

Interim Report on Xcel Energy's
Pilot Energy Assistance Program (PEAP):

2010 Interim Evaluation

Prepared For:

Xcel Energy Company
Denver, Colorado

Prepared By

Roger Colton
Fisher, Sheehan & Colton
Belmont, Massachusetts

September 24, 2010

Table of Contents

Table of Contents	i
Table of Tables	iii
Executive Summary	v
Attributes of PEAP Participants	vi
Customer Perspective: PEAP Payment Characteristics	vii
Utility Perspective: Collection Effectiveness and Productivity	ix
Introduction	1
The PEAP Implementation Plan	2
PEAP Program Objectives	2
The Interim Evaluation	5
Data Collection	5
Research Questions for Interim Evaluation	6
Part 1: Attributes of PEAP Program Participants	8
The Tiered Participation Approach to Comparison Groups	9
Comparison: Annual Bills, Gas Consumption and Entering Arrears	11
Annual Natural Gas Bills	11
Annual Natural Gas Consumption	12
Arrears at the Time of Enrollment	13
Estimated vs. Actual Annual Natural Gas Bills	16
Depth of the Low-Income Discount	17
Participants who were Removed from PEAP	19
Summary and Conclusions	21
Part 2: Customer Perspective: PEAP Payment Characteristics	22
Average Annual Bills vs. Average Annual Payments	23
Annual Payment vs. Annual Natural Gas Bill plus Electric Bill (net of PEAP Credits)	23
Annual Payment vs. Annual Asked to Pay Amount (Gas plus Electric plus Arrears Net of PEAP Credits)	25
Sum of Annual Bills vs. Sum of Annual Payments	27
Incidence and Depth of Arrears	29
Summary and Conclusions	33

Part 3: Utility Perspective: Collection Effectiveness and Productivity	35
Collections Effectiveness	35
Collections Effectiveness: Notices of Disconnection for Nonpayment.....	35
Collections Effectiveness: Disconnections for Nonpayment.....	37
Collection Productivity	39
Summary and Conclusions.....	42
 Part 4: Summary of Findings	 44

Table of Tables

Table 1. Number of Participants by Month of Program Entry	9
Table 2. Number Participants by Number of Months of Participation: June 2009 – May 2010	10
Table 3. Average Annual Gas Cost at time of Program Enrollment by Program Component and Whether Electric Bill or Not	12
Table 4. Average Annual Natural Gas Consumption (therms) (June 2009 – May 2010) by Participation Tier	13
Table 5. Whether Program Participant had Beginning Arrears by Program Component and Electric or Not.....	14
Table 6. Average Balance at Time of Program Entry by Electric and No-Electric Bill	15
Table 7. Participation Tier by Season in which Participant Entered PEAP by Program Component	16
Table 8. Ratio: Estimated Annual Bill at Standard Residential Rates to Actual Annual Gas Bill at Standard Residential Rates by Program Component and Entry Month Tier	17
Table 9. Average Ratio of Gas Cost Less Program Credit vs. Gas Cost without Program Credit	18
Table 10. Number of Program Participants by Ratio of Total Annual Gas Cost with Credit vs. Total Annual Gas Cost without Credit.....	19
Table 11. Characteristics of Customers Exiting PEAP	20
Table 12. Average Annual Customer Payment vs. Average Annual Bill (Gas plus Electric net of PEAP Credits).....	24
Table 13. Average Annual Customer Payment Available for Current Bills vs. Average Current Bill Amount (Gas plus Electric net of PEAP Credits)	27
Table 14. Aggregate Annual Customer Payments Available for Current Bills vs. Aggregate Current Bill Amount (Gas plus Electric net of PEAP Credits)	28
Table 15. Dollarized Impact of Change in Payment Coverage Ratios for Aggregate Annual Customer Payments Available for Current Bills vs. Aggregate Current Bill Amount (Gas plus Electric net of PEAP Credits).....	29
Table 16. Percent of Accounts by Range of Current Debt (May 2010).....	30
Table 17A. Average Beginning Balance by Range of Current Debt.....	32
Table 17B. Average Current Balance by Range of Current Debt.....	32
Table 18: Percentage of Accounts with Disconnect Notices by Program Component	36
Table 19: Number of Disconnect Notices per Participant by Program Component.....	37
Table 20: Percentage of Accounts with Disconnection of Service by Program Component	38

Table 21: Number of Disconnections of Service for Nonpayment per 100 Participants by Program Component.....	39
Table 22. Number of Disconnect Notices for Nonpayment per \$1,000 in Payments by Program Component	40
Table 23. Average Number of Disconnect Notices per \$1000 in Payments by Payment Coverage Tier (Gas plus Electric).....	41
Table 24. Average Number of Disconnect Nonpayment (DNPs) per \$1,000 in Payments.....	41
Table 25. Average Number of Disconnect Nonpayment (DNP) Notices per Program Participant.....	42
Table 26. Average Number of Disconnects Nonpayment (DNPs) per Program Participant.....	42

Executive Summary

In 2009, Xcel Energy began offering low-income customers its Pilot Energy Assistance Program (PEAP). The PEAP delivered benefits on natural gas bills through two primary mechanisms.

- Some customers took service through a percentage of income “fixed credit” program. Through this program, Xcel Energy calculated the bill credit necessary to reduce the customer’s projected annual natural gas bill to no more than three percent (3%) of income. In addition to the fixed credit, program participants received bill credits designed to reduce the repayment of pre-existing arrears to an affordable level.
- In the alternative, customers took service through a tiered discounted bill program. These tiered discounts ranged from 15% of a customer’s bill at standard residential rates to 25% of a customer’s bill. The tiered discount was available for customers whose bills as a percentage of income were less than the 3% percentage of income without the discount.

One purpose of the PEAP was to determine the extent to which, if at all, a targeted percentage of income program and the less-targeted tiered discount program delivered equivalent benefits and achieved equivalent outcomes.

This Interim Evaluation is based on data for the twelve months ending May 2010. The Interim Evaluation considers three comparison groups for each of the two program components. Based on what is called the “Month Tiers,” the comparison groups include:

- Month Tier 1: those customers who participated in the PEAP for five or fewer months;
- Month Tier 2: those customers who participated in the PEAP for six to nine months; and
- Month Tier 3: those customers who participated in the PEAP for ten or more months.

The Month Tier 1 comparison group is considered to be the “non-participant” population. The Month Tier 3 group is considered to be the “participant” population.

The Interim Evaluation is presented in three parts. After a brief introduction, Part 1 examines the selected attributes of program participants. Part 2 examines the outcomes of the program from the perspective of the customer. Part 3 examines the outcomes of the program from the perspective of the company.

Attributes of PEAP Participants

The attributes of program participants considered three major factors: (1) the annual natural gas bills at standard residential rates; (2) the natural gas consumption; and (3) the pre-existing arrears that program participants brought into the respective program components (i.e., percentage of income vs. tiered discount).

Customers participating in the percentage of income program had somewhat higher annual natural gas bills than did participants in the tiered discount program. For each comparison group, tiered discount participants had projected annual bills at standard rates of between \$100 and \$180 less than the percentage of income participants. This difference is to be expected. Had customer bills been somewhat higher, it would have been more likely that the customer would have had a natural gas burden of greater than three percent of income (and thus participated in the percentage of income program component).

Customers who had received affordability benefits for the full year (Month Tier 1) did not have natural gas bills that differed from customers who took service at a non-discounted rate for most of the year (Month Tier 3). The average annual natural gas consumption during the 12-month study period (June 2009 through May 2010) did not differ based on program participation.

More low-income customers entering the PEAP program had arrears than did not have arrears. Natural gas customers who also take electric service from Xcel Energy tended to have an even higher incidence of arrears at the time of program entry than did PEAP participants who did not also take electric service. Customers who entered the PEAP as participants in the discounted rate program entered the program with roughly the same incidence of arrears as their percentage of income counterparts.

While the incidence of arrears within the various PEAP participant groups was tightly grouped, the depth of arrears demonstrates a much different proposition. Across-the-board, PEAP participants who were in the Month Tier 3 participation group (i.e., those with fewer than six months of PEAP participation) exhibited a significantly higher level of arrears than do those with longer periods of PEAP participation. The differences in these arrearage levels, however, likely do not reflect the number of months in which the

program participated in PEAP so much as they reflect the months in which the customer entered PEAP with which to begin.

Customer Perspective: PEAP Payment Characteristics

The examination of PEAP payment characteristics focuses on payments made by PEAP customers. Since one purpose of the program is to enable customers to make more full and consistent payments, payments that are received from non-customer sources are not included in the analysis. Payments are measured against the following different demarcations of a customer's "bill":

- The customer's total annual bill for current natural gas and electric usage (net of PEAP credits); and
- The customer's total asked-to-pay amount (including the natural gas and electric bills net of PEAP credits and payments toward preprogram arrears).

One purpose of the PEAP is to enable program participants to sustain complete bill payment. The extent to which the program accomplishes this objective is measured by examining a bill payment coverage ratio. This ratio places the customer payment in the numerator and the customer's "bill" in the denominator.

PEAP customers who take only natural gas service from Xcel Energy have higher bill payment coverage ratios than do PEAP customers who take both natural gas and electric service. During the months studied for this Interim Evaluation (June 2009 through May 2010), Xcel Energy did not operate an electric affordability program. As a result, customers with combined gas and electric service, while receiving discounted natural gas bills, were nonetheless still receiving bills for electric service at standard residential rates from Xcel Energy or another electric LDC. The difference between receiving the smaller discounted gas bill and the larger bill combining discounted gas service with non-discounted electric service appears to result in a higher bill payment coverage ratio for gas-only PEAP participants.

Customers taking service under the PEAP percentage of income program component paid a higher percentage of their bills after taking arrearage payments into account. When the impact of arrearage payments is eliminated, customers receiving percentage of income bills (Month Tier 1) increase their bill payment coverage ratios as compared to the performance of customers who did not (Month Tier 3). The increase in the bill payment coverage ratios existed for both gas-only and electric/gas combination customers within the population receiving percentage of income bills.

In contrast, PEAP customers receiving service under the discount rate program component did not demonstrate the same level of improvement. Discount rate recipients receiving combination gas/electric service demonstrated virtually no change. Discount

rate gas-only customers experienced a slight decrease in their bill payment coverage ratio.

Data relating to the aggregate bills and payments confirms the observations made above based on average per-customer bills and payments. Across the board, the Company would have received greater revenues from customers taking service under the percentage of income program. In contrast, however, the corresponding data for the discount rate program component would show a loss of revenue due to the Company's rate affordability initiative. This loss of revenue arises because the payment coverage ratio with the program (Month Tier 1) is lower than the payment coverage ratio without the program (Month Tier 3).

One way to assess the impact of low-income affordability programs on customer payment patterns is to consider the incidence and depth of arrears maintained by program participants and non-participants. The "incidence" of arrears examines the number of accounts with arrears, without consideration of the size of any specific arrears. Customers with \$100 and customers with \$500 of arrears are weighted equally. In contrast, the "depth" of arrears considers the dollar value of the arrears for individual accounts.

The Xcel Energy PEAP initiative appears to improve the arrearage situation of program participants relative to non-participants. The improvement is seen primarily in the population of customers who take natural gas service subject to affordability benefits. Percentage of income program participants taking only natural gas service had fewer accounts with small arrears than do program non-participants. A somewhat similar, but less clear, pattern was evident within the group of customers receiving their affordability benefits through a discounted rate. While the proportion of gas-only customers with high levels of arrears somewhat increased within the discount rate population, the proportion of customers with no debt (\$0) demonstrated a slight increase. The proportions of customers with low and moderate levels of debt also slightly decreased for the gas-only discount rate program participants. Under both program components, the gas-only customers (who received a reduced bill for their entire Xcel Energy bill) out-performed the low-income customers who take combination gas and electric service from Xcel Energy.

Overall, the Xcel Energy rate affordability program appears to help low-income customers improve their capacity to pay their home energy bills. The primary benefit arises in the percentage of income program component. The data above supports the conclusion that offering affordability benefits limited to one service of a combination natural gas/electric customer does not achieve the same level of outcomes as offering affordability benefits to a natural gas-only customer.

Utility Perspective: Collection Effectiveness and Productivity

The final result in bill payments (as measured by the discussion in the preceding section) is only one aspect of the extent to which a program such as PEAP generates (or fails to generate) positive outcomes. Not only is it important to consider how much money is collected, and what proportion of the total bill is collected, but it is important to consider how hard a utility must work in order to achieve that payment result. This notion of collection effectiveness and productivity is considered in more detail in this section.

The low-income PEAP initiative appears to reduce the need for Xcel Energy to engage in collection activity reaching the point at which the Company will issue a notice of the disconnection of service for nonpayment. Three observations can be drawn from the data.

- First, a consistently lower percentage of gas-only customers receiving affordability benefits through both the percentage of income program component and the discount rate program component receive disconnect notices than do customers who take combination gas/electric service from the Company.
- Second, the need to invoke the collections process by issuing a disconnect notice was reduced by an increased length of participation in the PEAP.
- Finally, percentage of income program participants performed better than program participants receiving service through the discount rate program component. While the percentage of income customers used to reflect the non-participant population (Month Tier 3) had a higher proportion receiving disconnect notices (for both gas-only and combination customers), that result reversed itself (for both gas-only and combination customers) when affordability benefit began to flow.

Not only did the percentage of accounts receiving disconnect notices decrease as the length of PEAP participation increased, but the aggregate number of disconnect notices decreased as well. With the exception of percentage of income customers receiving combination gas/electric service from Xcel Energy, during the 12-month period ending May 2010, program participants received fewer disconnect notices. Within the population of customers taking natural gas but not electric service from Xcel Energy, the number of notices per customer decreased with PEAP participation.

In addition to assessing the effectiveness of a low-income program in accomplishing desired outcomes, it is necessary to judge the productivity of the program in accomplishing those desired outcomes as well. Addressing the productivity of utility efforts helps the utility assess whether there is a proper match between the tool being employed and the type of payment problem that is sought to be remedied. Productivity

implies not only some absolute level of output (i.e., “effectiveness”) but some level of output given a designated level of input as well.

This Interim Evaluation process considers the productivity of collection activities from two different but related perspectives. On the one hand, it examines how much revenue is generated by each collection intervention. On the other hand, it examines how many collection activities are associated with the generation of that revenue.

Participation in the Xcel Energy PEAP program helps to reduce the need for collection activity extending to the issuance of notices of disconnection for nonpayment for the percentage of income participants. While program non-participants (Month Tier 3) received 2.3 disconnect notices for every \$1,000 in payments they made to the Company, program participants (Month Tier 1) received only 1.9 disconnect notices. Percentage of income combination gas/electric participants, who received affordability benefits for their gas bills but not their electric bills, did not perform as well. In contrast to the percentage of income customers, customers receiving affordability benefits through the discount rate program did not improve their collections performance. Both gas-only customers and combination gas/electric discount rate participants received more disconnect notices per \$1,000 in payments than did their non-participant counterparts.

This decreased collection activity did not extend to the active disconnection of service, however. While the disconnection of service was quite limited within the PEAP population –only 201 disconnections for nonpayment occurred within the study population of nearly 8,200 customers in the 12 months ending May 2010—there was a slight increase in the number of disconnections actually performed for each \$1,000 in payments received.

As with improved collections productivity, improved collections productivity appears to be associated most with the delivery of percentage of income benefits to gas-only customers. Improved collections productivity also appears to occur primarily within that group of program participants paying moderately high proportions of their combined bill for current service plus arrears.

Introduction

This interim program evaluation is charged with assessing whether the Xcel Energy PEAP generates the outcomes that it was designed to achieve. From an evaluation perspective, it is possible to measure three identified program components:

- Did the program *do* what it said it would do (activity measures)?
- Did the program *produce* what it said it would produce (output measures)?
- Did the program *yield* what it said it would yield (outcome measures)?

The purpose of this Interim Evaluation is two-fold:

- First, the discussion below will report data on the activities of the Xcel Energy Pilot Energy Assistance Program (PEAP). These activities include information on factors such as the enrollment of program participants; the distribution of benefits; the calculation of energy bills; the distribution of program participants by program component; and the like.
- Second, the discussion below will report data on program outcomes. These outcomes will focus on factors such as customer payments and the collection activities involved with generating those payments.

The information is based on data provided by Xcel Energy for the twelve-month period June 2009 through May 2010. Ultimately, the program evaluation is charged with assessing whether the Xcel Energy PEAP generates the outcomes that it was designed to achieve. From an evaluation perspective, it is possible to measure three identified program components:

- Did the program *do* what it said it would do (activity measures)?
- Did the program *produce* what it said it would produce (output measures)?
- Did the program *yield* what it said it would yield (outcome measures)?

In light of this introduction, this document is presented in the following parts:

- Part 1 examines the underlying attributes of the PEAP population;
- Part 2 examines the payment characteristics of the various PEAP populations; and

- Part 3 examines the effectiveness and productivity of Xcel Energy collection efforts within the various PEAP populations.

The PEAP Implementation Plan

The PEAP Implementation Plan presented to the CPUC in the winter of 2009 presented two sections that are relevant to program evaluation. First, the Implementation Plan identified the “program objectives” for PEAP. Second, the Implementation Plan identified a mechanism through which the operation of the program would be assessed after-the-fact to determine the extent to which, if at all, those objectives have been achieved.

PEAP Program Objectives

Any evaluation of the extent to which, if at all, a utility rate affordability program accomplishes its program objectives can only be measured through an analysis of program outcomes. While output measures and activity measures may be relevant to a discussion of how a program operates, neither of those measurements contributes to a determination of whether the program’s objectives are being met. Accordingly, the discussion below identifies the program objectives and discusses outcome measurements to determine whether those objectives are being achieved. The Program Objectives represent the *raison d’être* for the Company’s low-income interventions.

The discussion below identifies the objectives of the PEAP. After each objective, there is presented a discussion of the program “outcome.” “Outcomes” measure what a program *accomplishes*.

Objective #1: The PEAP should improve utility operations to the benefit of all customers.

Providing rate affordability assistance to low-income utility customers in Colorado should seek to improve utility operations to the benefit of all customers, including non-participating customers. While this objective is a primary objective of the PEAP, it is not the exclusive, and perhaps not the primary, objective. Other objectives might predominate in importance even if they “cost” Xcel Energy money.

The following two specific outcomes will be measured in assessing this program objective:

- **Revenue Neutrality:** The revenue neutrality of a low-income program examines the extent to which, if at all, a low-income rate affordability program generates the same dollars of revenues to the utility as would have been generated without the offer of discounted rates or bills. “Revenue neutrality” distinguishes between billed revenue and collected revenue. Revenue neutrality is based on the observation that it is better to collect 90% of a \$70 bill (\$63 revenue) than it is to collect 60% of a \$90 bill (\$54 revenue). Revenue neutrality occurs when a low-income program increases collected revenue sufficiently to offset any reduction in billing attributable to the program’s bill discount.

- **Cost-Efficiency Relative to Alternatives:** The cost efficiency of a low-income program, relative to alternatives, measures whether the low-income rate affordability program generates an increase in revenue to the Company, assuming an increase occurs, in a less-costly way than currently available alternatives might generate the same increase. Cost-efficiency considers the increase in revenue potentially generated by an increase in collection activities not involving discounted bills. Using the effectiveness of those collection activities in generating additional revenue, along with the costs of those collection activities, the analysis then assesses the extent to which available collection alternatives could have produced the same increase in revenue as that generated by the rate affordability program and, if so, at what cost. Finally, a comparison of the cost of the low-income affordability program to the cost of an equivalent increase in collection activities is considered.

Objective #2: The PEAP should provide low-income customers with the capacity to sustain complete bill payment. Providing rate affordability assistance to low-income utility customers in Colorado should provide low-income customers with the capacity to sustain bill payment. “Sustaining bill payment” involves the following payment attributes with respect to bills for current usage:

- **Complete Bill Payment:** The most common indicator of whether complete payment has been received from a utility customer involves measuring both the incidence and depth of arrears. The *incidence* of arrears considers the proportion of the total population in arrears. The *depth* of arrears considers the size of arrears at any given point in time. A bill coverage ratio (the proportion of current bills paid) should also be used (on a monthly, seasonal and annual basis) to consider complete bill payment over a period of time.
- **Prompt Bill Payment:** Prompt bill payment considers the timeliness of bill payment, not merely whether a customer pays his or her utility bill in full. If a utility renders a bill for \$100, that company wants a customer to pay the bill by the due date as well as paying the bill in full. Bill promptness is primarily measured through one of two metrics: (1) by the use of a “weighted arrears” statistic called “bills behind”; and (2) the use of the more commonly recognized, but less complete, aging of arrears.
- **Regular Bill Payment:** The regularity of bill payment measures the extent to which customers make at least *some* bill payment each month. A customer may maintain a relatively low level of arrears by paying multiple months of bills on an infrequent basis. An examination of January arrears, for example, does not distinguish between the customer that has made his or her last twelve monthly payments on time and in full, the customer that has made \$0 in payments during August through October (perhaps waiting for a Low Income Home Energy Assistance Program (“LIHEAP”) benefit to pay those arrears), and the customer who makes three payments over the year of amounts equal to the total annual

bill. The *regularity* of bill payment measures the extent to which some payment is made in response to each bill rendered.

- **Unsolicited Bill Payment:** The extent to which bill payments are “solicited” considers the extent to which, if at all, a company is required to engage in collection activities to generate a bill payment. An *unsolicited bill payment* involves a payment that is made in response to a bill without any need for company collection contact with the customer. Measuring collection activities considers both the number and the intensity of collection activities. A more intense collection activity involves a more direct company-to-customer contact than does a less intense activity. Issuing a posted disconnect notice involves a more intense activity than issuing a computer generated “reminder” notice. The disconnection of service involves a more intense collection activity than does a call center contact.

In sum, the second objective of the Company’s PEAP is to improve customer management of their own bills as bills become more affordable. Rather than having partial, late or periodic payments, or payments that are made only in response to Company collection activity, the objective is for low-income customers to address their bills for current usage in a complete, regular, timely and unsolicited fashion on a monthly basis.

Objective #3: The PEAP should help minimize the extent of home energy insecurity as measured by the Home Energy Insecurity Scale. The final objective of a low-income rate affordability program is to minimize the extent of home energy insecurity. Administrators of low-income energy assistance programs have long struggled to develop a mechanism to capture the many facets of home energy unaffordability.

- Some efforts have focused on lowering home energy burdens. A household’s “energy burden” is the household bill divided by the household’s gross income. This process, however, does not capture the circumstances of a household for whom the receipt of energy assistance results in an *increase* in the home energy burden because he or she is no longer required to cut off all rooms of the home but one.
- Some efforts have focused on the nonpayment of home energy bills (as well as the disconnection of service and other collection-related problems). This process, however, does not capture the circumstances of a customer that pays his or her bill, but reduces spending on household necessities for food or medicine in order to do so.
- Some efforts have focused on reductions in energy consumption. This process, however, does not capture the circumstances of a household whose energy unaffordability problems result from a combination of very low incomes (even though usage is very low as well).

Home energy security is measured through application of the Home Energy Insecurity Scale. Developed for the federal LIHEAP office, the Home Energy Insecurity Scale allows the program manager to capture all aspects of low-income energy affordability. Through application of the Scale, customers are categorized into one of five levels of the scale: thriving, capable, stable, vulnerable, in-crisis. An improvement in home energy security is evidenced not merely by where a customer falls on the scale, but by the change in status as represented by a move “up” the scale (e.g., from vulnerable to stable, from in-crisis to vulnerable).

The Interim Evaluation

This Interim Evaluation of the Xcel Energy PEAP program initiative will examine two primary “treatment” groups:

- Customers who received affordability benefits through: (1) fixed credits to reduce bills for current usage to a percentage of income; and (2) arrearage forgiveness credits based on customer percentage of income copayments; and
- Customers who received affordability benefits through: (1) tiered rate discounts based on a percentage of their bills; and (2) arrearage forgiveness credits based on a fixed amount provided as a one-time grant at the time of program enrollment.

Xcel Energy has *not* chosen to randomly assign low-income customers to the treatment and control groups. Instead, the treatment groups have been filled on a first-come, first-enrolled basis. The control groups will be selected after-the-fact on a random basis from a population matching the characteristics of the treatment group.

Xcel Energy was unable to provide a control group for purposes of this Interim Evaluation. To assess “before” and “after” effects of the affordability program, therefore, a control group was established internally to the program. Program “participants” were divided into three separate categories: (1) customers who had participated in the PEAP for 10 or more months in the 12-month period ending May 2010 (commonly referred to as “Tier 1” customers); (2) customers who had participated in the PEAP for between six (6) and nine (9) months out of the 12-month period ending May 2010 (“Tier 2” customers); and (3) customers who had participated in the PEAP for fewer than six months in the 12-month period ending May 2010 (“Tier 3” customers). Tier 1 customers were defined as “program participants” while Tier 3 customers were defined as “program non-participants.” A more extensive discussion of these three groups of customers is presented in Part 1 below.

Data Collection

The Interim Evaluation is intended to set forth a more limited data analysis than the Final Evaluation contemplated at the end of the program. This conclusion is drawn in part from the nature of an interim evaluation. It is drawn further from the fact that the Final Evaluation will incorporate information from both the natural gas and electric PEAP initiatives.

The Interim Evaluation was based on the following data provided on an aggregated basis by the Company to the Program Evaluator:

1. The total amount of billed dollars at the discounted rate.
2. What the total amount of billed dollars would have been if billed at the standard residential rate.
3. The total amount of the affordability benefit.
4. The total amount of dollars paid by the customer.
5. The total amount of preprogram arrears brought into the program.
6. The total amount of credits paid against the preprogram arrears.
7. The total number of program participants.
8. The total number of program participants who *left* the program (by reason of exit)?
9. The number of accounts receiving disconnection notices (and how many disconnect notices were issued in the 12-month study period).
10. The total number of accounts having had service disconnected (and the total number of disconnections in the 12-month study period).
11. The electric and natural gas consumption.
12. The arrears at the time of program enrollment and the account balance at the time of the last month in the study period.
13. The total gas and electric bill for the 12-month study period.
14. The monthly bill (at the discounted rate) for both current consumption and preprogram arrears.

Research Questions for Interim Evaluation

Based on the data collection explained above (and set forth in Table 3 below), the following research questions will be presented for analysis:

- Program effectiveness
- Program cost-neutrality
- Program cost-effectiveness/cost-efficiency

In sum, the data analysis presented in the Interim Evaluation below is directed toward assessing the extent to which, if at all, the Xcel Energy PEAP initiative meets the objectives articulated in the Program Implementation Plan. In addition to presenting basic descriptive information about PEAP activities (e.g., number of customers served), the Interim Evaluation will consider each of the program objectives using the data elements identified in the narrative above. Unlike the Final Evaluation, which will be based on individual account-level data, the Interim Evaluation will be based on aggregated data. Using that aggregated data, it will be possible to provide insights into the effectiveness of PEAP in achieving the articulated objectives; into the revenue neutrality of the PEAP; and into the cost-effectiveness/cost-efficiency of the PEAP.

Part 1: Attributes of PEAP Program Participants

The Xcel Energy Pilot Energy Assistance Program (PEAP) delivered benefits through two primary mechanisms.

- On the one hand, the PEAP delivered benefits through a percentage of income program. Through this program component, natural gas bills were set equal to an affordable percentage of income. The program began by defining “affordable” as a home energy burden equal to 5% of income. A mid-course modification was made to lower that affordable percentage to 3% of income.
- On the other hand, PEAP customers whose home energy burdens were already at or below the affordable level were offered a discounted rate. Depending on the ratio of household income to Poverty Level, tiered discount levels were set at 15%, 20% or 25% of the bill at standard residential rates.

In addition to these two primary program components, households reporting an annualized income of zero dollars (\$0) were offered a minimum level of benefits.¹

The program served customers in roughly equal proportions between the percentage of income and discount program components. Of the 8,177 customers considered in this Interim Evaluation,² 3,947 (48.3%) took benefits through the percentage of income program, while 4,008 (49.0%) took benefits through the discounted rate.

The Company began enrolling customers in its PEAP in April 2009. The data in Table 1 shows that customers were enrolled in the discounted rate slightly more quickly than in the percentage of income program. By September 2009, 50% of the discounted rate participants were enrolled. By the end of October, somewhat more than 50% of the percentage of income participants were enrolled. By January 2010, however, while 86% of discounted rate participants had been enrolled, only 70% of percentage of income participants had been. That enrollment differential had largely disappeared by April 2010. More than 50% more participants enrolled in the percentage of income program component during the cold weather months of December through April than enrolled in the discounted rate program component (1,277 vs. 836).

¹ These Zero Income customers are noted in the beginning discussion of this Interim Evaluation and then, due to the small size of the population, set aside for purposes of the substantive discussion of the evaluation.

² A limited number of program participants were not included in this Interim Evaluation due to incomplete information. Moreover, this Interim Evaluation considers only customers who did not exit the PEAP once enrolled.

Table 1. Number of Participants by Month of Program Entry

Enter Month	Percent of Income			Discount Rate			Zero Income	Grand Total
	Entrants	Percent	Cumulative Percent	Entrants	Percent	Cumulative Percent		
April 2009	7	0.2%	0.2%	23	0.6%	0.6%	---	30
May 2009	18	0.5%	0.6%	47	1.2%	1.7%	1	66
June 2009	35	0.9%	1.5%	29	0.7%	2.5%	---	64
July 2009	280	7.1%	8.6%	303	7.6%	10.0%	---	583
Aug 2009	558	14.1%	22.8%	727	18.1%	28.2%	---	1,285
Sept 2009	799	20.2%	43.0%	879	21.9%	50.1%	---	1,678
Oct 2009	628	15.9%	58.9%	711	17.7%	67.8%	10	1,349
Nov 2009	167	4.2%	63.1%	370	9.2%	77.1%	71	608
Dec 2009	175	4.4%	67.6%	262	6.5%	83.6%	2	439
Jan 2010	122	3.1%	70.7%	88	2.2%	85.8%	4	214
Feb 2010	311	7.9%	78.5%	156	3.9%	89.7%	47	514
Mar 2010	461	11.7%	90.2%	231	5.8%	95.5%	36	728
April 2010	208	5.3%	95.5%	99	2.5%	97.9%	42	349
May 2010	144	3.6%	99.1%	58	1.4%	99.4%	8	210
June 2010	34	0.9%	100.0%	25	0.6%	100.0%	1	60
Total	3,947			4,008			222	8,177

The Tiered Participation Approach to Comparison Groups

The rate of enrollment is important in that the performance of the two program components (percentage of income and discounted rate) is based on the distinctions in payment performance for customers who enrolled in the PEAP at different times of the year. The outcome evaluation discussed below considers the payment performance of customers within the twelve months beginning in June 2009 and ending in May 2010. Program participants are divided into three groupings for that time period:

- Tier 1 includes all customers who participated in PEAP for 10 or more months in the 12-month period ending May 2010;
- Tier 2 includes all customers who participated in PEAP for between six and nine months in the 12-month period ending June 2010;
- Tier 3 includes all customers who participated in PEAP for fewer than one to five months in the 12-month period ending June 2010.

Throughout the remainder of this Interim Evaluation, these distinctions between when a customer enrolled in PEAP will be referred to as “Month Tiers.” “Month Tier 1” PEAP participants, in other words, refers to those customers who participated in PEAP for 10 or more months of the period ending May 2010.

Table 2. Number Participants by Number of Months of Participation: June 2009 – May 2010

Participation Months		Percent of Income			Discounted Rate			Zero Income	Grand Total
# of 12	Tier	No.	Pct	Cum Pct by Tier	No.	Pct	Cum Pct by Tier	No.	
1	3	34	0.9%	0.9%	25	0.6%	0.6%	1	60
2	3	144	3.6%	4.5%	58	1.4%	2.1%	8	210
3	3	208	5.3%	9.8%	99	2.5%	4.5%	42	349
4	3	461	11.7%	21.5%	231	5.8%	10.3%	36	728
5 /a/	3	311	7.9%	29%	156	3.9%	14%	47	514
6	2	122	3.1%	3.1%	88	2.2%	2.2%	4	214
7	2	175	4.4%	7.5%	262	6.5%	8.7%	2	439
8	2	167	4.2%	11.8%	370	9.2%	18.0%	71	608
9 /b/	2	628	15.9%	28%	711	17.7%	36%	10	1,349
10	1	799	20.2%	20.2%	879	21.9%	21.9%	---	1,678
11	1	558	14.1%	34.4%	727	18.1%	40.1%	---	1,285
12 /c/	1	340	8.6%	43%	402	10.0%	50%	1	743
Total		3,947			4,008			222	8,177

/a/ Month Tier 3 includes Months 1 through 5.

/b/ Month Tier 2 includes Months 6 through 9.

/c/ Month Tier 1 includes Months 10 through 12.

Table 2 shows that while not exactly equal, sufficient participation rates occur for each Participation Tier from which to draw reasonable conclusions. The participation rates for each Tier were as follows:

- Month Tier 1: Percentage of income: 43% (n=1,697); discounted rate: 50% (n=2,008).
- Month Tier 2: Percentage of income: 28% (n=1,092); discounted rate: 36% (n=1,431).
- Month Tier 3: Percentage of income: 29% (n=1,158); discounted rate: 14% (n=569).

Table 2 shows, in other words, that while somewhat over 40% of all percentage of income participants, and half of all discounted rate participants, had been enrolled in the program for 10 or more months of the 12 month period ending May 2010, roughly 30% of percentage of income participants and nearly 15% of all discounted rate participants had been enrolled in the program for five or fewer months out of that 12 month period.

Use of the Tiered Participation approach is based on the proposition that Tier 3 customers adequately represent a “non-participation” scenario that can be compared with the “participation” scenario of Tier 1 customers and a mixed scenario of Tier 2 customers. For purposes of this Interim Evaluation, the terms “control group” and “comparison group” are

intended to be interchangeable.³ Throughout the remainder of this Interim Evaluation, the term “Month Tier” refers to this disaggregation of customers by the time in which they entered PEAP.

Comparison: Annual Bills, Gas Consumption and Entering Arrears

In this section of the Interim Evaluation, the various participant groups are compared and contrasted from three different perspectives:

- Annual gas bills (at standard residential rates);
- Natural gas consumption; and
- The level of arrears at the time the participants entered the PEAP.

In the discussion below, and continuing, a distinction will be made between PEAP participants who take *only* natural gas service from Xcel Energy and PEAP participants who take both natural gas and electric participants. While this distinction will be more important in the discussion of customer payments and Xcel Energy collection activities, it is introduced at this early part of the Interim Evaluation to determine whether the differences are associated with the distinction.

Annual Natural Gas Bills

Table 3 shows that average annual natural gas bills (at standard residential rates) for PEAP customers are what one would expect given the characteristics of program participants. With one exception (Tier 3 percentage of income participants with no Xcel Energy electric bill),⁴ the annual natural gas bills of program participants did not substantially differ based upon when the PEAP participants entered the program. The annual bills presented in Table 3 are the annual bills for the 12-months immediately preceding a customer’s enrollment in PEAP.

The lower bills experienced by customers taking service under the discounted rate program rather than under the affordable percentage of income program component are to be expected. Customers taking service under the discounted rate are those customers whose natural gas service did not reach the threshold of being at least three percent (3%) of the customer’s household income. If the bills of these customers would have been somewhat higher, the customers would have had a greater likelihood of participating in the percentage of income rather than the discounted rate program component.

³ In the Final Evaluation, a control group analysis will be used rather than their tiered participation approach.

⁴ No explanation is readily evident for this anomaly.

Table 3. Average Annual Gas Cost at time of Program Enrollment by Program Component and Whether Electric Bill or Not

Month Tier	Affordable Percentage of Income			Discount Rate			Grand Total /a/
	With Electric	No Electric	Total	With Electric	No Electric	Total	
1	\$748	\$685	\$700	\$618	\$575	\$593	\$642
2	\$745	\$711	\$718	\$620	\$582	\$596	\$647
3	\$768	\$770	\$769	\$629	\$590	\$609	\$710
Total	\$755	\$715	\$725	\$621	\$580	\$596	\$659

/a/ Grand Total includes Zero Income customers.

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

Annual Natural Gas Consumption

Table 4 shows that customer consumption did not change as a result of PEAP participation. Just as annual bills for PEAP participants at the time of enrollment were reasonably consistent between the Month Tiers (documenting the time the participant had been on the program within the twelve month period ending May 2010), the average annual natural gas consumption during the 12-month study period (June 2009 through May 2010) did not differ between those customers taking service at a discounted rate for the entire (or nearly entire) 12-month period and those taking service at standard residential rates for the greater portion of the 12-month period.

With the same unexplained elevated consumption/bill for gas-only customers not also taking Xcel Energy electric service (in the Tier 3 percentage of income population), in none of the remaining participation tiers did the natural gas consumption increase for program participants relative to program non-participants. Moreover, in the one sub-population where gas consumption was higher for a sub-population, two important observations are important:

- The higher consumption occurred in the population with the fewer months of PEAP participation; and
- The high consumption for the 12-month period during which participation occurred was consistent with the higher bills for the 12-month period prior to the beginning of the program.

For both participants in the discounted rate program and participants in the affordable percentage of income program, customers taking both natural gas and electric service from Xcel Energy have somewhat higher natural gas consumption than do customers who take only natural gas service from Xcel Energy. No explanation is offered for this difference. The difference may well be attributable to geographic differences in the type, size, age and/or condition of housing stock in those communities to which Xcel Energy provides both electric and natural gas service. The

difference arises, however, for both the affordable percentage of income program *and* the discounted rate program components. Moreover, the difference arises for all participation tiers.

Table 4. Average Annual Natural Gas Consumption (therms) (June 2009 – May 2010) by Participation Tier

Month Tier	Affordable Percentage of Income			Discounted Rate			Grand Total /a/
	With Electric	No Electric	Total	With Electric	No Electric	Total	
1	913	735	778	717	585	639	703
2	894	776	801	718	608	649	713
3	938	884	902	722	650	686	822
Total	918	786	821	718	601	649	733

/a/ Grand Total includes Zero Income customers.

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

Arrears at the Time of Enrollment

The final comparison between PEAP participants based on the point at which they entered the program involves the arrears which such participants brought into the program with them. The examination of arrears at the time of program entry presents itself in two ways: (1) did program entrants have *any* level of arrears; and (2) if so, what level of arrears did program entrants bring into the program. These two separate questions are considered in Tables 5 and 6 below.

Table 5 indicates that more low-income customers entering the PEAP program had arrears than did not have arrears. Natural gas customers who also take electric service from Xcel Energy tended to have an even higher incidence of arrears at the time of program entry than did PEAP participants who did *not* also take electric service. While between 60% and 65% of customers receiving both natural gas and electric bills from Xcel Energy entered the PEAP with arrears, irrespective of the month in which they entered (as measured by the Month Tier), between 50% and 55% of PEAP participants who took natural gas service, but not electric service, from Xcel Energy entered the program with arrears.

This finding is consistent with the discussion above relating to bills and consumption. As previously observed, customers taking natural gas but not electric service from Xcel Energy tended to have both somewhat lower bills prior to entering the PEAP and somewhat lower consumption after entering the PEAP. The fact that these somewhat lower bills are also associated with somewhat lower entering arrears presents a consistent story.

What *is* surprising, however, is that customers who entered the PEAP as participants in the discounted rate program entered the program with roughly the same incidence of arrears as their percentage of income counterparts. PEAP customers participating in the discounted rate program

experience, due either to somewhat lower bills or somewhat higher incomes, a lower percentage of income natural gas burdens. The reason these customers participate in the discounted rate program is because their natural gas burdens are already less than that burden deemed to be “affordable.” To participate in the affordable percentage of income program component, in other words, would result in an *increase* in their natural gas bills. Despite this lower percentage of income, customers entering the PEAP’s discounted rate program did not systematically demonstrate a lower incidence of arrears.

Table 5. Whether Program Participant had Beginning Arrears by Program Component and Electric or Not

Affordable Percentage of Income	With Electric Bill			No Electric Bill		
	No Arrears	Had Arrears	Total	No Arrears	Had Arrears	Total
Month Tier						
1	42%	59%	100%	46%	54%	100%
2	39%	61%	100%	48%	52%	100%
3	41%	59%	100%	42%	58%	100%
Discount Rate	With Electric Bill			No Electric Bills		
Month Tier	No Arrears	Had Arrears	Total	No Arrears	Had Arrears	Total
1	40%	60%	100%	45%	55%	100%
2	37%	63%	100%	43%	57%	100%
3	36%	64%	100%	44%	56%	100%

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

While the incidence of arrears within the various PEAP participant groups was tightly grouped, the depth of arrears demonstrates a much different proposition. Across-the-board, PEAP participants who were in the Month Tier 3 participation group (i.e., those with fewer than six months of PEAP participation) exhibited a significantly higher level of arrears than do those with longer periods of PEAP participation. Customers who had participated in PEAP for fewer than six months in the 12 months ending May 2010 had beginning arrears anywhere from two to more than four times higher than customers who had participated in PEAP for 10 or more months in that same time period.

Table 6. Average Balance at Time of Program Entry by Electric and No-Electric Bill

Month Tier	Affordable Percentage of Income			Discount Rate			Grand Total /a/
	With Electric	No Electric	Total	With Electric	No Electric	Total	
1	\$131	\$71	\$85	\$208	\$75	\$130	\$110
2	\$266	\$255	\$257	\$377	\$147	\$232	\$245
3	\$497	\$736	\$654	\$551	\$297	\$424	\$571
Grand Total	\$303	\$300	\$300	\$322	\$129	\$208	\$258

/a/ Grand total includes Zero Income customers.

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

The differences in these arrearage levels, however, likely do not reflect the number of months in which the customer participated in PEAP so much as they reflect the months in which the customer entered PEAP with which to begin. It is likely, in other words, that the differences in the average balance at the time of program enrollment reflect the fact that arrears tend to be higher in the winter and spring months. Customers enrolling in PEAP in the winter and spring will thus bring higher arrears with them into the program.

Table 7 shows that while the vast majority of Month Tier 1 customers entered PEAP in the summer months, the vast major of Month Tier 3 customers entered PEAP in the winter months. Month Tier 2 customers nearly all entered the program in the Fall months.⁵

⁵ There is nothing surprising about this data. With an ending date of May 2010, customers who had participated in the program for six or fewer months would have entered in January or later. A similar observation could be made about the other two tiers as well.

Table 7. Participation Tier by Season in which Participant Entered PEAP by Program Component

Month Tier	Affordable Percentage of Income				Total
	Fall	Spring	Summer	Winter	
1	---	60	1,637	---	1,697
2	970	---	---	122	1,092
3	---	386	---	772	1,158
Grand Total	970	446	1,637	894	3,947

Month Tier	Discounted Rate				Total
	Fall	Spring	Summer	Winter	
1	---	99	1,908	---	2,007
2	1,343	---	---	88	1,431
3	---	182	---	387	569
Grand Total	1,343	281	1,908	475	4,007

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

The seasons are as follows: Winter (Jan, Feb, March); Spring (April, May, June); Summer (July, Aug, Sept); and Fall (Oct, Nov, Dec).

Irrespective of the program in which the customer ultimately participated, the season in which the customer entered the program affects the level of arrears brought into the program. The balance at the time of enrollment varies sharply by the season in which the customer enrolled in the program. The balance at the time of enrollment varied as follows:

- Winter: \$630
- Spring: \$349
- Summer: \$108
- Fall: \$225

While the entry date should not affect other aspects of the evaluation, it provides a ready explanation of why the beginning balance at the time of program enrollment might substantially differ even though the pre- and post-participation consumption and bills were relatively consistent between the Month Tiers.

Estimated vs. Actual Annual Natural Gas Bills

One important aspect of the Xcel Energy PEAP is the extent to which the Company can accurately estimate future bills based on prior consumption and billing history. The Xcel Energy PEAP is a “fixed credit” program (for the affordable percentage of income program component in any event). Through the affordable percentage of income program, the Company calculates

the fixed credit needed to reduce a low-income customer’s historic bill to an affordable percentage of income. The customer bears the risk that future bills will differ from the past bills used to calculate the fixed credit. The difference between future bills and past bills might be attributable to three primary reasons: (1) due to changes in rates, or (2) due to changes in customer consumption, or (3) due to changes in weather. If, for example, weather is colder than normal, and the future bill is higher than the past bill, the customer is responsible for the increase. The “fixed credit” works both ways, however. If weather is warmer than normal, and the future bill is lower than the past bill, the customer benefits from the difference.

Table 8 shows that Xcel Energy’s PEAP participants did not experience annual bills that were substantially different from the annual bills that the Company used to determine program benefits. The ratio of the estimated annual bill at the time of program enrollment to the actual bill (at standard rates) ranged from 98% to 99% for the fixed credit percentage of income program participants. For discount rate participants (who are not as dependent on an accurate estimate since the percentage discount is applied to the actual bill), the ratio of the estimated bill at standard residential rates to the actual annual bill at standard residential rates ranged from 96% to 98%.

Table 8. Ratio: Estimated Annual Bill at Standard Residential Rates to Actual Annual Gas Bill at Standard Residential Rates by Program Component and Entry Month Tier

Month Tier	Affordable Percentage of Income	Program Component		Grand Total
		Discount Rate	Zero Income	
1	0.98	0.96	1.02	0.97
2	0.98	0.98	1.01	0.98
3	0.99	0.98	0.99	0.99
Total	0.99	0.97	1.00	0.98

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

Depth of the Low-Income Discount

While a sizable portion of the PEAP participant population takes service pursuant to a percentage of income based rate, it is possible to compare the dollar discounts provided to customers taking service under these income-based rates to the rate reductions provided customers who take service under more traditional percentage of bill discounts. Table 9 shows that customers taking service under the percentage of income discounts receive a deeper dollar reduction than do customers taking service under the discounted rate.

Customers taking service under the percentage of income program component would, without the Xcel Energy program, have natural gas bills that exceed an affordable percentage of income. Whether due to somewhat higher bills or due to somewhat lower incomes, the percentage of income participants require greater assistance to reduce their bills to an affordable range. While the dollar discounts for these percentage of income customers ranged from more than 35% (Tier

1 participants) to roughly 15% (Tier 3 participants), the dollar rate reduction provided to low-income customers receiving service under the discounted rate receive a dollar rate reduction of between 15% and 25%.

Table 9. Average Ratio of Gas Cost Less Program Credit vs. Gas Cost without Program Credit

Month Tier	Affordable Percentage of Income			Discount Rate			Grand Total /a/
	With Electric	No Electric Bills	Total	With Electric	No Electric Bills	Total	
1	0.62	0.64	0.63	0.85	0.86	0.86	0.75
2	0.71	0.70	0.70	0.89	0.89	0.89	0.80
3	0.86	0.83	0.84	0.95	0.95	0.95	0.87
Grand Total	0.73	0.71	0.71	0.88	0.88	0.88	0.79

/a/ Grand Total includes Zero Income customers.

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

The lower dollar rate reduction for Tier 2 and Tier 3 customers is not only to be expected, but it serves as one of the propositions for using the Monthly Tiers as the basis for making comparisons between program participants who entered the PEAP early in the program (and thus participated for all or nearly all of the 12 months ending May 2010) and program participants who entered the PEAP later in the program (and thus participated for very few months). The early entrants not only received the PEAP discount for more months—a customer who falls into the Monthly Tier 3 had received a bill at standard rates for between 7 and 11 months of the study period—but received the non-PEAP bills for most of the high consumption, high bill, winter heating months. These Tier 3 customers, as is evident from Table 9, fall within the same basic range of bills as would customers who had not participated in PEAP at all. In contrast, customers who fall into Tier 1, not only received their PEAP bills for more months, but received their PEAP bills for the entirety of the winter heating season in the 12 month study period.

Table 9 shows that the relative magnitude of the natural gas discount does not vary based upon whether the PEAP participant also takes electric service from Xcel Energy. In each Monthly Tier (indicating when a customer entered the PEAP), the percentage discounts for customers who take both electric and natural gas service from Xcel Energy, and the percentage discounts for customers who take only natural gas service, are virtually identical. While the dollar amount of the discount may vary, due to the differences in the absolute level of the natural gas bills as discussed earlier, the relative level of the bill discount remains consistent between customers with only natural gas service and customers with both natural gas and electric service.

Table 10. Number of Program Participants by Ratio of Total Annual Gas Cost with Credit vs. Total Annual Gas Cost without Credit

Month Tier	Affordable Percentage of Income						Discount Rate /a/					Grand Total /b/
	< 25%	25% - <50%	50% - <75%	75%+	Bill Credit	Total	< 25%	25% - <50%	50% - <75%	75%+	Total	
1	46	250	919	473	9	1,697	2	3	69	1,933	2,007	3,705
2	1	96	559	436	---	1,092	---	---	5	1,426	1,431	2,609
3	---	1	206	951	---	1,158	---	---	---	569	569	1,861

/a/ Discount Rate program had no participants in Tier 5.

/b/ Grand Total includes Zero Income customers.

Table 10 confirms these findings. While virtually all discount rate participants experience bills of between 75% and 100% of what they would have received under standard rates⁶—this occurs by program design—the percentage of income participants split roughly 50/50 between those who receive a discount of between 25% and 50%, and those who receive a discount of 25% or less. A significant minority of percentage of income participants (roughly 10% of the total) receive discounts of between 50% and 75%.

Participants who were Removed from PEAP

Roughly one of every fourteen (7.4%) PEAP participants exited the program before the end of the study period. Of the 8,940 customers enrolled in PEAP, 666 were removed from the program before June 2010.

The overwhelming majority of the persons removed from PEAP were removed because they moved to a housing unit not eligible for PEAP services. Nearly eight of ten of the PEAP exits (78%) can be attributed to customers who received a final bill and were never reconnected. An additional 12% of the PEAP exits involved customers who moved to a housing unit with an all-electric account (and thus was not eligible for the gas PEAP initiative). Roughly equal proportions of PEAP exits were attributed to the customer requesting to be removed (3%) or to the customer becoming ineligible for the program (4%). A small percentage (3%) was removed for miscellaneous reasons (e.g., customer deceased; actual bills found to be less than the percentage of income payment requirement).

No pattern existed in the timing of program removal. Over the fifteen months of program operation (April 2009 through June 2010), while a slight increase occurred in the number of monthly program exits, no seasonal pattern of exits is evident.

⁶ These figures do not indicate that some discount rate participants received 25% discounts (i.e., had discount bills 75% of what their standard rate bills would have been. The ranges were defined to maintain a parallel presentation of data between the percentage of income and the discount rate participants. The discount rates were set at 15%, 20% or 25% of the standard residential bill, depending on income.

Table 11. Characteristics of Customers Exiting PEAP

Reason for Exit	No. Exits	Pct of Total	Average Use (kWh)	Annual Bill /a/	Beginning Balance /b/
Customer request	22	3%	591	\$676	\$111
Moved out	27	4%	719	\$666	\$375
Ineligible for PEAP	24	4%	760	\$683	\$26
Moved to all-electric acct	83	12%	605	\$580	\$192
Premise final billed	491	74%	680	\$642	\$355
Deceased	4	1%	417	\$448	\$0
3% rule /c/	15	2%	520	\$516	\$42
Total	666				

/a/ Annual bill at standard residential rates estimated at time of program enrollment.

/b/ The “beginning balance” is the balance brought into the program, prior to any arrearage credits being applied to the account.

/c/ The “3% rule” posits that customers with actual bills that are less than the affordable percentage of income will not participate in the program.

Table 11 shows that no substantive difference exists in the consumption or billing based on the reason for program removal. Persons removed due to the fact that their bills were less than the percentage of income, as well as persons removed due to their deaths, had somewhat smaller annual consumption (and bills at standard rates). Table 11 presents the data. Monthly consumption ranged from 605 kWh to 760 kWh, while monthly bills at standard residential rates (projected at the time of enrollment) ranged from \$580 to \$683 (excluding removal for percentage of income purposes and removal due to the death of the customer).⁷

In contrast to the above characteristics, customers removed from the program due either to final bills or due to the fact that they “moved out” exhibited substantively higher beginning arrears. Persons removed from PEAP due to their moving out of their current residence had a beginning balance substantially higher than customers removed from PEAP for other reasons. Customers receiving a final bill had a beginning balance of \$355, while customers moving to a non-PEAP residence had a beginning balance of \$375. These “beginning balances,” however, were balances *prior* to PEAP providing an arrearage credit to reduce those balances for purposes of the program.

PEAP exits cannot be associated with non-discounted electric bills, however. Of the 666 customers leaving the PEAP, only eight (8) also took electric service (not subject to a PEAP discount). The remaining 658 customers exiting PEAP took gas-only Xcel Energy service.

⁷ The low consumption of customers removed due to death is consistent with the generally accepted observation that aged households tend to have lower consumption than do non-aged households.

Summary and Conclusions

This Interim Evaluation of the Xcel Energy Pilot Energy Assistance Program (PEAP) is designed to examine three aspects of the program: (1) the activities of the program; (2) the output of the program; and (3) the outcomes of the program. This section considered the “activities” and the “outputs” of the program.

The PEAP struggled to enroll customers when the program first began. After beginning enrollment in April 2009, the program was roughly 50% enrolled within six months. Changes in enrollment processes were made in mid-program to facilitate enrollment and, by February 2010, nearly 80% of the customers who would be percentage of income participants were enrolled, while nearly 90% of customers who would be discount rate participants were enrolled.

Significant differences did not exist in the underlying natural gas bills for different program participants. However, substantial differences in bills existed between customers who take gas-only service from Xcel Energy and those who take combination gas/electric service. The use of historic annual gas bills yielded reasonably accurate results for purposes of projecting future natural gas bills as the basis for calculating affordability benefits.

Annual natural gas consumption did not increase as a result of program participation. Annual natural gas consumption for program participants (Month Tier 1) and program non-participants (Month Tier 3) were virtually the same.

Substantial differences did exist, however, in the level of arrears. While the proportions of accounts with beginning arrears were reasonably similar between program participants and program non-participants, the average dollar level of arrears sharply differed. Program participants enrolling in the fall and summer months had substantially lower average arrears than did program participants enrolling in the winter and spring.

The percentage of income program component provided greater affordability benefits than did the discount rate program component. The percentage of income program component resulted in a program bill that was roughly two-thirds of what the bill at standard residential rates would have been (i.e., a discount of roughly 30% - 35%). The discount bill program component resulted in a program discount of roughly 15%.

In the next section, the Interim Evaluation begins its assessment of the outcomes of the program through an examination of the payment performance of program participants and non-participants.⁸

⁸ As previously discussed, program “participants” and “non-participants” are defined by the Month Tiers. Program participation is broken into three tiers. Month Tier 1 includes customers who participated in ten or more months of the 12-month period ending May 2010. Month Tier 2 includes customers who participated in between six and nine months out of the 12-month period. Month Tier 3 includes customers who participated in five or fewer months during the 12-month period.

Part 2: Customer Perspective: PEAP Payment Characteristics

This examination of PEAP payment characteristics focuses on payments made by PEAP customers. Since one purpose of the program is to enable customers to make more full and consistent payments, payments that are received from non-customer sources are not included in the analysis.

Since customer payments could not be allocated or attributed to the purpose for which they were made, payments are measured against the following different demarcations of a customer's "bill":

- The customer's total annual bill for current natural gas and electric usage (net of PEAP credits); and
- The customer's total asked-to-pay amount (including the natural gas and electric bills net of PEAP credits and payments toward preprogram arrears).

Both bill demarcations are necessary to gain a complete picture of the payments that have been made toward a customer's bill. In the first scenario, payments are compared to bills for current service without consideration of the extent to which the customer has an arrears. Under this scenario, however, a higher bill payment might simply reflect the existence of a higher arrears. Based on the discussion above, it is clear that the arrears carried by different low-income customers may well differ based on what service is being taken by the customer and when the customer enters the PEAP.

The second scenario takes these levels of arrears into consideration in assessing the extent to which customer payments are made such that they can be applied against bills for current service. Consistent with basic billing and payment practices, customer payments are applied against not only the bill for current service, but against the total asked-to-pay amounts (including both current service and arrears).

The data presented below distinguishes between the two primary components of the PEAP: (1) the percentage of income program component; and (2) the discount rate program component. A distinction is also made between PEAP customers who take only natural gas service from Xcel Energy and PEAP customers who take both natural gas and electric service from Xcel Energy.⁹

⁹ As noted elsewhere, Xcel Energy provides gas and electric service to all customers within its service territory. To the extent that customers take gas-only service (without electric service), those customers live within the Xcel Energy gas service territory, but live within the electric service territory of a different electric utility.

Average Annual Bills vs. Average Annual Payments

The purpose of this section is to assess the average annual payments made by PEAP participants to the average annual bills rendered to those customers. One purpose of the PEAP is to enable program participants to sustain complete bill payment.

The extent to which the program accomplishes this objective is measured by examining a bill payment coverage ratio. This ratio places the customer payment in the numerator and the customer's "bill" in the denominator. To the extent that the customer has a bill payment coverage ratio of 1.0, the customer is paying the complete bill for current service. To the extent that the customer has a bill payment coverage ratio of more than 1.0, the customer is paying his or her bill for current service plus retiring some part of any arrearage appurtenant to that bill. To the extent that the customer has a bill payment coverage ratio of less than 1.0, the customer is failing to pay the entire bill for current service.

Annual Payment vs. Annual Natural Gas Bill plus Electric Bill (net of PEAP Credits)

PEAP customers who take only natural gas service from Xcel Energy have higher bill payment coverage ratios than do PEAP customers who take both natural gas and electric service. During the months studied for this Interim Evaluation (June 2009 through May 2010), Xcel Energy did not operate an electric affordability program. As a result, customers with combined gas and electric service, while receiving discounted natural gas bills, were nonetheless still receiving bills for electric service at standard residential rates from Xcel Energy. In contrast, customers taking only natural gas service from Xcel Energy would pay their electric bills, if any, to a utility other than Xcel Energy (and thus receive a smaller Xcel Energy bill).

The difference between receiving the smaller discounted gas bill and the larger bill combining discounted gas service with non-discounted electric service appears to result in a higher bill payment coverage ratio for gas-only PEAP participants. PEAP customers who combine their gas bills with non-discounted electric service tend to have a bill payment coverage ratio of roughly 60% (i.e., payments equal 60% of the combined gas/electric bill for current usage). In contrast, payments for gas-only customers result in a bill payment coverage ratio of between 80% and 110%. The pattern of payment coverage ratios is similar for customers receiving PEAP benefits through the affordable percentage of income program component and customers receiving PEAP benefits through the discount rate program component.

Table 12 appears to suggest that customers make higher bill payments, with corresponding higher bill payment coverage ratios without the program (Month Tier 3) than with the program (Month Tier 1). For Month Tier 1 customers having gas-only service, participants receiving percentage of income benefits demonstrate a bill payment coverage ratio of 0.79, compared to the payment coverage ratio of 1.10 for PEAP Tier 3 customers. For Month Tier 1 customers having gas-only service, participants receiving discounted rate benefits demonstrate a bill payment coverage ratio of 1.15, compared to the bill payment coverage ratio of 1.15 for Month Tier 3 customers.

Three observations, however, caution that care be taken before drawing conclusions based on this data alone.

- First, the Company cannot distinguish customer payments made toward current bills and customer payments made toward arrears. Under the Company’s data, a “customer payment” is simply that: a payment, irrespective of whether that payment was made toward current bills or toward current bills plus arrears (or current bills and some other fees).
- Second, Table 5 (previously discussed) reports that the arrears for Month Tier 3 customers are substantially higher than the arrears for Month Tier 1 customers. To the extent that customers make payments toward their arrears, their bill payment coverage ratio tied to only their current bill will be higher.
- Third, Month Tier 1 customers (who are the customers who have participated in PEAP for all or nearly all of the 12 month study period) will have had their arrears set aside, with lower (or no) corresponding customer payments toward those arrears. In contrast, Month Tier 3 customers (who are the customers who have participated in PEAP for few of the study months) will have continuing responsibility to pay for their arrears.

Table 12. Average Annual Customer Payment vs. Average Annual Bill (Gas plus Electric net of PEAP Credits)

Month Tier	Affordable Percentage of Income								
	With Electric Bills			No Electric Bills			Total		
	Avg Bill	Avg Pyt	Ratio	Avg Bill	Avg Pyt	Ratio	Avg Bill	Avg Pyt	Ratio
1	\$1,539	\$943	0.61	\$435	\$343	0.79	\$702	\$488	0.70
2	\$1,644	\$1,027	0.62	\$490	\$487	0.99	\$731	\$600	0.82
3	\$1,822	\$1,155	0.63	\$640	\$701	1.10	\$1,045	\$857	0.82
Month Tier	Discount Rate								
	With Electric Bills			No Electric Bills			Total		
	Avg Bill	Avg Pyt	Ratio	Avg Bill	Avg Pyt	Ratio	Avg Bill	Avg Pyt	Ratio
1	\$1,610	\$968	0.60	\$498	\$408	0.82	\$952	\$637	0.67
2	\$1,628	\$1,114	0.68	\$517	\$534	1.03	\$928	\$748	0.81
3	\$1,775	\$1,218	0.69	\$562	\$649	1.15	\$1,167	\$933	0.80

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

The fact that the distinction between Month Tier 1 and Month Tier 3 customers largely dissipates for PEAP customers who also have electric bills would seem to counsel that additional inquiry is needed before specific conclusions are drawn about the impact of PEAP on the ability to sustain payments.

The following conclusions can be drawn from Table 12 that are important from a program planning and implementation perspective.

- First, Table 12 supports the conclusion that customers who take both natural gas and electric service from the same utility provider lose a large part of the affordability benefits to the extent that affordability benefits are not delivered for both fuels. Table 12 clearly shows that the bill payment coverage ratios for customers with non-discounted electric bills are substantively lower than the bill payment coverage ratios for customers with gas bills standing alone.
- Second, Table 12 supports the conclusion that, despite the affordability limitations of either the percentage of income or discount rate program components, program participants have an ability to somewhat increase their payments above those levels deemed to be affordable to make moderate contributions toward pre-existing arrears. The Month Tier 2 customers, for both the percentage of income and discount rate program components, took service with limited months of discounted bills. While their bills increased modestly, the payments made toward their bills demonstrated a corresponding increase. Table 12 supports a program decision to have program participants responsible for some portion of their pre-existing arrears.

Having noted the issue (and uncertainty) presented by Table 12, the next section thus examines bills and payments while taking into account the level of arrears that customers are responsible for paying.

Annual Payment vs. Annual Asked to Pay Amount (Gas plus Electric plus Arrears Net of PEAP Credits)

Customers taking service under the PEAP percentage of income program component paid a higher percentage of their bills after taking arrearage payments into account. Table 13 sets out data comparing customer payments available for current bill payment against the total bill rendered to customers (including bills for current gas and electric).¹⁰ Table 13, in other words, compares the bills for current usage (net of PEAP credits) to the customer payments available to be applied against bills for current usage.

¹⁰ Arrears for the months in which customers participate in PEAP include the designated arrears payment times the number of months of PEAP participation. Arrears for PEAP non-participants include the arrears at the time of program enrollment minus the PEAP arrears bills for the months of PEAP participation. In calculating bills in this fashion, arrears are subtracted from customer payments before calculating the bill payment coverage ratio.

It should be noted, however, that several of the observations made based on Table 12 are evident in Table 13 as well.

- The offer of gas affordability benefits to combination electric/gas customers, without offering corresponding electric benefits, washes out the affordability benefits (as determined by comparing the payment coverage ratios of customers with electric bills to the payment coverage ratios of customers without electric bills).
- The diluted impact of the natural gas affordability benefits for customers with combination gas/electric bills is also evident from the narrower range within which the payment coverage ratios fall for the combination customers, as opposed to the gas-only customers.

Table 13 shows, however, that when the impact of arrearage payments is eliminated, customers who are receiving percentage of income bills (Month Tier 1) increase their bill payment coverage ratios as compared to the performance of customers who did not (Month Tier 3).¹¹ The increase in the bill payment coverage ratios existed for both gas-only and electric/gas combination customers within the population receiving percentage of income bills.

In contrast, PEAP customers receiving service under the discount rate program component did not demonstrate the same level of improvement. Discount rate recipients receiving combination gas/electric service demonstrated virtually no change. Discount rate gas-only customers experienced a slight decrease in their bill payment coverage ratio.

¹¹ The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

Table 13. Average Annual Customer Payment Available for Current Bills vs. Average Current Bill Amount (Gas plus Electric net of PEAP Credits)

Month Tier	Affordable Percentage of Income								
	With Electric Bills			No Electric Bills			Total		
	Avg Bill	Avg Pyt	Ratio	Avg Bill	Avg Pyt	Ratio	Avg Bill	Avg Pyt	Ratio
1	\$1,686	\$943	0.56	\$512	\$343	0.67	\$795	\$637	0.80
2	\$1,913	\$1,027	0.54	\$750	\$487	0.65	\$993	\$748	0.75
3	\$2,320	\$1,155	0.50	\$1,375	\$701	0.51	\$1,699	\$933	0.55
Month Tier	Discount Rate								
	With Electric Bills			No Electric Bills			Total		
	Avg Bill	Avg Pyt	Ratio	Avg Bill	Avg Pyt	Ratio	Avg Bill	Avg Pyt	Ratio
1	\$1,819	\$968	0.53	\$574	\$408	0.71	\$1,082	\$637	0.59
2	\$2,005	\$1,114	0.56	\$664	\$534	0.80	\$1,160	\$748	0.64
3	\$2,324	\$1,218	0.52	\$858	\$649	0.76	\$1,590	\$933	0.59

In reviewing the data in Tables 12 and 13, the reader should remember that the final result in bill payments (as measured by bill payment coverage ratios) is only one aspect of the extent to which a program such as PEAP generates (or fails to generate) positive outcomes. Not only is it important to consider how much money is collected, and what proportion of the total bill is collected, but it is important to consider how hard a utility must work in order to achieve that payment result. This notion of collection efficiency is considered in more detail below.

Sum of Annual Bills vs. Sum of Annual Payments

Data relating to the *aggregate* bills and payments confirms the observations made above based on *average* per-customer bills and payments. The data presented in Table 14 below shows that the extension of the average bills and payments (taking into account arrears) results in the same payment coverage ratios.

- Focusing on gas-only (“no electric bills”) customers, PEAP participants (Month Tier 1) paid 67% of their current bills, compared to PEAP non-participant (Month Tier 3) payments of 51%. PEAP participants falling into the mid-range of participation also fall into the mid-range of payment coverage ratios.
- Focusing on combination gas/electric (“with electric bill”) customers, PEAP participants (Month Tier 1) paid 56% of their current bills, compared to PEAP non-participant (Month Tier 3) payments of 50%. Combination gas/electric PEAP customers received non-discounted electric bills.

Table 14. Aggregate Annual Customer Payments Available for Current Bills vs. Aggregate Current Bill Amount (Gas plus Electric net of PEAP Credits)

Month Tier	Affordable Percentage of Income								
	With Electric Bill			No Electric Bills			Total		
	Sum Bills	Sum Pyts	Ratio	Sum Bills	Sum Pyts	Ratio	Sum Bills	Sum Pyts	Ratio
1	\$691,107	\$386,670	0.56	\$658,715	\$442,077	0.67	\$1,349,821	\$828,747	0.61
2	\$436,269	\$234,189	0.54	\$647,998	\$420,507	0.65	\$1,084,267	\$654,697	0.60
3	\$920,857	\$458,484	0.50	\$1,046,684	\$533,592	0.51	\$1,967,542	\$992,076	0.50
Month Tier	Discount Rate								
	With Electric Bills			No Electric Bills			Total		
	Sum Bills	Sum Pyts	Ratio	Sum Bills	Sum Pyts	Ratio	Sum Bills	Sum Pyts	Ratio
1	\$1,491,405	\$794,934	0.53	\$680,867	\$484,447	0.71	\$2,172,273	\$1,279,381	0.59
2	\$1,060,464	\$589,241	0.56	\$598,851	\$481,231	0.80	\$1,659,315	\$1,070,472	0.65
3	\$659,999	\$345,901	0.52	\$244,615	\$184,859	0.76	\$904,615	\$530,760	0.59

The "Monthly Tiers" are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

The positive impacts of the PEAP program are thus demonstrated in Table 15. Table 15 shows the revenues that would have been received had PEAP non-participants paid at the rate of their PEAP participant counterparts.

Table 15 shows that for combination gas/electric percentage of income customers:

- Rather than collecting \$460,429 for Month Tier 3 customers (with electric bills), Xcel Energy would have collected \$515,680 using the PEAP;
- Rather than collecting \$218,135 for Month Tier 2 customers (with electric bills), Xcel Energy would have collected \$244,311 using the PEAP.
- Rather than collecting \$1,024,117 for all three tier of customers with electric bills, Xcel Energy would have collected \$1,147,010 (a gain of \$122,895) using the PEAP.

Table 15. Dollarized Impact of Change in Payment Coverage Ratios for Aggregate Annual Customer Payments Available for Current Bills vs. Aggregate Current Bill Amount (Gas plus Electric net of PEAP Credits)

Affordable Percentage of Income							
Month Tier				With Electric Bill			Gain/(Loss)
	Sum Bills	Sum Pyts	Pyt Cvg Ratio	Sum Bills	Sum Pyts	Pyt Cvg Ratio	
1	\$691,107	\$345,554	.50	\$691,107	\$387,020	0.56	\$41,467
2	\$436,269	\$218,135	.50	\$436,269	\$244,311	0.56	\$26,177
3	\$920,857	\$460,429	.50	\$920,857	\$515,680	0.56	\$55,252
Month Tier				No Electric Bills			Gain/(Loss)
	Sum Bills	Sum Pyts	Pyt Cvg Ratio	Sum Bills	Sum Pyts	Pyt Cvg Ratio	
1	\$658,715	\$335,945	.51	\$658,715	\$441,339	0.67	\$105,394
2	\$647,998	\$330,479	.51	\$647,998	\$434,159	0.67	\$103,680
3	\$1,046,684	\$533,809	.51	\$1,046,684	\$701,278	0.67	\$167,469

There may be minor differences in results from prior tables due to rounding.

Similarly, Table 15 shows that for gas-only percentage of income customers:

- Rather than collecting \$533,684 for Month Tier 3 gas-only (“no electric bills”) customers, Xcel Energy would have collected \$701,278 using the PEAP;
- Rather than collecting \$330,479 for Month Tier 2 gas-only (“no electric bills”) customers, Xcel Energy would have collected \$434,159 using the PEAP.
- Rather than collecting \$1,200,232 for all three tiers of gas only customers, Xcel Energy would have collected \$1,576,776 (a gain of \$376,544).

The corresponding data for the discount rate program component would show a loss of revenue due to the Company’s rate affordability initiative. This loss of revenue arises because the payment coverage ratio with the program (Month Tier 1) is lower than the payment coverage ratio without the program (Month Tier 3).

Incidence and Depth of Arrears

One way to assess the impact of low-income affordability programs on customer payment patterns is to consider the incidence and depth of arrears maintained by program participants and non-participants. The “incidence” of arrears examines the number of accounts with arrears, without consideration of the size of any specific arrears. Customers with \$100 and customers

with \$500 of arrears are weighted equally. In contrast, the “depth” of arrears considers the dollar value of the arrears for individual accounts.

The Xcel Energy PEAP initiative appears to improve the arrearage situation of program participants relative to non-participants. The improvement is seen primarily in the population of customers who take natural gas service subject to affordability benefits. Table 16 presents the data. According to the data presented in Table 16, percentage of income program participants taking only natural gas service had fewer accounts with small arrears than do program non-participants. Table 16 divides the PEAP population into four ranges of “current debt.” The Company’s report of “current debt” presents the balance on the customer’s bill as of May 2010, the last month of the study period.

Table 16. Percent of Accounts by Range of Current Debt (May 2010).

		Affordable Percentage of Income									
		With Electric Bills					No Electric Bills				
Month Tier		\$0	\$1 - \$50	\$51 - \$200	\$200+	Total	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total
1		62%	6%	26%	6%	410	69%	8%	22%	1%	1,287
2		63%	7%	24%	7%	228	70%	8%	20%	2%	864
3		65%	5%	24%	6%	397	60%	9%	28%	4%	761
		Discount Rate									
		With Electric Bills					No Electric Bills				
Month Tier		\$0	\$1 - \$50	\$51 - \$200	\$200+	Total	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total
1		57%	5%	29%	8%	821	62%	8%	28%	3%	1,187
2		57%	4%	31%	7%	529	65%	8%	26%	2%	902
3		61%	2%	28%	9%	284	60%	9%	30%	1%	285

As can be seen in Table 16, a higher proportion of Month Tier 1 gas-only income percentage of income participants had zero dollars (\$0) of debt on their May 2010 bills than did their Month Tier 3 counterparts. While 60% of Month Tier 3 percentage of income participants had no debt on their May 2010 bills, 69% of the Month Tier 1 percentage of income had no debt on their most recent (May 2010) bill. At the same time that the proportion of customers with \$0 in debt was increasing, the proportion of customers with moderate and higher levels of debt was decreasing. The proportion of customers with \$200 or more of current debt decreased from 4% to 1% for gas-only percentage of income participants, while the proportion of customers with between \$50 and \$200 of current debt decreased from 28% to 22%.

A somewhat similar, but less clear, pattern was evident within the group of customers receiving their affordability benefits through a discounted rate. While the proportion of gas-only customers with high levels of arrears somewhat increased within the discount rate population (from 1% to 3%), the proportion of customers with no debt (\$0) demonstrated a slight increase (from 60% to 62%). The proportions of customers with low and moderate levels of debt also slightly decreased for the gas-only discount rate Month Tier 1 program participants (relative to their Month Tier 3 counterparts).

Under both program components, the gas-only customers (who received a reduced bill for their entire Xcel Energy bill) out-performed the low-income customers who take combination gas and electric service from Xcel Energy. For the combination customers in both the percentage of income and discount rate programs, there was a decrease in the proportion of Month Tier 1 customers (participants) with \$0 of current debt relative to Month Tier 3 customers (non-participants) with \$0 of current debt. While the decrease was slight for both program components, it is noteworthy to the extent that it differs from the experience of the gas-only customers who received a bill reduction for their entire Xcel Energy bill.

Neither did the combination gas/electric customers demonstrate a reduction in the proportion of customers with moderate or high levels of arrears, again in contra-distinction to the gas-only populations.

Reducing arrears to the \$0 level, or even to the low or moderate tiers of current balances as of May 2010, is not an insubstantial task. Table 17A presents data on the average *beginning* balance as of the time at which customers entered the rate affordability program (disaggregated by program component and by the current level of arrears). The data ranges, however, are ranges for the current balances. The population in each cell, in other words, is defined by reference to current balances as of May 2010; the dollar values in each cell reflect beginning balances (as of the time of program enrollment).

To further explain the data presented in Table 17A, consider the following examples as illustrative:

- Month Tier 1 combination gas/electric customers (customers who have participated in PEAP for ten to twelve months out of the 12 months ending May 2010) having a \$0 arrears in May 2010: These customers had an average beginning balance (at the time of program enrollment) of \$135.
- Month Tier 2 gas-only customers (customers who have participated in PEAP for six to nine months out of the 12 months ending May 2010) having a current balance of between \$51 and \$200: These customers have an average beginning balance (at the time of program enrollment) of \$408.

Table 17A. Average Beginning Balance by Range of Current Debt

Month Tier	Affordable Percentage of Income									
	With Electric Bills					Without Electric Bills				
	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total
1	\$135	\$140	\$132	\$81	\$131	\$59	\$104	\$98	\$63	\$71
2	\$266	\$114	\$269	\$417	\$266	\$173	\$215	\$408	\$1,877	\$255
3	\$500	\$359	\$515	\$515	\$497	\$627	\$319	\$914	\$2,041	\$736
Month Tier	Discount Bills									
	With Electric Bills					No Electric Bills				
	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total
1	\$189	\$150	\$237	\$284	\$208	\$55	\$61	\$125	\$74	\$75
2	\$323	\$180	\$392	\$840	\$377	\$148	\$81	\$162	\$187	\$147
3	\$486	\$572	\$550	\$978	\$551	\$249	\$182	\$398	\$825	\$297

In contrast to these beginning balances, Table 17B presents the average *current* balance by the same arrearage ranges. Customers in the \$0 bucket obviously have a current balance of \$0. Month Tier 1 percentage of income gas-only customers with a current balance of between \$1 and \$50 have reduced their arrears from \$102 to \$61. Month Tier 1 combination gas/electric discount rate customers with a current balance of between \$51 and \$200 have reduced their arrears from \$237 to \$124.

Table 17B. Average Current Balance by Range of Current Debt

Month Tier	Affordable Percentage of Income									
	With Electric Bills					Without Electric Bills				
	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total
1	\$0	\$24	\$116	\$301	\$50	\$0	\$28	\$102	\$249	\$28
2	\$0	\$24	\$109	\$266	\$45	\$0	\$28	\$94	\$238	\$26
3	\$0	\$21	\$121	\$281	\$47	\$0	\$25	\$97	\$251	\$39
Month Tier	Discount Bills									
	With Electric Bills					No Electric Bills				
	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total	\$0	\$1 - \$50	\$51 - \$200	\$200+	Total
1	\$0	\$28	\$124	\$279	\$60	\$0	\$28	\$100	\$248	\$36
2	\$0	\$28	\$126	\$258	\$59	\$0	\$31	\$95	\$278	\$31
3	\$0	\$31	\$123	\$273	\$60	\$0	\$29	\$102	\$261	\$37

Care must be taken in interpreting the arrearage data. The following items in particular should be noted. First, the “current balance” is *not* what is “left over” from the beginning balance. For percentage of income customers, customer arrears are paid in monthly installments over the course of the customer’s participation in PEAP. The current balance, therefore, involves the dollars of percentage of income payments plus arrearage payments that had been billed, but

unpaid, as of May 2010. In contrast, the discount rate customers receive a dollar credit toward their preprogram arrears. The remaining unpaid balance was divided into either a 12 month payment plan or a 24 month payment plan (depending on the size of the balance). Again, the “current balance” includes the discounted bills for current usage plus the arrearage installments that had been billed but not paid as of May 2010.

The reader should keep in mind the nature of the comparison groups. The Company could not generate a true control group for purposes of this interim evaluation. For most aspects of the evaluation, comparing Month Tier 3 customers (as the “participant” group) to Month Tier 1 customers (as the “non-participant” group) has the same effect as having such a control group. This arrearage analysis is the one place in this evaluation where the lack of a control group may have substantive impacts on the analysis.

These impacts arise because of the following: A customer who entered PEAP in June 2009 would be a Month Tier 1 customer (having 12 months of participation). A customer who entered PEAP in March 2010 would be a Month Tier 3 customer (having three months of participation). Each customer (if a percentage of income customer) would have had their pre-program arrears set aside in the month in which they entered the program. If both customers have a “current balance” of \$70 in May 2010, that \$70 does not present equal performance. The \$70 for the Month Tier 1 customers means that the customer has unpaid program bills of \$70 after 12 months of PEAP participation. The \$70 for the Month Tier 3 customer means that the customer has unpaid program arrears of \$70 after only three months of PEAP participation.

In sum, the data in Tables 17A and 17B must be carefully used. The limitations of its use should simply be noted. The data in Tables 17A and 17B can be used to compare where each sub-population was in May 2010 to where each sub-population was when the customers enrolled in the program. It should not, however, be used to compare one sub-population to another sub-population within the Tables.

Summary and Conclusions

The Xcel Energy rate affordability program appears to help low-income customers improve their capacity to pay their home energy bills. The primary benefit arises in the percentage of income program component. In many ways, this impact is not surprising. The percentage of income program component is offered to customers who, without the PEAP, would receive gas-only (or combination gas and electric bills) that exceed an affordable percentage of income. In contrast, the discount rate program is offered to customers whose natural gas bill would have met the affordability criteria without any discount, but who were enrolled in the discount rate component of PEAP due to other considerations. These customers are provided a bill (discounted by prescribed percentages of the bill) irrespective of the resulting percentage of income home energy burden. While the improvement in payment coverage ratios was small, it was cognizable.

The data above supports the conclusion that offering affordability benefits limited to one service of a combination natural gas/electric customer does not achieve the same level of outcomes as offering affordability benefits to a natural gas-only customer. Not only were payment coverage ratios higher for gas-only customers receiving affordability benefits, but the improvement in

payment coverage ratios for gas-only customers receiving affordability benefits was greater as well.

The data above supports the conclusion that it is reasonable to require low-income customers to make some payment toward their preprogram arrears. When program participants were responsible for making arrearage payments, their overall payments went up accordingly. Indeed, customers who carried arrears payment requirements made higher payments than customers who did not carry such payment requirements.

The data above supports the conclusion that the affordability program helps customers reduce their arrears. The arrearage reduction impacts are most pronounced for gas-only customers participating in the percentage of income program. The arrearage reduction impacts, however, need to be interpreted with caution, given the nature of the “non-participant” comparison group used in this Interim Evaluation.

Finally, the affordable percentage of income program component appears to achieve greater beneficial outcomes than does the discount rate program. Customers taking service under the discount rate program component tended to make higher payments across the board than did their percentage of income program counterparts. Moreover, customers taking service under the discount rate program component tended to have somewhat higher bill payment coverage ratios than did percentage of income participants. However, customers taking service under the discount rate program did not experience the same increase in their bill payment coverage ratios that the percentage of income participants experienced.

None of the program outcomes discussed in this section considers the relative ease or difficulty faced by the utility in generating the payments received from program participants and non-participants. The question of the effectiveness and productivity of collection efforts is addressed in the next section.

Part 3: Utility Perspective: Collection Effectiveness and Productivity

In contrast to the discussion above, which considers the outcomes of the Xcel Energy PEAP from the perspective of the customer (as measured by payment and arrearage levels), the discussion below considers the outcomes of PEAP from the perspective of the Company. This Company focus examines data primarily relating to collection efforts.

Collections Effectiveness

Any evaluation of a low-income program affordability program should consider the effectiveness of the program in accomplishing the articulated outcomes. No matter what level of costs is being incurred, by the program or by the alternatives against which the program is being compared, the “cost-effectiveness” of the activity is impeded to the extent that the objectives are not being accomplished. With this in mind, the discussion below first considers collections effectiveness within the context of the Xcel Energy PEAP.

Collections Effectiveness: Notices of Disconnection for Nonpayment

The low-income PEAP initiative appears to reduce the need for Xcel Energy to engage in collection activity reaching the point at which the Company will issue a notice of the disconnection of service for nonpayment. Table 18 compares the proportion of accounts receiving a disconnect notice at some point in the study period, disaggregated by three different factors: (1) program component; (2) whether the natural gas customer also takes electric service from Xcel Energy; and (3) the monthly tier in which the customer entered the low-income affordability program.¹² Table 18 does not distinguish between customers based on the total number of disconnect notices received. This data considers only whether a customer received at least one disconnect notice in the 12-month period ending May 2010.

¹² The Month Tiers are used to distinguish between “participants” and non-participants. Tier 1 includes customers who participated in PEAP for ten or more months out of the twelve month period ending May 2010. Tier 2 includes customers who participated in PEAP for fewer than ten months but more than five months (6 – 9). Tier 3 includes customers who participated in PEAP for fewer than five months out of the twelve month period (1 – 5).

Table 18: Percentage of Accounts with Disconnect Notices by Program Component

Month Tiers	Affordable Percentage of Income		Discount Rate	
	With Electric Bills	No Electric Bills	With Electric Bills	No Electric Bills
1	35%	14%	41%	21%
2	41%	22%	43%	28%
3	52%	40%	41%	32%

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

Three observations can be drawn from the data in Table 18. First, gas-only PEAP participants (i.e., those who take natural gas service but not electric service from Xcel Energy) receive noticeably fewer disconnect notices than do natural gas PEAP participants who also take electric service from the Company.¹³ A consistently lower percentage of gas-only customers receiving affordability benefits through both the percentage of income program component and the discount rate program component receive disconnect notices than do customers who take combination gas/electric service from the Company. For Month Tier 1 customers, 14% of gas-only customers received disconnect notices in the 12-month study period, while 35% of combination gas/electric customers did within the percentage of income program component. For Month Tier 1 customers, 21% of gas-only customers received disconnect notices in the 12-month study period.

Second, the need to invoke the collections process by issuing a disconnect notice was reduced by an increased length of participation in the PEAP. While 40% of gas-only percentage of income Month Tier 3 participants received disconnect notices in the twelve months ending May 2010, 14% of gas-only Month Tier 1 participants received disconnect notices. The difference between gas-only and combination gas/electric customers increased as the length of PEAP participation increased. While the difference between Month Tier 3 gas-only and Month Tier 3 combination gas/electric customers was 12% (52% combination customers receiving disconnect notices while 40% gas-only customers did), the difference had increased to 21% for Month Tier 1 customers (35% combination customers receiving disconnect notices while 14% of gas-only customers did). The same increase in the difference between the combination gas/electric customers and the gas-only customers can be seen within the population of customers receiving affordability benefits through discount rates. An increasing length of participation in PEAP appears to help reduce the proportion of customers receiving a nonpayment disconnect notice.

Finally, percentage of income program participants performed better than program participants receiving service through the discount rate program component. While the percentage of income customers used to reflect the non-participant population (Month Tier 3) had a higher proportion receiving disconnect notices (for both gas-only and combination customers), that result reversed itself (for both gas-only and combination customers) when affordability benefit began to flow.

¹³ As discussed above, during the 12-month time period studied for this Interim Evaluation, Xcel Energy did not operate a corresponding electric low-income program.

For both Month Tier 1 and Month Tier 2 customers, a lower proportion of percentage of income customers received disconnect notices than did discount rate customers.

According to the data in Table 19, not only did the percentage of accounts receiving disconnect notices decrease as the length of PEAP participation increased, but the aggregate number of disconnect notices decreased as well. Table 19 presents the number of total disconnect notices issued per program participant disaggregated by program component and Month Tiers. With the exception of percentage of income customers receiving combination gas/electric service from Xcel Energy, during the 12-month period ending May 2010, program participants received noticeably fewer disconnect notices. Within the population of customers taking natural gas but not electric service from Xcel Energy, the number of notices per customer decreased from 1.60/participant for Month Tier 3 customers to less than 0.40 per participant for Month Tier 1 customers.

Table 19: Number of Disconnect Notices per Participant by Program Component

Month Tiers	Affordable Percentage of Income		Discount Rate	
	With Electric Bills	No Electric Bills	With Electric Bills	No Electric Bills
1	1.11	0.35	0.55	0.38
2	2.00	0.53	0.86	0.50
3	1.15	0.60	1.60	1.60

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

The average number of disconnect notices per program participant was fewer for gas-only customers than it was for combination gas/electric customers. Customers taking natural gas service (but not electric service) experienced virtually identical results as the length of participation in PEAP increased. While Month Tier 1 gas-only customers received an aggregate of between 35 and 40 disconnect notices for every 100 PEAP participants (0.35 – 0.38 notices per participant), combination gas/electric customers received between 55 and 111 notices per 100 participants (0.55 – 1.11 notices per participant).

As with the percentage of accounts receiving at least one disconnect notice, the difference between the gas-only population and the combination gas/electric population increased as the customers increased the length of time in which they participated in PEAP.

Collections Effectiveness: Disconnections for Nonpayment

Increasing length of participation in PEAP not only reduces the need for collection activity as measured by the issuance of disconnect notices, but also appears to reduce the need to actively disconnect service for nonpayment as well. For three of the four populations studied (the exception being percentage of income participants with combination gas/electric service),

increased participation in PEAP reduces the proportion of customers who experience an actual termination of service for nonpayment.

Gas-only customers taking service under the both percentage of income and discount rate program components experience a consistent (and substantial) drop in the percentage of population experiencing a service termination between Month Tier 3 and Month Tier 1 customers. While nearly 1% of all Tier 3 percentage of income gas-only customers experienced a shutoff, the percentage dropped to half that level for Month Tier 1 customers. While 2.5% of Month Tier 3 discount rate combination gas/electric customers experienced a shutoff, that percentage dropped to 0.9% for Month Tier 1 customers. A similar reduction occurred for combination gas/electric customers receiving benefits through the discounted rate program component.

The distinction between percentage of income participants and discount rate participants identified with respect to disconnection *notices* does not appear to hold for the *actual* disconnection of service. While the gas-only customers began in different places (0.9% of Month Tier 3 percentage of income customers with disconnections for nonpayment vs. 2.5% discount rate Month Tier 3 customers), that difference had dissipated for Month Tier 1 customers (0.5% for gas-only percentage of income participants vs. 0.6% for gas-only discount rate participants). Roughly the same proportion of Month Tier 1 customers experienced the disconnection of service for both the percentage of income and discount rate program components.¹⁴

Table 20: Percentage of Accounts with Disconnection of Service by Program Component

Monthly Tiers	Affordable Percentage of Income		Discount Rate	
	With Electric Bills	No Electric Bills	With Electric Bills	No Electric Bills
1	1.7%	0.5%	0.9%	0.6%
2	3.1%	0.8%	1.3%	0.8%
3	1.8%	0.9%	2.5%	2.5%

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

Table 21 completes the picture of service disconnections for nonpayment (and disconnect notices). The results on the number of disconnections per 100 participants document a similar pattern to those results previously discussed. Month Tier 1 customers (who are the PEAP program participants) experience substantially fewer disconnections of service than do their Month Tier 3 counterparts. The number of disconnections for nonpayment is roughly the same for Month Tier 1 gas-only customers taking service under the percentage of income and discount rate program components (0.62 for percentage of income vs. 0.67 for discount rate).

¹⁴ As with disconnection notices, the data indicates a difference in results for combination gas/electric customers participating in the percentage of income program component. The reason for these differences in results merit additional inquiry. No explanation for the different results is offered at this time.

As with the previous discussions, gas-only customers perform better than customers taking combination natural gas service (which was subject to affordability rate reductions) and electric service (which was not subject to affordability benefits).

Table 21: Number of Disconnections of Service for Nonpayment per 100 Participants by Program Component

Monthly Tiers	Affordable Percentage of Income		Discount Rate	
	With Electric Bills	No Electric Bills	With Electric Bills	No Electric Bills
1	1.95	0.62	0.98	0.67
2	3.51	0.93	1.51	0.89
3	2.02	1.05	2.82	2.81

The “Monthly Tiers” are as follows for the 12 month period ending May 2010: Tier 1: PEAP participation in 10 or more months; Tier 2: PEAP participation in 6 to 9 months; Tier 3: PEAP participation in 1 to 5 months.

Collection Productivity

In addition to assessing the effectiveness of a low-income program in accomplishing desired outcomes, it is necessary to judge the productivity of the program in accomplishing those desired outcomes as well. Addressing the productivity of utility efforts helps the utility assess whether there is a proper match between the tool being employed and the type of payment problem that is sought to be remedied. On the one hand, in other words, evaluating the productivity of the program (relative to its alternatives) helps to determine whether the company is using a tool that exceeds the need for collection. On the other had, evaluating productivity will help the company evaluate whether it is using a tool that is insufficient given the types of problem extant on the utility’s system. Productivity implies not only some absolute level of output (i.e., “effectiveness”) but some level of output given a designated level of input as well.

Improvements in the productivity of collection activities can occur in either of two ways:

- The need for collection interventions can be reduced thus allowing an increased payment per each collection intervention performed; in the first instance, improvement can be seen even if total dollars collected remains the same (but the interventions needed to generate those dollars decreases); or
- The customer response to the collection activity can improve thus allowing an increased payment per each collection intervention performed. In this second instance, improvement can be seen if the total number of collections activities remains the same but the dollars generated by those activities increase.¹⁵

¹⁵ Productivity is measured by the ratio: DC / CE, where “DC” = dollars collected; and “CE” = collection effort. In the first illustration, “CE” (the denominator) is reduced. In the second illustration, “DC” (the numerator) is increased.

In essence, this evaluation process considers the effectiveness and efficiency of collection activities from two different but related perspectives. On the one hand, it examines how much revenue is generated by each collection intervention. On the other hand, it examines how many collection activities are associated with the generation of the revenue.

Table 22 appears to indicate that participation in the Xcel Energy PEAP program helps to reduce the need for collection activity extending to the issuance of notices of disconnection for nonpayment for the percentage of income participants. While program non-participants (Month Tier 3) received 2.3 disconnect notices for every \$1,000 in payments they made to the Company, program participants (Month Tier 1) received only 1.9 disconnect notices. Percentage of income combination gas/electric participants, who received affordability benefits for their gas bills but not their electric bills, did not perform as well. While these combination gas/electric participants did not increase the need for collection activity (as measured by disconnect notices), neither did they improve.

In contrast to the percentage of income customers, customers receiving affordability benefits through the discount rate program did not improve their collections performance. Both gas-only customers and combination gas/electric discount rate participants (Month Tier 1) received more disconnect notices per \$1,000 in payments than did their non-participant counterparts (Month Tier 3).

Table 22. Number of Disconnect Notices for Nonpayment per \$1,000 in Payments by Program Component

Month Tier	Affordable Percentage of Income			Discount Bills			Grand Total /a/
	With Electric	No Electric	Total	With Electric	No Electric	Total	
1	1.7	1.9	1.8	1.6	1.9	1.7	1.8
2	3.9	2.1	2.5	1.7	2.5	2.2	2.3
3	1.7	2.3	2.1	1.1	1.5	1.3	1.8

/a/ Grand total includes Zero Income customers.

Table 23 disaggregates these results to present a more complete picture of the dynamics of what is going on within the PEAP population. Table 23 considers the level of collection activity, as measured by the issuance of notices of disconnection for nonpayment, disaggregated by the payment coverage tier for combination gas and electric service. Extending the length of participation in Xcel Energy’s PEAP appears to positively affect the collections productivity in this regard (particularly for the gas-only customers receiving assistance through the percentage of income component of PEAP). For customers with a payment coverage of more than 90% but less than 110% of the current bill, in particular, within this group of percentage of income gas-only customers, the Company decreased the number of disconnect notices it needed to issue for each \$1,000 in payments that it received. For the gas-only customers, the Company reduced its collection efforts to customers with payments of less than 110% of the bills for current usage.

As with other findings in this evaluation, customers with combination gas/electric service (having discounted gas bills but electric bills at standard rates) did not perform as well. Gas-only customers receiving affordability benefits through the discount rate program did not experience

the same reduction in the number of disconnect notices per \$1,000 in payments as did the percentage of income participants.

Table 23. Average Number of Disconnect Notices per \$1000 in Payments by Payment Coverage Tier (Gas plus Electric)

Month Tier	With Electric Bills						No Electric Bills					
	0% - 50%	50% - 75%	75% - 90%	90% - 110%	110% - 150%	>150%	0% - 50%	50% - 75%	75% - 90%	90% - 110%	110% - 150%	>150%
1	3.1	1.1	0.5	0.5	1.2	0.4	3.0	2.4	0.7	0.9	0.8	1.3
2	10.3	0.9	0.6	0.6	0.2	0.0	4.1	2.2	1.5	1.1	1.3	1.0
3	3.8	0.9	0.4	0.6	0.2	0.5	5.5	2.5	2.2	0.8	1.0	0.8

Month Tier	With Electric Bills						No Electric Bills					
	0% - 50%	50% - 75%	75% - 90%	90% - 110%	110% - 150%	>150%	0% - 50%	50% - 75%	75% - 90%	90% - 110%	110% - 150%	>150%
1	3.0	2.4	0.7	0.9	0.8	1.3	2.4	1.3	0.8	0.6	1.3	1.0
2	4.1	2.2	1.5	1.1	1.3	1.0	3.6	1.1	0.9	0.7	0.7	0.2
3	5.5	2.5	2.2	0.8	1.0	0.8	2.5	0.7	0.4	0.2	0.2	0.2

This decreased collection activity did not extend to the active disconnection of service, however. While the disconnection of service was quite limited within the PEAP population—only 201 disconnections for nonpayment occurred within the study population of nearly 8,200 customers in the 12 months ending May 2010—Table 24 shows that there was a slight increase in the number of disconnections actually effected for each \$1,000 in payments received.

Table 24. Average Number of Disconnect Nonpayment (DNPs) per \$1,000 in Payments

Month Tier	Affordable Percentage of Income			Discount Rate			Grand Total /a/
	With Electric	No Electric	Total	With Electric	No Electric	Total	
1	0.04	0.11	0.09	0.03	0.04	0.03	0.06
2	0.03	0.06	0.05	0.10	0.05	0.07	0.07
3	0.06	0.08	0.08	0.04	0.02	0.03	0.06

/a/ Grand Total includes Zero Income customers.

The same results are evident when one examines the simple ratio of collection activities per participant. As shown in Table 25, when collection activity is measured by the average number of disconnection notices issued per customer, the reduction of collection activity per participant is evident in the gas-only percentage of income program. The collection activity for gas-only discount rate customers remained the same, while the collection activity for combination gas/electric customers (whether percentage of income or discount rate) somewhat increased for PEAP participants (Month Tier 1) as compared to non-participants (Month Tier 3).

Table 25. Average Number of Disconnect Nonpayment (DNP) Notices per Program Participant

Month Tier	Affordable Percentage of Income			Discount Rate			Grand Total /a/
	With Electric	No Electric	Total	With Electric	No Electric	Total	
1	1.1	0.4	0.6	1.3	0.7	0.9	0.8
2	1.1	0.7	0.8	1.2	0.7	0.9	0.8
3	1.0	0.8	0.9	0.8	0.7	0.7	0.8

/a/ Grand Total includes Zero Income customers.

No substantive change occurred in the average number of disconnections of service for nonpayment per customer (Table 26), though as noted above, the number of service disconnections was quite limited with which to begin.

Table 26. Average Number of Disconnects Nonpayment (DNPs) per Program Participant

Month Tier	Affordable Percentage of Income			Discount Rate			Grand Total /a/
	With Electric	No Electric	Total	With Electric	No Electric	Total	
1	0.02	0.02	0.02	0.04	0.02	0.03	0.02
2	0.02	0.03	0.02	0.06	0.02	0.03	0.03
3	0.03	0.02	0.03	0.02	0.01	0.02	0.02

/a/ Grand Total includes Zero Income customers.

Summary and Conclusions

One important aspect of program evaluation is a consideration not simply of the impacts on customer payments (Part 2 of this Interim Evaluation), but the impact on company collection activities as well. This section of the Interim Evaluation focused on those collection activities.

The data supports the conclusion that the affordability benefits delivered through PEAP not only tend to reduce the need for the Company to engage in collection activities, but also tend to improve the effectiveness of Xcel Energy’s collection activities when they occur.

The percentage of accounts receiving disconnect notices, as well as the overall average number of notices of disconnection for nonpayment per customer, were reduced through participation in PEAP. As discussed throughout this Interim Evaluation, the offer of natural gas affordability benefits to customers also receiving electric service from the Company had a noticeably lesser impact on improving collections performance in this regard since the electric service was not subject to an affordability constraint.

Similarly, the PEAP program appears to have a limited impact on reducing the need for service disconnections. The Company engaged in sufficiently few service disconnections, whether for program participants (Month Tier 1 customers) or program non-participants (Month Tier 3

customers), however, that this limited use should be considered before assessing policy significance to the absolute magnitude of any decrease.

Increased productivity of collection activity appears possible, but due to the limitation of data to only two collection activities (disconnect notices and service disconnections for nonpayment), caution should be taken before reaching policy conclusions based on this Interim Evaluation. A fuller examination of collection productivity, examining the incidence and intensity of a full range of collection activities beyond disconnect notices and service disconnections should be presented in the final program evaluation.

As with improved collections productivity, improved collections productivity appears to be associated most with the delivery of percentage of income benefits to gas-only customers. Improved collections productivity also appears to occur primarily within that group of program participants paying moderately high proportions of their combined bill for current service plus arrears.

Part 4: Summary of Findings

Based on the data and discussion above, the following findings and conclusions are supportable:

1. The PEAP struggled to enroll customers early in the program. Modifications in the outreach and enrollment process occurring mid-program served to facilitate enrollment.
2. Significant differences did not exist in the underlying natural gas bills for different program participants. However, substantial differences in bills existed between customers who take gas-only service from Xcel Energy and those who take combination gas/electric service.
3. The use of historic annual gas bills yielded reasonably accurate results for purposes of projecting future natural gas bills as the basis for calculating affordability benefits.
4. Annual natural gas consumption did not increase as a result of program participation.
5. While the proportion of accounts with beginning arrears was reasonably similar between program participants and program non-participants, the average dollar level of arrears sharply differed. Program participants enrolling in the fall and summer months had substantially lower average arrears than did program participants enrolling in the winter and spring.
6. The percentage of income program component provided greater affordability benefits than did the discount rate program component. The percentage of income program component resulted in a program bill that was roughly two-thirds of what the bill at standard residential rates would have been. The discount bill program component resulted in a program bill that was roughly 85% of what the bill at standard residential rates would have been.
7. The Xcel Energy rate affordability program appears to help low-income customers improve their capacity to pay their home energy bills. The primary benefit arises in the percentage of income program component. While the improvement in payment coverage ratios was small, it was cognizable.
8. Offering affordability benefits limited to one service of a combination natural gas/electric customer does not achieve the same level of outcomes as offering

affordability benefits to a natural gas-only customer. Not only were payment coverage ratios higher for gas-only customers receiving affordability benefits, but the improvement in payment coverage ratios for gas-only customers receiving affordability benefits was greater as well.

9. It is reasonable to require low-income customers to make some payment toward their preprogram arrears. When program participants were responsible for making arrearage payments, their overall payments went up accordingly. Customers who carried arrears payment requirements made higher payments than customers who did not carry such payment requirements.
10. The affordability program helps customers reduce their arrears. The arrearage reduction impacts are most pronounced for gas-only customers participating in the percentage of income program. The arrearage reduction impacts, however, need to be interpreted with caution, given the nature of the “non-participant” control group used in this Interim Evaluation.
11. The affordable percentage of income program component appears to achieve greater beneficial outcomes than does the discount rate program. Customer taking service under the discount rate program component tended to make higher payments across the board than did their percentage of income program counterparts. Moreover, customers taking service under the discount rate program component tended to have somewhat higher bill payment coverage ratios than did percentage of income participants. However, customers taking service under the discount rate program did not experience the same increase in their bill payment coverage ratios that the percentage of income participants experienced.
12. The affordability benefits delivered through PEAP not only tend to reduce the need for the Company to engage in collection activities, but also tend to improve the effectiveness of Xcel Energy’s collection activities when they occur.
13. The percentage of accounts receiving disconnect notices, as well as the overall average number of notices of disconnection for nonpayment per customer, were reduced through participation in PEAP. As discussed throughout this Interim Evaluation, the offer of natural gas affordability benefits to customers also receiving electric service from the Company had a noticeably lesser impact on improving collections performance in this regard since the electric service was not subject to an affordability constraint.
14. The PEAP appears to have a limited impact on reducing the need for service disconnections. The Company engaged in sufficiently few service disconnections, whether for program participants (Tier 1 customers) or program non-participants (Tier 3 customers), however, that this limited use should be

considered before assessing policy significance to the absolute magnitude of any decrease.

15. Increased productivity of collection activity appears possible, but due to the limitation of data to only two collection activities (disconnect notices and service disconnections for nonpayment), caution should be taken before reaching policy conclusions based on this Interim Evaluation. A fuller examination of collection productivity, examining the incidence and intensity of a full range of collection activities beyond disconnect notices and service disconnections should be presented in the final program evaluation.
16. As with improved collections productivity, improved collections productivity appears to be associated most with the delivery of percentage of income benefits to gas-only customers. Improved collections productivity also appears to occur primarily within that group of program participants paying moderately high proportions of their combined bill for current service plus arrears.