may require a great deal of time to obtain and use.
18 Therefore, to the extent that a utility's plant and expense cannot be directly
19 assigned to customer groups, common allocation methods must be derived to
20 assign the remaining costs to the Rate Classes.

21 **Q. PLEASE EXPLAIN HOW ALLOCATORS ARE DERIVED.**

22 A. There are two types of allocation bases, or allocators, typically used in performing
23 a CCOSS and employed in the Model: external allocators and internal allocators.
24 *External allocators* are based on special studies derived from data in the utility's

1 accounting and other records. For example, gas sales, the volume of gas
2 consumed by each Rate Class, is an external allocator that is used to allocate some
3 of the gas commodity costs. Other examples of external allocators are number of
4 customers, estimated design day sales and historical bad debt experience. Exhibit
5 HSG - 2, Schedule 2 shows the main external allocators that were developed
6 based on data provided by PGW.

7 *Internal allocators* are based on some combination of external allocators,
8 previously directly assigned costs and other internal allocators. For example, the
9 allocators for property insurance costs are based on plant investment amounts
10 assigned to components of the rate base; it is necessary to compute the rate base
11 before property insurance costs can be assigned. Both external and internal
12 allocators are used in each of the functionalization, classification and class
13 allocation steps.

14 **Q. WHT ARE THE GUIDING PRINCIPLES IN PERFORMING A FULLY**
15 **ALLOCATED CCOSS?**

16 **A.** The essential element in performing a CCOSS is the selection of allocators based
17 on causal relationships between customer requirements, load profiles and usage
18 characteristics on the one hand, and the costs incurred by the Company in serving
19 those requirements on the other hand. The primary objectives in selecting
20 allocators are:

- 21 1. recognition of **cost causality** as opposed to **value of service**;
- 22 2. **stability** of results over time;
- 23 3. logical **consistency** and **completeness**; and

1 4. **ease of implementation.**

2 **Q. WHAT IS THE RATE BASE AND HOW DOES IT AFFECT THE PGW**
3 **CCOSS?**

4 A. The rate base is the cost, net of accumulated depreciation, of PGW's investment
5 in plant and other assets used to serve customers. In a typical investor-owned
6 utility, the size of the rate base is important because the utility is allowed to earn a
7 return on its investment in rate base. This is not the case for PGW, because
8 PGW's rates are designed to allow it to collect the dollar amount needed to meet
9 its financial requirements. Therefore, PGW's Tariff Revenue Requirement is not
10 directly affected by the size of the rate base. However the rate base is an
11 important allocator, because PGW, as most utilities, is asset or rate base intensive
12 and its assets drive a great many of PGW's costs. Therefore many costs are
13 functionalized, classified or allocated among Rate Classes in the same ratio as the
14 rate base or a portion of the rate base.

15 For example, interest expense on long-term debt is functionalized,
16 classified and allocated among Rate Classes using the rate base, because interest
17 expense is incurred to finance the purchase of the assets in the rate base.

18 **Q. WHAT ARE THE MAJOR COMPONENTS OF PGW'S RATE BASE?**

19 A. For purposes of discussing how I functionalized, classified and allocated the rate
20 base in the PGW CCOSS, I will refer to the following groupings of rate base
21 items. After presenting the list, I will describe how I treated each of these major
22 rate base categories:

- 23 • Production plant

- 1 • Storage plant
- 2 • Distribution plant
- 3 • General plant
- 4 • Depreciation reserve
- 5 • Other Rate Base items
- 6 • Working capital

7 **Q. WHAT IS THE TOTAL RATE BASE?**

8 A. The total rate base is \$1.409 billion, net of accumulated depreciation, as of the
9 end of the Test Year.

10 **Q. HOW DID YOU FUNCTIONALIZE, CLASSIFY AND ALLOCATE**
11 **AMONG RATE CLASSES EACH COMPONENT OF RATE BASE?**

12 A. The principal allocators for each component of the rate base are:.

13 *Production plant* represents the investment in natural gas production assets which
14 are used to meet design day demand. These assets have been functionalized to
15 Supply, classified to demand, and allocated among Rate Classes based on design
16 day requirements.

17 *Storage plant* represents the investment in liquefied natural gas (“LNG”) facilities
18 which are used to meet design day demand, and to meet demand swings. These
19 assets have been functionalized to Storage, classified to demand, and allocated
20 among Rate Classes based on the design day requirements.

21 *Distribution plant* comprises:

- 22 • Mains- Mains have a dual purpose: (1) to attach a customer and enable
23 the customer to receive a minimal level of service, and (2) to provide

1 adequate capacity for the maximum demand level by the customer.

2 The first purpose is customer related and the second is demand related.

3 Ideally, to determine the customer component of the investment in
4 mains, we would perform a minimum system study or a zero-intercept
5 study. A zero-intercept study estimates the investment that would be
6 required, if instead of the existing mains, zero-diameter pipes were
7 installed. The estimated cost of the zero-diameter system is classified
8 as the customer component of mains, and the balance of the total
9 investment in mains is the demand component, because the costs
10 above the zero-diameter pipes are deemed to be incurred to serve
11 design day demands.

12 The data to do a zero-intercept study for PGW were not available.

13 However, Rudden's experience shows that the customer component of
14 mains typically ranges from approximately 25% to 50% of the total
15 investment based on zero-intercept studies. For PGW, an estimate of
16 25% was used to take into account the density of the PGW system, and
17 therefore, 25% of the investment in mains was classified as customer-
18 related and allocated among Rate Classes based on customer counts;
19 this number is at the bottom of the range cited.

20 The remaining 75% of the investment in mains was classified as
21 demand-related, and was allocated among Rate Classes based on the
22 design-day sendout subject to maximum distribution system
23 constraints but not to supply constraints.

- 1 • Services- Services connect individual customers to the system. These
2 assets have been functionalized to Distribution, classified as customer
3 related costs, and allocated among Rate Classes based on the estimated
4 total replacement cost for each Rate Class. Total replacement cost of
5 Services for a Rate Class was estimated by multiplying: X)
6 replacement cost of a service line with typical diameter for the Rate
7 Class, by Y) number of customers in the Rate Class.
- 8 • Meters and Meter installation- These assets have been functionalized
9 to the Onsite function, classified as customer related costs and
10 allocated among Rate Classes based on the estimated total replacement
11 cost for each Rate Class. Total replacement cost of Meters for a Rate
12 Class was estimated by multiplying X) replacement cost of a meter
13 with typical size for the Rate Class by Y) number of customers in the
14 Rate Class.
- 15 • Other Distribution plant- . These assets comprise a) House regulators
16 and House regulator installation, which have been re-functionalized to
17 the Onsite function, classified as customer-related and allocated among
18 the residential Rate Classes based on customer counts; b) Compressor
19 station equipment and Measuring and Regulator station equipment,
20 which was functionalized to Distribution, classified as demand-related
21 and allocated among the Rate Classes based on design day
22 requirements; and c) Land and land rights, Structures and
23 improvements and Other equipment, which were functionalized to

1 Distribution, classified as demand-related and allocated among Rate
2 Classes primarily using averages for Distribution plant.

3 General plant includes primarily Structures and improvements, Office furniture
4 and equipment, Transportation equipment, Communications equipment and tools.
5 These assets, which are used in performing more than one function or are used in
6 Administrative and general activities that support more than one function, were
7 functionalized, classified and allocated among Rate Classes primarily based on
8 direct labor content. Labor was used due to the nature of the assets and reflecting
9 common utility practice.

10 Depreciation reserve was provided by PGW detailed as to Production plant,
11 Storage plant, Distribution plant and Onsite plant, with Distribution detailed as to
12 Mains, Services and Meters. Each component of Depreciation reserve item has
13 been functionalized, classified and allocated among Rate Classes in the same ratio
14 as the related assets.

15 Other Rate Base Items is Construction Work in Process ("CWIP"). Each item in
16 CWIP was functionalized, classified and allocated among Rate Classes in the
17 same ratios as related in-service rate base assets.

18 Working capital represents PGW's need for cash to keep the business running
19 until revenues are collected to pay costs. Each item of working capital was
20 functionalized, classified and allocated among Rate Classes in the same ratio as
21 the activity which caused the item to be incurred.

1 Q. **WHAT ARE THE MAJOR CATEGORIES OF COSTS IN PGW'S COST**
2 **OF SERVICE?**

3 A. The major categories in PGW's cost of service are:

- 4 • Production costs
- 5 • Gas supply which includes gas commodity costs
- 6 • Storage costs
- 7 • Distribution costs
- 8 • Customer accounts, customer service and sales costs
- 9 • Administrative and general expenses
- 10 • Depreciation expense
- 11 • Tax expense; for PGW this is primarily payroll tax
- 12 • Interest and Surplus
- 13 • Rate increase requirement
- 14 • Other revenues and expenses

15 Q. **IN DETERMINING HOW YOU WOULD TREAT THESE EXPENSES IN**
16 **THE CCOSS, WAS THERE ANY OTHER IMPORTANT CATEGORY OF**
17 **COSTS THAT YOU CONSIDERED?**

18 A. Yes, Labor costs affect most of the cost categories because many costs are
19 assigned based on the direct labor content of other costs. For example, Account
20 870, Operations Supervision and Engineering, is allocated among Rate Classes
21 based on the direct labor content of distribution and onsite costs. To enable these
22 allocations to be performed, the direct labor content of each cost account was
23 obtained from PGW, and special allocators were developed so that costs could be
24 assigned based on only the direct labor content of accounts.

1 Q. **WHAT COSTS ARE INCLUDED IN PGW'S PRODUCTION COSTS?**

2 A. PGW's production costs include gas production costs and gas supply costs.

3 Q. **WHAT COSTS ARE INCLUDED IN PGW'S GAS PRODUCTION COSTS**
4 **AND HOW WERE THESE COSTS FUNCTIONALIZED, CLASSIFIED**
5 **AND ALLOCATED AMONG RATE CLASSES?**

6 A. PGW's gas production costs are the costs of operating the Passyunk and
7 Richmond plants which are used for propane gas and liquefied natural gas
8 ("LNG") to meet peak day requirements. Therefore these costs were
9 functionalized to Supply, classified as demand and allocated among Rate Classes
10 based on design day requirements.

11 Q. **WHAT COSTS ARE INCLUDED IN PGW'S GAS SUPPLY COSTS AND**
12 **HOW DID YOU FUNCTIONALIZE, CLASSIFY AND ALLOCATE**
13 **THESE COSTS AMONG RATE CLASSES?**

14 A. PGW's gas supply costs include commodity costs, producer demand charges,
15 storage costs, transportation contracts and LNG operating costs.

16 Q. **WHAT FACTORS DID YOU CONSIDER WHEN YOU**
17 **FUNCTIONALIZED, CLASSIFIED AND ALLOCATED THESE COSTS?**

18 A. PGW manages its storage and seasonal gas supplies throughout the year, and
19 especially the peak season, to ensure that sufficient commodity will be available
20 to meet demand from firm sales customers each day of the year including any
21 design day. This means, for example, that PGW may meet demand on a given day
22 from a combination of resources, rather than from current flowing gas supply
23 only, so as not to constrain future daily draws of current supply.

24 Therefore, in functionalizing, classifying and allocating among the Rate
25 Classes the gas costs, we considered that PGW purchases commodity throughout

1 the year, and maintains and manages a variety of resources, to meet design day
2 requirements and demand throughout the peak season.

3 **Q. HOW WERE THESE COSTS FUNCTIONALIZED, CLASSIFIED AND**
4 **ALLOCATED AMONG RATE CLASSES?**

5 A. Commodity costs include purchased gas costs and net injections / withdrawals
6 from storage and net liquefaction / vaporization of LNG, less a credit for gas used
7 by other utility operations. These costs were functionalized to supply and
8 classified to commodity. The portion of commodity costs due to firm sales were
9 allocated among the firm sales classes based on firm sales volumes, and the
10 portion due to non-firm sales were allocated among those classes based on non-
11 firm sales volumes.

12 Producer demand charges were functionalized to Supply (seasonal contracts) or
13 Storage (annual contracts), classified to demand and allocated among Rate Classes
14 based on design day requirements.

15 Storage costs, including demand, capacity and injection and withdrawal charges,
16 were functionalized to Storage and classified to demand.

17 For storage facilities used to meet peak season requirements, the storage demand
18 charges, which relate to maximum daily withdrawals, were allocated among Rate
19 Classes based on design day requirements; and capacity charges as well as
20 injection and withdrawal charges, which relate to the maximum volume stored,
21 were allocated among Rate Classes based on winter firm sales volumes.

22 For storage facilities used for year-round balancing, all charges were allocated
23 among Rate Classes based on annual throughput volumes.

1 Transportation contracts were functionalized to Transportation (pipeline
2 contracts) or Storage (storage transportation contracts), classified to demand and
3 allocated among Rate Classes based on design day requirements.

4 LNG operating expenses were functionalized to Storage, classified to demand and
5 allocated among Rate Classes based on design day requirements.

6 **Q. WHAT COSTS ARE INCLUDED IN PGW'S STORAGE COSTS AND**
7 **HOW DID WERE THESE COSTS FUNCTIONALIZED, CLASSIFIED**
8 **AND ALLOCATED AMONG RATE CLASSES?**

9 A. Storage costs are the costs of operating PGW's LNG facilities. PGW maintains
10 these facilities to meet peak demand, primarily on the design day. Therefore,
11 these costs were functionalized to Storage, classified as demand and allocated
12 among Rate Classes based on design day requirements.

13 **Q. WHAT COSTS ARE INCLUDED IN PGW'S DISTRIBUTION COSTS?**

14 A. Distribution costs are the costs of operating and maintaining PGW's City Gate
15 station, mains, services and meters, i.e., the gas delivery system. Some of these
16 costs are functionalized to distribution and some to onsite. All costs were
17 analyzed to determine whether they were incurred in order to manage gas supply,
18 maintain equipment or for supervision.

19 **Q. HOW WERE DISTRIBUTION COSTS FUNCTIONALIZED, CLASSIFIED**
20 **AND ALLOCATED AMONG RATE CLASSES?**

21 A. Costs relating to managing gas supply were functionalized to Distribution,
22 classified to demand and allocated among Rate Classes based on annual gas sales
23 volumes.

1 Costs related to the City Gate station and measuring and regulating equipment
2 were functionalized to Distribution, classified to demand and allocated among
3 Rate Classes based on design day requirements.

4 Costs of maintaining mains, services, meters and house regulators were
5 functionalized, classified and allocated among Rate Classes in proportion to
6 PGW's investments in the respective assets.

7 Costs of work performed on customer premises were functionalized to Onsite and
8 classified to customer. The portion of these costs related to PGW's parts and
9 labor plan were allocated to the residential classes, consistent with the allocation
10 of parts and labor plan revenue; and the remaining costs were allocated among
11 Rate Classes based on PGW's investment in meters.

12 Other distribution costs were functionalized between Distribution and Onsite in
13 proportion to the functionalization of distribution plant, and classified to
14 customer. The Distribution function portion was allocated among Rate Classes in
15 proportion to plant functionally classified as Distribution customer and the Onsite
16 function portion was allocated in proportion to plant functionally classified as
17 onsite customer.

18 Supervision costs were functionalized to Distribution and onsite in proportion to
19 the functionalization of Distribution plant and were classified and allocated
20 among Rate Classes in proportion to direct labor content of distribution function
21 expenses.

1 Q. **HOW WERE CUSTOMER ACCOUNTS COSTS FUNCTIONALIZED,**
2 **CLASSIFIED AND ALLOCATED AMONG RATE CLASSES?**

3 A. Customer accounts costs includes meter reading expenses, customer records and
4 collection expenses, related supervision, uncollectible accounts expense and
5 uncollectible accounts- CRP arrearages.

6 Meter reading expenses and related supervision were functionalized to Onsite,
7 classified to customer and allocated among Rate Classes based on investment in
8 meters and in number of meters. Exhibit HSG-6O shows how the METERREAD
9 allocator was developed.

10 Customer records and collection expenses and related supervision, which includes
11 telephone service, district offices, bill preparation, collection labor and support,
12 collection processing and other activities, were functionalized to Onsite, classified
13 to customer. For allocation among Rate Classes, the account was analyzed in
14 detail to identify different activities and each activity was allocated using an
15 appropriate basis. For example, telephone services and bill preparation were
16 allocated based on customer counts; collection efforts were allocated based on
17 accounts over 60 days past due. Exhibit HSG-6M shows how the Account903
18 allocator was developed. Exhibit HSG-6P shows how the Over60 allocator was
19 developed.

20 Uncollectible accounts expense, or bad debts expense, is presented net of
21 recoveries of amounts previously written off. This item was functionalized to
22 distribution and classified to customer, and allocated among Rate Classes based
23 on the average shares of total write-offs for the 10 months ended June 2006, fiscal

1 year 2001 and fiscal year 1998. The share of the write-off allocator for each Rate
2 Class is close to its share of account dollars over 60 days old, indicating the
3 allocator is not affected by PGW's judgment in writing off accounts. Exhibit
4 HSG-6Q shows how the Write-Offs was developed.

5 Uncollectible accounts- CRP arrearages were functionalized to USEC, classified
6 to customer and allocated among Rate Classes based on firm gas sales, consistent
7 with the recovery method for these costs under the USEC charge.

8 **Q. HOW WERE CUSTOMER SERVICE AND INFORMATION COSTS**
9 **FUNCTIONALIZED, CLASSIFIED AND ALLOCATED AMONG RATE**
10 **CLASSES?**

11 A. Customer service and information costs includes marketing costs, CAP program
12 costs, CRP shortfall and Senior discount.

13 Marketing costs were functionalized to Onsite classified to customer, then
14 analyzed to determine which customer types were addressed and allocated among
15 Rate Classes using the average number of customers for those classes. Exhibit
16 HSG-6N shows how the Account908 allocator was developed.

17 CAP program costs, CRP shortfall and Senior discount were functionalized to
18 USEC, classified to customer and allocated among Rate Classes based on firm gas
19 sales, consistent with the recovery method for these costs under the USEC charge.

20 **Q. HOW WERE ADMINISTRATIVE AND GENERAL EXPENSES**
21 **FUNCTIONALIZED, CLASSIFIED AND ALLOCATED AMONG RATE**
22 **CLASSES?**

23 A. Administrative and general expenses include administrative and general salaries,
24 office supplies and expenses, outside services, injuries and damages, employee
25 benefits, property insurance costs, regulatory commission expenses, miscellaneous

1 general expenses, maintenance of general plant and rents. These costs have been
2 reduced by offsets for capitalized labor costs and for gas used by the utility.

3 Administrative and general costs, except for items discussed immediately below,
4 are directly related to labor costs and therefore were functionalized, classified and
5 allocated among Rate Classes in the same ratios as direct labor content.

6 Property insurance costs were functionalized, classified and allocated among Rate
7 Classes in the same ratio as plant in service.

8 Regulatory commission expenses were functionalized to Distribution, classified to
9 customer and allocated among Rate Classes in the same ratios as the rate base.

10 Capitalized labor costs and Gas used by the utility were functionalized, classified
11 and allocated among Rate Classes in the same ratios as the costs which they are
12 reversing.

13 **Q. HOW WAS DEPRECIATION EXPENSE FUNCTIONALIZED,**
14 **CLASSIFIED AND ALLOCATED AMONG RATE CLASSES?**

15 A. Depreciation expense includes depreciation expense on plant in service and costs
16 of removal less capitalized depreciation expense.

17 A small amount of depreciation related to directly assigned mains costs
18 was functionalized to Distribution, classified to demand and directly assigned to
19 the appropriate Rate Class. The balance of depreciation expense was
20 functionalized, classified and allocated among Rate Classes in the same ratios as
21 plant in service.

1 Q. **HOW WAS TAX EXPENSE FUNCTIONALIZED, CLASSIFIED AND**
2 **ALLOCATED AMONG RATE CLASSES?**

3 A. Tax expense includes payroll tax expense and a credit for Capital and OAR taxes.
4 These items both relate to payroll costs, and were functionalized, classified and
5 allocated among Rate Classes based on direct labor content.

6 Q. **PLEASE DESCRIBE THE INTEREST AND SURPLUS REQUIREMENT**
7 **INCLUDED IN PGW'S REVENUE REQUIREMENTS.**

8 A. Interest expense includes interest on long term debt, amortization of debt
9 discounts, premiums, and loss on reacquired debt, interest on tax-exempt
10 commercial paper and interest on customer deposits. It also include AFUDC
11 credit. The surplus is the Test Year budgeted surplus including pro forma
12 adjustments, as shown in Mr. Bogdonavage's testimony.

13 Q. **DO THESE REQUIREMENTS DIFFER FROM A TYPICAL INVESTOR-**
14 **OWNED UTILITY?**

15 A. Yes, they do. In a typical investor-owned utility, an important component of the
16 Revenue Requirement is the overall rate of return the utility is allowed to earn on
17 its investment in rate base. The return is usually stated as a percent return on the
18 rate base; the amount of the return is designed to allow the utility to pay interest
19 on debt capital and to provide a return on equity capital. However PGW includes
20 in its Tariff Revenue Requirements the dollar amount of its interest and surplus
21 requirements, rather than an amount based on returns to investors of debt and
22 equity capital stated in percentages. The rate increase requirement is also
23 different because, as stated by Mr. Bogdonavage, it is necessary as part of a plan
24 to rebuild PGW's capital and to improve its financial situation.

1 **Q. ARE THERE OTHER SIGNIFICANT DIFFERENCES FROM A TYPICAL**
2 **INVESTOR-OWNED UTILITY?**

3 A. Yes. A typical investor-owned utility will be subject to taxation including income
4 tax, gross receipts tax and other taxes. In order for the utility to recover the net
5 amount of cash it needs, any amounts that it collects must be adjusted to provide
6 for the payment of taxes.

7 PGW is not subject to an income tax or gross receipts tax and does not have to
8 take them into consideration when computing its Revenue Requirements.

9 **Q. HOW WERE INTEREST EXPENSE AND AFUDC CREDIT**
10 **FUNCTIONALIZED, CLASSIFIED AND ALLOCATED AMONG RATE**
11 **CLASSES?**

12 A. Interest expense was functionalized, classified and allocated among Rate Classes
13 in proportion to the rate base.

14 The Allowance for Funds Used During Construction Credit was functionalized
15 and classified in proportion to CWIP and allocated among Rate Classes in
16 proportion to the rate base.

17 **Q. HOW WAS THE SURPLUS REQUIREMENT FUNCTIONALIZED,**
18 **CLASSIFIED AND ALLOCATED AMONG RATE CLASSES?**

19
20 A. In a typical investor-owned utility, the return to equity holders is allocated among
21 Rate Classes in proportion to the rate base. PGW's surplus requirement serves a
22 similar function, and therefore the surplus requirement was functionalized to
23 Distribution, classified to customer and allocated among Rate Classes in
24 proportion to the rate base.

1 Q. PLEASE DESCRIBE THE RATE INCREASE REQUIREMENT.

2 A. As described in Mr. Bogdonavage's testimony, the rate increase requirement is
3 necessary as part of a plan to rebuild PGW's capital in order improve its
4 precarious financial situation and to finance a portion of its capital needs with
5 internally generated funds.

6 Q. HOW WAS THE RATE INCREASE REQUIREMENT
7 FUNCTIONALIZED, CLASSIFIED AND ALLOCATED AMONG RATE
8 CLASSES?

9 A. In choosing allocation factors, the objective is to allocate the amount among the
10 Rate Classes based on cost-causality, and developing appropriate allocation
11 factors. The rate increase requirement was functionalized to Distribution and
12 classified to customer. Because the major purpose of the rate increase is to
13 rebuild PGW's capital, and a substantial use of the funds generated will be to fund
14 capital expenditures and to reduce outstanding long term debt, the rate increase
15 was allocated among Rate Classes based on PGW's rate base.

16 Q. MIGHT OTHER FACTORS BE CONSIDERED FOR ALLOCATING THE
17 RATE INCREASE REQUIREMENT AMONG THE RATE CLASSES?

18 A. Yes, but after careful consideration, it was determined that allocation based on
19 PGW's rate base is the most appropriate factor. Other factors that we considered
20 would not have material impact on the allocation among the Rate Classes.

21 Q. PLEASE DESCRIBE PGW'S NON-OPERATING REVENUES AND HOW
22 THEY ARE REFLECTED IN THE COMPUTATION OF THE REVENUE
23 REQUIREMENT.

24 A. Non-operating revenues includes primarily interest and dividend income from
25 temporary cash investments, parts and labor plan revenue, bill paid turn-ons &
26 dig-ups revenue charged to customers, and miscellaneous other revenue. These

1 items are used to reduce the revenue requirement that would be collected under
2 the proposed new rates.

3 **Q. HOW WERE NON-OPERATING REVENUES FUNCTIONALIZED,**
4 **CLASSIFIED AND ALLOCATED AMONG RATE CLASSES?**

5 A. Interest and dividend income was functionalized, classified and allocated among
6 Rate Classes in proportion to the rate base, which is the same as interest expense.
7 Parts and labor plan revenue was functionalized to Onsite, classified to customer
8 and allocated among residential classes.

9 Bill paid turn-ons & dig-ups revenue was functionalized to Onsite, classified to
10 customer and allocated among Rate Classes based on average number of
11 customers.

12 Miscellaneous other non-operating income was functionalized, classified and
13 allocated among Rate Classes in proportion to the rate base.

14 **Q. HOW WERE PGW'S OPERATING REVENUES AT PRESENT RATES**
15 **COMPUTED AND ASSIGNED AMONG RATE CLASSES?**

16 A. For the following charges, revenues at present rates were computed by
17 multiplying present rates by forecast billing units, which were available by Rate
18 Class: Base Rate Revenue, GCR Revenue, Interruptible Gas Revenue, USEC
19 Revenue.

20 Finance charge revenue, determined from PGW's budget, was allocated among
21 the Rate Classes based on an analysis of over-60 day balances.

22 Miscellaneous service revenue, determined from PGW's budget, was allocated
23 among the Rate Classes in proportion to base rate revenue.

1 Transport Gas revenue, determined from PGW's budget, was directly assigned to
2 the GTS class.

3 Gas revenue adjustment, representing unbilled gas revenues, determined from
4 PGW's budget, was allocated among the Rate Classes in proportion to GCR
5 Revenue.

6 Revenue adjustment, representing reconciling amounts from the prior year,
7 determined from PGW's budget, were allocated among the Rate Classes as
8 follows: GCR reconciliation and Interruptible Revenue Credit reconciliation were
9 allocated in proportion to GCR Revenue; USEC reconciliation was allocated in
10 proportion to USEC Revenue; Restructuring & Consumer Education Charge
11 reconciliation was allocated in proportion to Base Rate revenue.

12 **Q. ARE THERE ANY OTHER COMPONENTS TO THE PGW COSS THAT**
13 **WARRANT DISCUSSION?**

14 A. No, the above testimony addresses all significant components of the PGW COSS.

15 **SECTION III – RESULTS OF THE PGW CCROSS**

16 **Q. PLEASE DESCRIBE THE INFORMATION ON EXHIBIT HSG-1**

17 A. Exhibit HSG-1 compares the revenue at current rates provided by each rate class
18 (line 12) to the revenue requirement allocated on a cost of service basis. The
19 revenue requirement includes operating expenses (line 18), interest and surplus
20 (line 21) and the rate increase requirement (line 24). The comparison of revenues
21 at present rates and the revenue requirement is shown on line 25. The amounts on
22 line 25 represent the increase or decrease needed for each Rate Class to provide
23 the \$100 million total rate increase requirement and for each Rate Class to pay its
24 full cost of service on a cost causation basis.

1 Line 22 shows the Rate Class cross-subsidies at present rates; that is,
2 before the rate increase requirement.

3 **Q. PLEASE DESCRIBE THE INFORMATION ON EXHIBIT HSG-1A and**
4 **EXHIBIT HSG-1B.**

5 A. Exhibit HSG-1A summarizes the results of the Class Allocations on Exhibits
6 HSG-4A through 4I by functional classification. Exhibit HSG-1B summarizes the
7 results of the Class Allocations on Exhibits HSG-4A through 4I by account detail.
8 Exhibit HSG-1B shows the allocation of each element of rate base (lines 9-92),
9 operating expenses (lines 93-194), depreciation expense (lines 195-200) and taxes
10 (lines 201-203) among the functions. Total operating expenses are on line 204.
11 The exhibit then shows operating revenues at present rates (lines 205-217), other
12 revenues (lines 218-228). Total revenue is on line 229 and income before interest
13 and surplus is on line 231. Interest and surplus requirements are on lines 232-236,
14 the rate increase requirement is on line 237, and the total is on line 238. A
15 comparison of revenue at current rates to the total revenue requirement on a cost
16 of service basis is on line 240. A negative number indicates that the Rate Class'
17 current revenue produces less than its full cost of service revenue requirement; a
18 positive number indicates that the Rate Class' current revenue produces more than
19 its full cost of service revenue requirement.

20 **Q. PLEASE DESCRIBE THE INFORMATION ON EXHIBIT HSG-2.**

21 A. Exhibit HSG-2 shows how each element of the revenue requirement has been
22 allocated among the functions: supply, storage, transmission, distribution, onsite
23 and USEC. The exhibit shows the allocator selected for each element, and the
24 result of the allocation. The line captions are the same as in Exhibit HSG-1B.

1 Q. PLEASE DESCRIBE THE INFORMATION ON EXHIBIT HSG-3.

2 A. Exhibit HSG-3 shows how each element of each functional revenue requirement
3 for the supply function (pages 1-6) and the distribution function (pages 7-12)
4 functions was classified as demand, commodity or customer. The exhibit shows
5 the allocator selected for each element, and the result of the allocation. The line
6 captions are the same as in Exhibit HSG-1B.

7 Items functionalized to Storage and Transmission are classified as 100% demand,
8 and items functionalized to Onsite and USEC are classified as 100% customer,
9 therefore these functions are not shown on the exhibit.

10 Q. PLEASE DESCRIBE THE INFORMATION ON EXHIBITS HSG-4A
11 THROUGH HSG-4I.

12 A. Exhibits HSG-4A through HSG-4I shows each element of each functionally
13 classified revenue requirement is allocated among the rate classes. The exhibit
14 shows the allocator selected for each element, and the result of the allocation. The
15 line captions are the same as in Exhibit HSG-1B.

16 Q. PLEASE DESCRIBE THE INFORMATION ON EXHIBITS HSG-5A
17 THROUGH HSG-5D.

18 A. Exhibit HSG-5A shows the assignment and allocator values for functional
19 assignment and allocation of the revenue requirement. Exhibit HSG-5B shows
20 the assignment and allocator values for classification of the functionalized
21 revenue requirement components. Exhibit HSG-5C shows the assignment and
22 allocator values for allocation of functionally classified components of the
23 revenue requirement among the Rate Classes. External allocators and internal
24 allocators are identified by "EXT" and "INT, respectively, next to their names on

1 Exhibits HSG-5A through 5C. External and internal allocators were discussed
2 above.

3 Exhibit HSG-5D shows the assignment or allocator used for each account, at each
4 step: functionalization; classification; and allocation among Rate Classes.

5 **Q. PLEASE EXPLAIN THE CUSTOMER RELATED COSTS IN THE PGW**
6 **COSS.**

7 A. As previously described, customer related costs are the costs incurred to attach a
8 customer to the distribution system, to meter gas usage and to maintain the
9 customer's account. The total of all customer costs for PGW is a function of the
10 number of customers served. Customer costs continue to be incurred whether or
11 not a particular customer uses any gas. They include capital costs associated with
12 distribution mains, services and meters, and operating costs such as customer
13 service and accounting expenses. Total customer costs by Rate Class for the Test
14 Year are shown on Exhibit HSG-1A, line 32, and on a unit basis, on Exhibit HSG-
15 1A, line 36. The unit is a customer-month; that is, these are the amounts PGW
16 should collect from each customer each month to recover fully its customer
17 related costs.

18 **Q. DID YOU COMPARE THE MONTHLY CUSTOMER CHARGES BEING**
19 **PROPOSED BY PGW TO THE CUSTOMER RELATED COSTS IN THE**
20 **PGW COSS?**

21 A. Yes. For every Rate Class, the monthly Customer Charges in the current Tariff
22 (which are the same as the proposed monthly Customer Charges) are lower than
23 the customer related costs on a per customer-month basis in the PGW COSS for
24 the Test Year.

1 Q. PLEASE DESCRIBE THE INFORMATION ON EXHIBIT HSG-6.

2 A. Exhibit HSG-6 presents the development of each of the main external allocators.

3 These are described below. Except where noted, all data relate to the Test Year.

4 Exhibit HSG-6A- All Gas Contracts And Costs. Lists and describes each gas
5 supply, transport and storage contracts, including relevant volumes and costs.

6 Exhibit HSG-6B- Allocation of Contract Demand Costs. Shows how the demand-
7 related volumes and costs in Exhibit HSG-6A are functionalized, classified and
8 allocated among the rate classes.

9 Exhibit HSG-6C- Design Day Sendout: Shows Design Day sendout for each of
10 the firm sales classes as provided by PGW's Gas Model.

11 Exhibit HSG-6D- PEAKDEMAND Allocator: Shows Design Day demand for
12 each rate class computed using Base and Thermal method; use to allocate demand
13 component of mains.

14 Exhibit HSG-6E- Gas Sales Allocator- Shows monthly billed sales volumes for
15 each rate class.

16 Exhibit HSG-6F Thruput Allocator- Shows monthly thruput volumes for each
17 rate class; represents volumes on mains.

18 Exhibit HSG-6G GTS Allocator- Shows monthly sales volumes and revenues for
19 GTS rate class.

20 Exhibit HSG-6H Winter3 Allocator- Shows monthly billed sales volumes for
21 each firm sales rate class during the December-February.

22 Exhibit HSG-6I- GCR Allocator- Monthly billed sales volumes for each firm
23 sales rate class.

24 Exhibit HSG-6J- Cust Avg Allocator- Shows monthly number of customers for
25 each rate class.

26 Exhibit HSG-6K- Meter Invest Allocator- Computes investment in meters for
27 each rate class at current replacement cost for each meter type.

28 Exhibit HSG-6L Service Invest Allocator- Computes investment in services for
29 each rate class at current replacement cost for each service line.

30 Exhibit HSG-6M- Account903 Allocator- Allocates each activity in Customer
31 Records and Collection, Account 903, using an appropriate external allocator.
32 Rows 9-27 list each component activity, the activity cost in the Test Year budget,

1 and the allocator assigned to it. Rows 31-43 summarize the costs by allocator
2 (e.g., the costs for all activities to be allocated using Cust_Avg allocator are added
3 together) and show the amount allocated to each rate class. The allocator values
4 are on row 36 and row 43.

5 Exhibit HSG-6N- Account908 Allocator- Allocates each activity in Customer
6 Services and Informational Expenses, Account 908, using an appropriate external
7 allocator. Rows 9-14 list each component activity, the activity cost in the Test
8 Year budget, and the allocator assigned to it. Rows 18-28 summarize the costs by
9 allocator (e.g., the costs for all activities to be allocated using Cust_Avg allocator
10 are added together) and show the amount allocated to each rate class. The
11 allocator values are on row 22 and row 28.

12 Exhibit HSG-6O- METERREAD Allocator- Allocates each activity in Meter
13 Reading, Account 902, using an appropriate external allocator. Rows 9-12 list
14 each component activity, the activity cost in the Test Year budget, and the
15 allocator assigned to it. Rows 16-24 summarize the costs by allocator (e.g., the
16 costs for all activities to be allocated using Cust_Avg allocator are added together)
17 and show the amount allocated to each rate class. The allocator values are on row
18 19 and row 24.

19 Exhibit HSG-6P- Account Agings- Computes the allocator values for the
20 OVER60-D allocator. The columns 'Arrears 0-30', 'Arrears 31-60', 'Arrears 61-
21 90' and 'Arrears 91-Up' show the values in accounts receivable for each rate class
22 at June 30, 2006. The column 'Total Over 60' sums the dollars in the columns
23 'Arrears 61-90' and 'Arrears 91-Up', and the column '% Over60-D Total' shows
24 the percentage of the total for each rate class. The column '% Over60-D Prior
25 COS' shows the percentage of the total for each rate class from the 2002 base rate
26 case cost of service study. The column 'OVER60-D Allocator' takes the average
27 of the percentage in the columns '% Over60-D Total' and '% Over60-D Prior
28 COS'; these are the allocator values.

29 Exhibit HSG-6Q- Write-Offs- Computes the allocator values for the WRITE-
30 OFF allocator. The actual write-off amounts for each rate class are presented for
31 fiscal years 2006 (10 months t June 2006), 2001 and 1998. The percentage of the
32 total represented by each rate class is computed for each of these periods. The
33 column 'WRITE_OFF Allocator' takes the average of the percentages; these are
34 the allocator values.

35 Exhibit HSG-6R- GTS-DIR-MAINS, GTS-DIR-EXP, GTS-DIR-ACCDEP-
36 Develops direct assignment values for mains based on the mains constructed for
37 specific customers. The information and methodology are consistent with that
38 used in PGW's 2002 base rate case.

39 Exhibit HSG-6S- Test Year Tariff Revenue at Current Rates- Proof of revenue at
40 current rates.

1 Exhibit HSG-6T- Test Year Tariff Revenue at Proposed Rates- Proof of revenue
2 at proposed rates.

3 **SECTION IV – COMPANY’S PROPOSED REVENUE ALLOCATION**

4 **Q. WHAT IS THE TOPIC OF THIS SECTION 4 OF YOUR TESTIMONY?**

5 A. In this section I describe the computations that I performed based on the
6 Company’s specifications for revenue allocation and proposed rates. The
7 purpose of these computations was to allocate the Company’s Tariff Revenue
8 Requirement among the Rate Classes, and to compute the Company’s proposed
9 distribution charge rates that would produce the indicated revenue.

10 **Q. PLEASE DESCRIBE THE COMPANY’S APPROACH TO REVENUE**
11 **ALLOCATION.**

12 A. The Company used a two-step approach to revenue allocation. First, a Tentative
13 Revenue Allocation was performed by allocating the Tariff Revenue Requirement
14 among the Rate Classes based on the Company’s specifications for rates of return
15 and other parameters. Then, the Rate Class Tentative Revenue Allocations were
16 used to develop the Company’s proposed distribution charge rates, based on the
17 approach that each pair of Heating and Non-heating classes would continue to
18 have the same rates as each other.

19 **Q. HOW DID YOU COMPUTE RATE OF RETURN?**

20 A. For PGW, rate of return was computed as Income before Interest and Surplus
21 divided Rate Base. Under the proposed Tariff Revenue Requirement, the Rate
22 Increase requirement is included in Income before Interest and Surplus.

1 Q. **WHAT WAS THE COMPANY'S APPROACH TO THE TENTATIVE**
2 **REVENUE ALLOCATION OF THE TARIFF REVENUE REQUIREMENT**
3 **AMONG THE RATE CLASSES?**

4 A. The Company specified the following rules for allocating the Tariff Revenue
5 Requirement among the Rate Classes:

- 6 1. No changes to GTS / IT Rate Class because these customers' rates are
7 set by contract.
- 8 2. Interruptible sales Rate Classes customer charges were increased by
9 the system average increase distribution revenue increase (distribution
10 revenue includes delivery charge revenue plus customer charge
11 revenue). This worked out to a 23% increase in Customer charges for
12 Interruptible sales Rate Classes. No other changes were made to
13 Interruptible sales Rate Classes because the margins are credited to the
14 GCR.
- 15 3. Residential Heating distribution revenue would be set so that its
16 relative rate of return moved 20% closer to the system average. That
17 is, under present rates, the Residential Heating rate of return is 4.56%,
18 or 21.4% less than the system average rate of return of 5.79%. The
19 Company proposed to move the Residential Heating class to 10.69%,
20 or 17.1% less than the system average rate of return of 12.89%. The
21 proposed 17.1% difference is one-fifth less than the existing difference
22 of 21.4%.
- 23 4. For all other firm sales Rate Classes distribution revenue would be set
24 so that while they made the same progress (as each other) toward the

1 system average rate of return while achieving the total Tariff Revenue
2 Requirement, provided that a) each such Rate Class had at least 5%
3 rate of return; b) no such Rate Class had a rate of return more than
4 200% of the system average.

5 The results of these computations are presented on Exhibit HSG-7A.

6 **Q. WHAT WAS THE COMPANY'S APPROACH TO USING THE**
7 **TENTATIVE REVENUE ALLOCATION TO DEVELOP PROPOSED**
8 **NEW TARIFF RATES?**

9 A. The Company specified for developing proposed rates for firm sales classes:

- 10 1. No changes to Customer charges.
- 11 2. Delivery charges are the same for each of the following sets of Rate
12 Classes:

- 13 a. Residential Heat, Residential Non-Heat and Philadelphia
14 Housing Authority General Service
- 15 b. Commercial Heat and Commercial Non-Heat
- 16 c. Industrial Heat and Industrial Non-Heat
- 17 d. Municipal Heat and Municipal Non-Heat

18 The results of these computations are presented on Exhibit HSG-7B. The
19 proposed rates used to prepare the proof of revenue at Company's proposed rates,
20 Exhibit HSG-6T.

21 **Q. WHAT WAS THE EFFECT OF MAINTAINING EQUAL DELIVERY**
22 **CHARGES FOR THESE SETS OF RATE CLASSES?**

23 A. By maintaining the same delivery charge rates (as each other) for these sets of
24 Rate Classes, the results of the actual proposed rates differ from some of the
25 tentative revenue allocation criteria specified by the Company. For example, the

1 Company's tentative revenue allocation criteria specified 20% progress toward
2 unity for the Residential Heating Rate Class, and the actual proposed rates would
3 result in 32% progress. Also, the Company's tentative revenue allocation criteria
4 specified that no Rate Class would have a return greater than 200% of the system
5 average, and the actual proposed rates would result in the Commercial Heating
6 Rate Class have a return equal to 210% of the system average, and other Rate
7 Classes would have larger returns. The results are shown on Exhibit HSG-7C.

8 **Q. PLEASE DESCRIBE THE INFORMATION ON EXHIBIT HSG-7C.**

9 A. Exhibit HSG-7C show the results of the Company's proposed rates.

10 Lines 18 and 19 show return on rate base at the Company's proposed rates and at
11 the present rates. Lines 21 and 22 shows relative rates of return, comparing each
12 class to the system average. Line 23 shows the progress toward full cost of
13 service (unity) by each Rate Class.

14 Line 25 and 26 show the subsidies at the Company's proposed rates and at the
15 present rates.

16 Lines 28, 29 and 20 show the revenue increase that the Company is proposing for
17 each Rate Class as percentages of full tariff revenue, non-gas revenue and
18 distribution revenue, (delivery charge revenue plus customer charge revenue).

19 **SECTION V – INTERRUPTIBLE TRANSPORTATION COST OF SERVICE**
20 **ANALYSIS**

21 **Q. PLEASE DESCRIBE THE PURPOSE OF EXHIBIT HSG-8.**

22 A. The Company was directed to present such a cost study by the Commission In its
23 restructuring proceeding in Docket M-00021612, the Company was directed to
24 prepare a cost study of its Interruptible Transportation ("IT") service. Exhibit

1 HSG-8 is prepared in compliance with this directive, and shows the cost of service
2 for IT service.

3 **Q. HOW WAS THIS COST OF SERVICE ANALYSIS PREPARED?**

4 A. In the PGW COSSS, IT service is included with General Transportation Service
5 (“GTS”) in the Rate Class identified as GTS / IT.. For this cost of service
6 analysis, it was necessary to separate IT from GTS. It was further determined to
7 separate IT into subclasses based primarily on customer volumes.

8 Both GTS and IT are interruptible transportation service, and both require each
9 customer to enter into a contract with minimum take provisions. Thus the nature
10 of service provide by PGW to all GTS / IT customers is the same.

11 The IT cost of service analysis allocates the total GTS / IT revenue requirement,
12 \$5.8 million, and the \$13.8 million GTS / IT rate base, among the following
13 subclasses:

- 14 • GTS
- 15 • IT-3
- 16 • IT -5, IT-6 and IT-8
- 17 • All other IT

18 Each major component of the revenue requirement, and each major element of the
19 rate base, was allocated based on an external allocators such as Direct assignment;
20 Meter counts, Thruput, or an internal allocator such as Rate Base or Operating
21 Expenses. Exhibit HSG-8 identifies each component of the revenue requirement
22 and rate base, and the allocation basis for each (lines 19-42).

1 The total revenue requirement allocated to each subclass is on line 42, and the
2 unitized results are on line 14.

3 This analysis employs the same methodology as used in the PGW CCOSS, and
4 the results are substantially the same as if each subclass had been included as a
5 separate class in the PGW CCOSS.

6 **Q. DOES THIS CONCLUDE YOUR TESTIMONY TODAY?**

A. Yes.

ATTACHMENT A

1 **HOWARD S. GORMAN**
2 **Principal Consultant**
3 **Black & Veatch Corporation**

4 Mr. Gorman has more than 15 years of experience in the energy industry, and more than 25 years
5 of professional experience in accounting, finance and rate and regulatory matters. Mr. Gorman
6 specializes in the development of revenue requirements, accounting systems, fully allocated and
7 unbundling cost of service studies, rate design, financial modeling, forecasting and analysis, and
8 competitive practices. He is a chief developer of Rudden's proprietary Electric and Gas Cost of
9 Service Models.

10 Mr. Gorman has testified on matters pertaining to revenue requirements, cost of service, cost
11 allocations and related matters. He has testified before the New Jersey Board of Public Utilities,
12 the New York State Public Service Commission, the Ontario Energy Board, the Pennsylvania
13 Public Utility Commission and the Philadelphia Gas Commission.

14 Mr. Gorman assisted Philadelphia Gas Works in its base rate cases in 2001 and 2002, and in its
15 Restructuring filing. In these filings, Mr. Gorman prepared fully allocated / unbundled cost of
16 service studies, submitted pre-filed testimony, rebuttal testimony and oral testimony to the, and
17 assisted in preparing legal briefs and case management.

18 Mr. Gorman's other rate and regulatory clients have included Baltimore Gas & Electric, Freeport
19 Electric, Hydro One Networks, KeySpan Energy, Midwest Energy, Niagara Mohawk Power
20 Company, Village of Rockville Centre, as well as American Transmission Company, Midwest
21 Independent System Operator, New York Independent System Operator and PJM
22 Interconnection, LLC.

23 **PROFESSIONAL EMPLOYMENT**

24	1997 - Present	Black & Veatch Corporation (originally joined R.J. Rudden Associates)
25		Principal Consultant
26	1995 - 1997	Independent Consultant
27	1987 - 1995	Trigen Energy Corporation
28		1987-1993 Corporate Controller; Trigen was formed in 1987
29		1993-1995 Treasurer; Trigen had IPO with NYSE listing in 1994
30	1982 - 1987	Coleco Industries, Inc.
31		Director, Treasury
32	1976 - 1979	Touche Ross & Co.
33		Staff Accountant

34 **EDUCATION**

35 New York University, B.S., Accounting; 1976--
36 Harvard Business School, MBA, 1981

37