

Experimental Low-Income Program (ELIP):  
Empire District Electric Company  
Final Program Evaluation  
(2006)

Prepared For:

Empire District Electric Company  
Joplin, Missouri

*Prepared By:*

Roger D. Colton  
Fisher, Sheehan & Colton  
Public Finance and General Economics

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# Executive Summary

The Experimental Low-Income Program (ELIP) operated by Empire District Electric Company (EDE) for two years was designed to deliver energy affordability benefits to EDE customers receiving heating benefits through the Low-Income Home Energy Assistance Program (LIHEAP). The ELIP program was approved as part of a settlement of the last Empire District base rate case.

ELIP delivered “fixed credits” to low-income customers in an effort to improve low-income home energy affordability. ELIP participants were divided into two tiers:

- Tier 1, consisting of customers with income at or below 50% of the Federal Poverty Level (FPL). These customers received a fixed credit of \$40 per month; and
- Tier 2, consisting of customers with income between 51% and 100% of the FPL. These customers received a fixed credit of \$20 per month.

ELIP operated for two program years. Year One began in August 2003 and concluded in July 2004. In Year One, ELIP reached a total of 549 low-income EDE customers, serving roughly 450 in any single month. In Year Two, ELIP reached a total of 696 low-income customers, again serving roughly 450 per month.

Overall, ELIP credits represented roughly a 30% discount for Tier 1 customers and roughly a 20% discount for Tier 2 customers.

## Payment Impacts

ELIP was operated by Empire District Electric Company in order to generate affordable home electric bills to ELIP participants, thus allowing those participants to make full and timely payments on their monthly bills. The notion of “full and timely” payments, however, needs to be defined.

## The Measures Used

While many people believe the only test for payment troubles involves the presence (as well as the aging) of arrears, this evaluation rejects that approach. While the assessment below obviously considers arrears an important indicator of payment troubles, it is not the only aspect of a payment profile. Instead, the discussion examines multiple facets of customer payment. The inquiry below will consider the following payment attributes:

- A measurement of *complete* payment of bills;
- A measurement of *prompt* payment of bills; and
- A measurement of *regular* payment of bills.



The most common indicator of whether complete payment has been received from a utility customer involves measuring both the incidence and extent of arrears. The incidence of arrears considers the proportion of the total population in arrears. The extent of arrears considers the size of arrears at any given point in time.

The timeliness of bill payment considers not merely whether a customer pays his or her utility bill in full, but whether the customer pays his or her utility bill promptly as well. 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 by the use of a “weighted arrears” statistic called “bills behind.”

An examination of the regularity of bill payment measures a different aspect of a customer’s payment profile than does an examination of customer arrears. 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 the annual LIHEAP benefit to pay off those arrears), and the customer who makes three payments over the year of amounts equal to the total annual bill.

### **Regular Bill Payments**

The regularity of payments is first measured by indexing the total number payments to the total number of bills rendered each month. A payment-to-bill ratio of 1.0 means that for every bill that is rendered, exactly one payment has been received. More meaningful is to conclude that for every ten (10) bills rendered, ten (10) payments have been received. A payment-to-bill ratio of 0.8 means that for every ten bills rendered, eight payments have been received. ELIP participants made regular payments toward their EDE bills each month, after an initial ramp-up of program participation. During the second program year, the payment-to-bill ratio remained constant at 1.0 or higher for both Tier 1 and Tier 2 ELIP participants. At no point in the program’s second year did the ratio fall below 1.0 for either population.

After a poor performing Year 1, the percentage of the total ELIP population completely missing payments in any given month remained relatively constant and at minimum levels. Tier 2 customers saw proportionately greater numbers of missed payments, with the percentage of Tier 2 participants tripling from December to February in Year 1, before coming back down to 0% (or near 0%) in June and July. In contrast, virtually none of the more moderate income customers (those receiving \$20 credits) made \$0 payments in Year 1. In Year 2 of ELIP, \$0 payments were nearly non-existent.

ELIP did not experience a substantial number of customers that had been making regular pre-winter payments, but stopped making their payments during the cold-weather months. In Year 1, there is somewhat of an upward tick in the presence of new arrears during the winter months of January through March. The upward tick, however, tends to occur only in the lowest income (Tier 1) customers. There is a significant increase in the number of “new” arrears in February

amongst the lowest income (Tier 1) customers. A similar increase in the proportion of Tier 2 accounts “newly” in arrears did not occur.

The Year 2 trends are somewhat different. The number of Tier 1 customers with new arrears remained relatively constant throughout the year. The Year 2 trend of new Tier 1 arrears was definitely downward. Similarly, unlike the level proportion of new arrears throughout Year 1, Tier 2 showed a continuing decline in the proportion of accounts with new arrears throughout Year 2.

### **Complete Bill Payment**

Roughly half of all ELIP accounts began the program in arrears, and remained in arrears throughout the program. A real differences existed between the Tier 1 and Tier 2 customers. While roughly 70% of Tier 1 (\$40 credit) participants had arrears in any given month of Year 1 of the ELIP program, only 40% of Tier 2 (\$20 credit) participants did. While differences appeared in the absolute incidence of arrears as between the two populations of participants, fluctuations in the incidence of arrears did not. Neither population experienced a significant variance in the overall proportion of accounts in arrears in any given month.

Unlike the incidence of arrears, while the average level of arrears for the two tiers of ELIP participants differed markedly at the beginning of the program, that gap closed significantly over the first year of ELIP. Tier 1 customers began the program with much higher arrears than Tier 2 customers. Average Tier 1 arrears, however, declined sharply in the post-winter months. The difference in average arrears between Tier 1 and Tier 2 accounts remained reasonably small for the last three months of the ELIP program year. In Year 2, Tier 1 customers continued to see a decline in their average arrears. As with other payment patterns, the Year 2 results for Tier 2 customers closely mirrored the Year 1 results.

Not only did the average arrears decrease on an aggregate basis during Year 1 of ELIP, but also a substantial percentage of ELIP accounts that had electric arrears going into the winter heating season were free of arrears by the end of the program year. By July, half of the accounts that had December arrears were completely free of arrears. While Tier 2 ELIP accounts retired arrears more quickly than did the lower income (Tier 1) accounts by the end of the winter, the rates had become nearly equal by the end of the program year.

Even within the remaining accounts that had arrears but did not retire them completely, there was a substantial reduction in arrears within the ELIP participant population. The combination of reduced and eliminated arrears demonstrates that ELIP customers were quite successful in either eliminating or reducing any arrears that may have been on their accounts going into the winter season. Within the Tier 1 population, nearly three-fourths had either reduced or eliminated their arrears. In addition, 80% of the Tier 2 ELIP participants had either reduced their December arrears or eliminated those December arrears altogether. These figures held true for Year 2 as well, with 80% of Tier 1 customers having arrears in December either retiring or reducing those arrears by July. Nearly 85% of the Tier 2 customers with arrears in December 2004 had either retired or reduced those arrears by July 2005.

The data reveals a noticeable increase in the number of ELIP participants paying more than 100% of their current bills in the warm weather months. Within the Tier 1 population, the number making payments higher than 1.0 increased substantively from the shoulder months (April/May) to the warm weather months (June/July). The Tier 2 population experienced an even greater proportionate increase from the shoulder months to the warm weather months. Year 2 data follows the same pattern as Year 1.

The difference in whether ELIP accounts paid their current bills, or continued to develop arrears, occurs on the payment side of the equation. The differences between those accounts in arrears and those not arises in the payments made. While the average Year 1 payments made by Tier 1 accounts making payments was \$89, the average payment made by those accounts in arrears (and making payments) was only \$60. While the average Year 1 payment of Tier 2 customers making payments was \$77, the average payment of Tier 2 accounts in arrears (and making payments) was only \$39.

Customers in arrears, for both Tier 1 and Tier 2, made substantively higher payments on their accounts in Year 2 of ELIP. While the Tier 1 customers in arrears made an average monthly payment of \$60 in Year 1 of ELIP, the Tier 1 customers in arrears made an average monthly payment of \$96 in Year 2. While Tier 2 customers in arrears made an average monthly payment of \$39 in Year 1, Tier 2 customers in arrears made an average monthly payment of \$78. This occurred even though bills remained virtually identical.

### **Timely Bill Payment**

The ELIP program appears to have had more success in improving the timeliness of payments for the Tier 1 (\$40 credit) customers than for the more moderate income customers. While Tier 1 customers carried Year 1 monthly arrears equal to roughly two times the current monthly bill (*i.e.*, they were two “bills behind” in any given month) through February, the bills behind statistic improved beginning in March and stabilized at a new and lower level after the 2003/2004 winter heating season. In contrast, Tier 2 customers showed a modest deterioration in their bills behind statistic.

Throughout Year 2, however, the “bills behind” statistic for both Tier 1 and Tier 2 accounts appears to have been stabilized. For Tier 1 customers, with the exception of a slight bump in December 2004, the accounts maintained a bills behind of between 1.3 and 1.6 during Year 2. For Tier 2 customers, with the exception of a slight late program year bump, the bills behind statistic remained at between 1.4 and 1.7.

Virtually no ELIP participants made \$0 payments over any four-month period throughout the year. Indeed, in Year 1, no ELIP participant went four months without a payment for periods ending February (November-February), March (December-March), April (January-April), May (February-May), or June (March-June). Only one ELIP participant made no payment in the four-month April through July period. A similarly small number of ELIP participants made aggregate four-month payments of less than 25% of their Year 1 four-month bills. No participant had aggregate payments of less than 25% during the fourth-month periods ending March or April. Year 2 data mirrored Year 1 in this regard.

The lower income Tier 1 participants have a more difficult time consistently paying more than their current bill on a four-month basis. A higher percentage of these ELIP participants paid less than 75% of their four-month bills than paid more than 100% of their four-month bills. Moreover, the proportion paying more than 100% of their current bills on a four-month basis was half that of the higher income Tier 2 participants. The proportion of Tier 1 participants paying less than 75% of their four-month current bills was 50% (or more) higher than the Tier 2 participants.

The data does not reveal a significant time-shifting in payments by ELIP participants. A significant proportion of ELIP participants appear to be making timely payments toward their current bills.

### **Payment Patterns and Selected Demographics**

Whether ELIP participants succeed in making complete, regular and timely bill payments can be affected as much by demographics other than income as much as it is affected by the level of bills (and amount of subsidy received through ELIP credits).

#### **Baseline Data**

ELIP participants tended to be in arrears over the course of the entire ELIP program. Exactly one-third (33%) of all customers that participated in ELIP for both years were in arrears for 13 or more months. A very small proportion (5%) of ELIP participants was in arrears at no point during the program.

Despite the fact that most ELIP customers were in arrears, those customers did not universally (or even overwhelmingly) fall further into arrears over the course of the winter heating season. Two-year ELIP participants, as a whole, made reasonably consistent payments toward their current bills during the winter months. No ELIP participant made \$0 in payments in either year of the ELIP program. Virtually no ELIP participants made payments of less than 50% of their current bills during the January through March winter months.

Overall, while Empire District customers tended to enter the ELIP program with arrears, these customers made good faith efforts at payment throughout the program. In particular, these customers continued to make payments during the cold weather months and made noticeable efforts to retire their arrears by paying more than their current bills on a month to month basis.

#### **LIHEAP Recipients**

A large majority (80%) of the 266 ELIP participants that were a part of ELIP for both program years received assistance through the federal Low-Income Home Energy Assistance Program (LIHEAP). Far more LIHEAP recipients were in Tier 2 (50% - 100% of Federal Poverty Level) than were in Tier 1 (0% to 50% of FPL).

ELIP customers that were also LIHEAP recipients exhibited surprising payment patterns. For ELIP participants receiving more than 18 bills, LIHEAP recipients carried arrears in more months than did non-LIHEAP recipients. Not only did ELIP LIHEAP recipients carry arrears in a greater number of months overall, they also experienced worse winter payment patterns than did customers not receiving LIHEAP. The proportion of LIHEAP recipients (receiving ELIP) that experienced a growth in arrears over the course of the winter heating season exceeded the proportion of non-LIHEAP recipients in the 2004/2005 heating season. LIHEAP recipients performed better in the previous year.

Nonetheless, LIHEAP customers exhibited better *winter* bill payment practices. More LIHEAP recipients paid their entire three month deep winter bill (January through March) than did non-LIHEAP recipients. Indeed, overall, on a monthly basis, LIHEAP recipients exhibited a better payment pattern than did customers who did not receive LIHEAP. For accounts receiving a minimum of 19 current bills in the ELIP program, fewer LIHEAP recipients had months in which they paid less than the current bill. More LIHEAP recipients had months in which they paid more than the current bill. More LIHEAP recipients paid their complete bill over the two years of the ELIP program.

### **Source of Income**

Of the 266 ELIP participants that were a part of ELIP for both program years, 52 had wage income. In addition, 39 received income through TANF while 154 received Social Security.

Social Security recipients carried arrears in fewer months than households did with incomes from other sources within the population of customers also receiving ELIP assistance. Moreover, the proportion of Social Security recipients (receiving ELIP) that experienced a growth in arrears over the course of the winter heating season exceeded the proportion of customers with other sources of income in the 2004/2005 heating season. Social Security recipients performed better in the previous year. Proportionately more Social Security recipients saw a decrease in their arrears over the 2003/2004 winter heating season, and proportionately fewer saw an increase.

More Social Security recipients paid their entire three month deep winter bill (January through March) than did ELIP participants with other income sources. While payment patterns declined in January through March of 2005 compared to one year earlier, substantially more than half of all Social Security recipients paid their deep winter bills in both years.

The proportion of Social Security recipients making payments exactly equal to their current bills (ratio equals 1.0) is noteworthy. These customers generally do not have arrears and thus have no need to pay more than their current bill. The proportion of Social Security recipients making payments exactly equal to their current bills is much higher than for customers with either wage or TANF income.

On a monthly basis, Social Security recipients exhibited a better payment pattern than did customers with other sources of income. For accounts receiving a minimum of 19 current bills in the ELIP program, more Social Security recipients than wage earners had a small number of months (12 or fewer) in which they paid less than the current bill. Conversely, more Social

Security recipients than wage earners had a high number of months (13 or more) in which they paid more than the current bill.

### **Housing Tenure**

Of the 266 ELIP participants that were a part of ELIP for both program years (and had agency data against which to match utility data), 96 were homeowners while 170 were tenants.

Tenants did not have payment patterns that were as good as homeowners. More tenants carried arrears in more months within the population of customers also receiving ELIP assistance. Moreover, not only did ELIP tenants carry arrears in a greater number of months overall, they also experienced worse winter payment patterns than did homeowners.

Tenants also had worse winter payment patterns. The proportion of tenants (receiving ELIP) that experienced a growth in arrears over the course of the winter heating season exceeded the proportion of homeowners in the 2004/2005 heating season. The numbers for the 2004/2005 winter heating season showed a somewhat different picture. Fewer tenants and more homeowners saw a decrease their December 2004 arrears by April 2005.

On a monthly basis, homeowners exhibited a better payment pattern than did tenants. For accounts receiving a minimum of 19 current bills in the ELIP program, fewer homeowners had months in which they paid less than the current bill. More homeowners had months in which they paid more than the current bill. More homeowners paid their complete bill over the two years of the ELIP program.

### **Conclusions and Recommendations**

The ELIP program was designed to provide affordable home electric service to low-income Empire District customers. Through this initiative, Empire District aspired to create the opportunity where low-income customers could afford to pay their bills in a full, timely and regular fashion. For these purposes, “low-income” was defined to include customers that had gross annual income at or below 100% of the Federal Poverty Level.

The data presented in this evaluation documents that the program substantially succeeded in generating full, timely and regular payments toward current from the low-income customers receiving ELIP credits.

- ELIP improved the regularity of bill payment. During the second program year, the payment-to-bill ratio remained constant at 1.0 or higher for both Tier 1 and Tier 2 ELIP participants. The number of months in which bill payments were missed entirely was reduced to virtually none. While the number of Tier 1 customers with new arrears remained constant in Year 1 and trended down in Year 2, Tier 2 customers showed a continuing decline in the proportion of accounts with new arrears.
- ELIP improved the completeness of bill payment. Not only did average arrears decrease on an aggregate basis, but also a substantial percentage of ELIP account that had arrears

going into the winter heating season were free of arrears by the end of the program year. Even within the remaining accounts that had arrears but did not retire them completely, there was a substantial reduction in arrears within the ELIP population. Finally, even while bills remained virtually identical, customers in arrears, for both Tier 1 and tier 2, made substantively higher payments on their accounts in Year 2 of ELIP.

- ELIP improved the timeliness of bill payment. The “bills behind” statistic for both Tier 1 and Tier 2 customers appears to have been stabilized. The data does not reveal any significant time-shifting in payments by ELIP participants. A significant proportion of ELIP participants appears to be making timely payments toward their current bills.

Despite this success, certain program improvements should be considered. The following improvements, in particular, are recommended.

*First*, Tier 1 customers (with incomes at or below 50% of the Federal Poverty Level) experience noticeably greater difficulties in making bill payments than do Tier 2 customers (with income between 50% and 100% of the Poverty Level). This occurs despite the higher fixed credits paid to the lower income customers. A re-examination of the level of fixed credits is in order. A modest increase in the fixed credits to the Tier 1 customers may be necessary to generate the same level of payment success within this lowest income group as has been generated in the more moderate, but still low-income, population of ELIP customers (those between 50% and 100% of the Federal Poverty Level).

*Second*, while ELIP customers appeared to be able to make full, timely and regular payments toward their current bills, these program participants appeared to continue to struggle with pre-existing arrears. While ELIP participants succeeded in preventing *increased* arrears, they frequently were unable to retire those arrears that they brought into the program. Empire District should consider a modest arrearage forgiveness program through which timely current payments will be “rewarded” with credits applied against pre-existing arrears that exceed affordable levels. Through this added initiative, ELIP participants that have a demonstrated ability to stay current will be able to work with a clean slate in the future.

*Third*, while most ELIP customers appear to make reasonable payments toward their current winter bills, it appears that high prices for non-electric fuels place a sufficient burden on these low-income customers to have a noticeable detrimental impact on electric bill payments. While the ELIP program is, by design, directed toward customers already participating in the federal fuel assistance program (LIHEAP), Empire District would benefit from targeting outreach for the Earned Income Tax Credit (EITC) toward its payment-troubled ELIP participants. With an average benefit of more than \$2,000, the EITC would provide an important additional resource to help these low-income customers meet their total winter fuel payments, including their Empire District payments.

ELIP provides important benefits to Empire District and its low-income customers. The program should be continued and enhanced as described above.

# Chapter 1: Introduction

The Experimental Low-Income Program (ELIP) operated by Empire District Electric Company (EDE) for two years was designed to deliver energy affordability benefits to EDE customers receiving heating benefits through the Low-Income Home Energy Assistance Program (LIHEAP). The ELIP program was approved as part of a settlement of the last Empire District base rate case.<sup>1</sup>

## Program Design

The Empire District Experimental Low-Income Program (ELIP) delivered “fixed credits” to low-income customers in an effort to improve low-income home energy affordability. ELIP participants were divided into two tiers:

- Tier 1: Customers with income at or below 50% of the Federal Poverty Level (FPL);<sup>2</sup> and
- Tier 2: Customers with income between 51% and 100% of the FPL.

Tier 1 customers received a fixed monthly credit of \$40 toward their electric bill. Tier 2 customers received a fixed monthly credit of \$20 toward their electric bills.

In order to receive the fixed credits, participating customers were required to enroll in the Company’s levelized budget billing plan (called the Average Payment Plan, APP). This levelized budget billing spreads projected annual bills in equal payments over twelve months.<sup>3</sup> The fixed credit was provided each month irrespective of customer payment patterns. Customers were not, in other words, required to make their monthly payment in order to “earn” their fixed credit. Nonpayment by ELIP participants was met by the same credit and collection activity that would have been directed toward them had the customer not been receiving the fixed credit.

Customers interested in participating in ELIP enrolled through two local community-based organizations (CBOs) involved with the distribution of LIHEAP in the EDE service territory. Customers that were income-qualified were allowed to participate in the program. No other non-

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<sup>1</sup> Case No. ER-2002-424

<sup>2</sup> The generally accepted measure of “being poor” in the United States today indexes a household’s income to the “Federal Poverty Level” published each year by the U.S. Department of Health and Human Services (HHS). The Poverty Level looks at income in relation to household size. This measure recognizes that a three-person household with an annual income of \$6,000 is, in fact, “poorer” than a two-person household with an annual income of \$6,000. The federal government establishes a uniform “Poverty Level” for the 48 contiguous states. A household’s “level of Poverty” refers to the ratio of that household’s income to the Federal Poverty Level. For example, the year 2005 Poverty Level for a two-person household was \$12,830. A two-person household with an income of \$6,415 would thus be living at 50% of Poverty.

<sup>3</sup> Some Levelized Budget Billing plans for utilities spread monthly bills over 11 months, with the 12<sup>th</sup> month used as a “make-up.”



income eligibility requirements (*e.g.*, payment-troubled status) were imposed. Customers that entered the program with an arrears were required to enter into a deferred payment plan through which to retire those arrears.<sup>4</sup>

## Program Operation

ELIP operated for two program years. Year One began in August 2003 and concluded in July 2004. Year One participants were required to re-enroll, most but not all of whom did. Year Two then operated from August 2004 through July 2005. ELIP reached 549 low-income EDE customers in Year 1 and 696 customers in Year 2. Starting in August 2003, the program enrolled 120 customers in the first month and rapidly ramped up enrollment after that. By October 2003, ELIP was at 75% of its peak Year One participation rate of roughly 450 customers (reached in April 2004). In each year, the participation in any given month was significantly below the total number of customers reached at some point during the program year.

The program experienced no substantial drop in participation at the first year anniversary date, when current participants were required to re-verify income. Program participation in August 2004 (the first month of Year Two) was at 410 customers, a drop of only 44 from the prior month.

<b>Table 1. Participant Numbers and ELIP Benefit Distribution by Month</b>												
Year 1: 2003/2004	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04
Total Participants	120	291	340	364	366	388	419	439	454	451	452	454
Tier 1 customers /a/	26	61	76	79	80	92	119	130	138	137	140	146
Tier 2 customers /b/	92	228	262	284	285	295	299	308	315	313	311	307
Total ELIP credits (\$s)	\$3,080	\$7,080	\$8,420	\$8,860	\$8,890	\$9,640	\$10,80	\$11,380	\$11,840	\$11,820	\$11,880	\$12,100
Year 2: 2004/2005	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05
Total Participants	410	367	396	417	440	448	438	416	418	416	405	392
Tier 1 customers /a/	130	116	122	126	135	137	121	107	106	113	106	101
Tier 2 customers /b/	262	235	257	274	289	296	300	293	295	287	284	276
Total ELIP credits (\$s)	\$11,420	\$9,920	\$10,660	\$11,097	\$11,757	\$11,940	\$11,420	\$10,740	\$10,780	\$10,900	\$10,700	\$10,120
NOTES:												
/a/ Tier 1 participants (0 – 50% FPL) received fixed credits of \$40 per month.												
/b/ Tier 2 participants (51 – 100% FPL) received fixed credits of \$20 per month.												

After its initial ramp-up period, ELIP served between 400 and 450 customers each month and delivered between \$10,000 and \$12,000 in monthly rate affordability assistance. Significantly more Tier 2 customers (receiving \$20 credits) participated in the program than Tier 1 customers (receiving \$40 credits) did. In the first year of the program ELIP delivered \$115,900 in credits,

<sup>4</sup> Applicants were provided the option to enter into either a 12-month or 24-month payment plan as agreed to by both the Company and the customer.

while in the second year of the program, ELIP delivered \$131,454 in credits. Overall, ELIP credits represented roughly a 30% discount for Tier 1 customers and roughly a 20% discount for Tier 2 customers.

**Table 2. ELIP Credits as Percentage of Current Non-Discounted Bills by Month /a/**

	Aug-03	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Total
<b>Year 1--Tier 1 /a/</b>													
Bills + Credits	\$3,409	\$8,079	\$9,721	\$9,869	\$10,243	\$11,373	\$15,699	\$17,107	\$18,316	\$18,357	\$17,674	\$19,717	\$159,566
Credits	\$1,040	\$2,440	\$3,040	\$3,160	\$3,200	\$3,680	\$4,760	\$5,200	\$5,520	\$5,480	\$5,600	\$5,840	\$48,960
Percent credits	31%	30%	31%	32%	31%	32%	30%	30%	30%	30%	32%	30%	31%
<b>Year 1--Tier 2 /b/</b>													
Bills + Credits	\$9,080	\$22,844	\$26,896	\$28,947	\$29,309	\$29,949	\$29,734	\$30,995	\$31,537	\$30,057	\$26,871	\$31,415	\$327,634
Credits	\$1,840	\$4,560	\$5,220	\$5,680	\$5,700	\$5,900	\$5,980	\$6,160	\$6,300	\$6,260	\$6,220	\$6,020	\$65,840
Percent credits	20%	20%	19%	20%	19%	20%	20%	20%	20%	21%	23%	19%	20%
	Aug-04	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05	Total
<b>Year 2--Tier 1</b>													
Bills + Credits	\$18,004	\$15,694	\$16,850	\$16,075	\$16,993	\$18,672	\$16,242	\$14,588	\$13,958	\$14,660	\$13,118	\$15,435	\$190,289
Credits	\$5,520	\$4,720	\$4,960	\$5,040	\$5,440	\$5,440	\$4,840	\$4,320	\$4,280	\$4,560	\$4,320	\$4,080	\$57,520
Percent credits	31%	30%	29%	31%	32%	29%	30%	30%	31%	31%	33%	26%	30%
<b>Year 2--Tier 2</b>													
Bills + Credits	\$25,493	\$22,814	\$24,660	\$25,478	\$27,839	\$28,383	\$29,929	\$29,125	\$28,989	\$27,181	\$24,941	\$31,327	\$326,160
Credits	\$5,280	\$4,700	\$5,140	\$5,500	\$5,780	\$5,960	\$6,020	\$5,920	\$5,940	\$5,820	\$5,860	\$5,540	\$67,460
Percent credits	21%	21%	21%	22%	21%	21%	20%	20%	20%	21%	23%	18%	21%
NOTES:													
/a/ The non-discounted bill is set equal to the current bill plus the ELIP credit for the month. This represents the bill that would have been rendered in the absence of ELIP.													
/b/ Tier 1 participants (0 – 50% FPL) received fixed credits of \$40 per month.													
/c/ Tier 2 participants (51 – 100% FPL) received fixed credits of \$20 per month.													

The program served significantly fewer than the 1,000 monthly participants the Company had originally anticipated.

Given this introduction, the discussion below will consider the payment outcomes generated by the ELIP program. Chapter 2 documents the various payment outcomes of the program, comparing the participants in each Tier to each other and to the total participant group as a whole. Chapter 3 considers the outcomes of the program broken down by various demographic variables reported by the CBOs that provided program intake. Chapter 4 summarizes the findings of this evaluation based on the data and discussion in the preceding text. Chapter 5 presents conclusions and recommendations.

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## Chapter 2:

# The Payment Impacts of ELIP

The Experimental Low-Income Program (ELIP) operated by Empire District Electric Company (EDE) was designed to generate affordable home electric bills to ELIP participants, thus allowing those participants to make full and timely payments on their monthly bills. The notion of “full and timely” payments, however, needs to be defined. For purposes of this evaluation, the “full and timely payment” of an electric bill is measured by the following attributes:

- **Regular payment:** Does the customer make some payment toward his or her electric bill each month?
- **Complete payment:** Does the customer make a payment that covers his or her entire outstanding balance each month? If not, does the customer make a payment that covers his or her full bill for this month’s current service?
- **Timely payment:** Does the customer make a payment by the designated due date?

The indices proposed below recognize that while EDE is most concerned with the completeness of bill payment received (a \$100 payment toward a \$100 bill is better than a \$50 payment toward a \$100 bill), there are other attributes of bill payment, as well, that should be recognized. These include promptness (timely payment is better than late payment) and regularity (12 payments of \$100 are better than two payments of \$600) of payment. Each of these attributes can be measured.

The payment metrics discussed below are designed to respond to this evaluation question. Did ELIP participants make regular, complete and timely payments toward their EDE electric bills?

### Regular Bill Payments

The regularity of bill payment measures a different aspect of a customer’s payment profile than does an examination of customer arrears. 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 the annual LIHEAP benefit to pay off those arrears), and the customer who makes three payments over the year of amounts equal to the total annual bill.

### Payment-to-bill Index

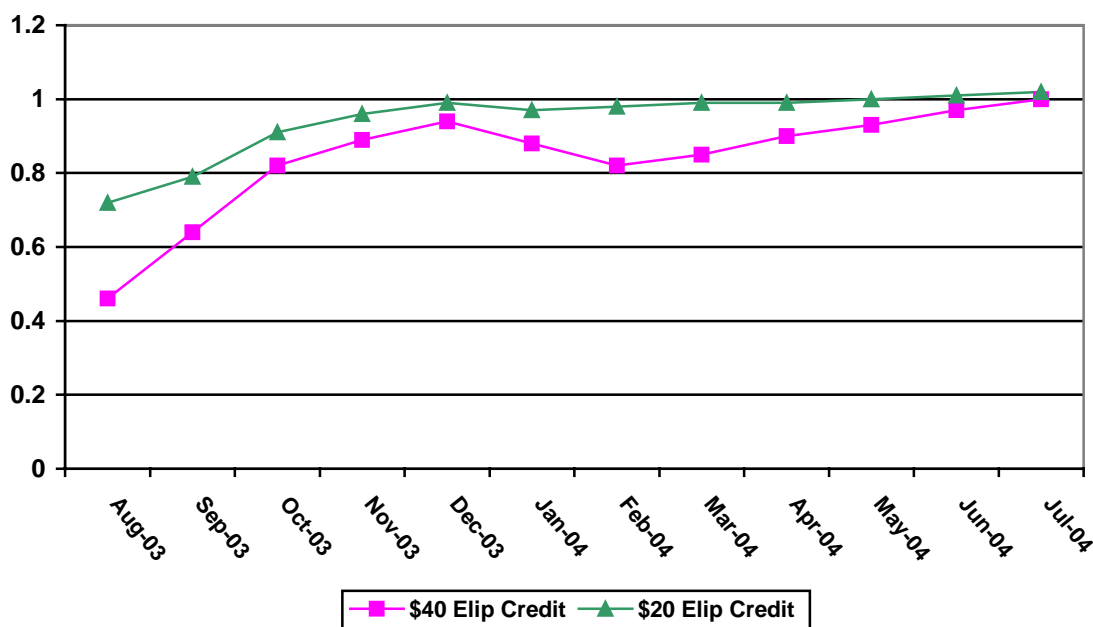
The regularity of payments is first measured by indexing the total number payments to the total number of bills rendered each month. A payment-to-bill ratio of 1.0 means that for every bill that is rendered, exactly one payment has been received. More meaningful is to conclude that for

every ten (10) bills rendered, ten (10) payments have been received. A payment-to-bill ratio of 0.8 means that for every ten bills rendered, eight payments have been received.

ELIP participants made regular payments toward their EDE bills each month, after an initial ramp-up of program participation. Figure 1 shows a comparison of the ratio of the aggregate number of monthly payments to the aggregate number of monthly current bills for Year One of the program. A ratio of 1.0 would indicate that the number of payments in that month exactly equals the number of current bills rendered in that month. A ratio of less than 1.0 means that there were a fewer number of payments in that month than the number of bills rendered. Separate data was tracked for customers receiving \$40 credits and customers receiving \$20 credits. The customers receiving \$40 fixed credits are lower-income than those receiving \$20 credits. This metric does not distinguish between the size of payments. A payment of \$5 and a payment of \$50 are counted equally.

Once the program ramped up participation, Figure 1 shows that the number of payments each month closely mirrored the number of bills rendered each month. In the three month period of January through March, the number of payments by Tier 1 customers (receiving \$40 fixed credits) dipped somewhat, with only 0.8 payments received in January for each bill rendered in January.<sup>5</sup> The number of payments then climbed, however, so that by May/June the ratio of payments to bills was at (or nearly at) 1.0.

The drop in the ratio of payments to bills within the Tier 1 participants shows how higher winter heating bills can adversely affect even the non-heating energy supplier. As the lowest income households face high winter heating burdens, they may easily face the need to make trade-offs on what gets paid and what does not. In contrast, Tier 2 participants maintained a nearly constant



***Figure 1. Ratio of Number of Payments to Current Bills***

<sup>5</sup> Any bill with a credit balance was excluded from the number of “bills rendered.”

payment-to-bills ratio. The ratio for these customers dipped from 0.99 in December and March down to 0.97 in January and 0.98 in February. This means that for every 100 bills rendered to Tier 2 ELIP participants, the company received between 97 and 99 payments in return.

The drop in the ratio of payments to bills for Tier 1 customers discussed above did not represent a decrease in the absolute number of payments made by Tier 1 participants. Instead, during the months of January through March, participation in the Tier 1 group was rapidly increasing. The rate of increase in the number of participants outstripped the rate of increase in the number of payments. For example, while the number of Tier 1 participants (as measured by the number of bills for current service) increased by 27 from January (92) to February (119), the number of payments increased only 17 (from 81 to 98). Indeed, the fact that these Tier 1 customers could not afford their winter bills may well have been exactly the reason they enrolled in ELIP.<sup>6</sup> Once on the program, however, the payment-to-bills ratios again stabilized.

<b>Table 3. Number of Tier 1 Participants and Number of Tier 1 Payments By Winter Months</b>						
	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04
Number of bills	80	92	119	130	138	137
No. of payments	75	81	98	111	124	128

During the second program year, the payment-to-bill ratio remained constant at 1.0 or higher for both Tier 1 and Tier 2 ELIP participants. At no point in the program's second year did the ratio fall below 1.0 for either population.

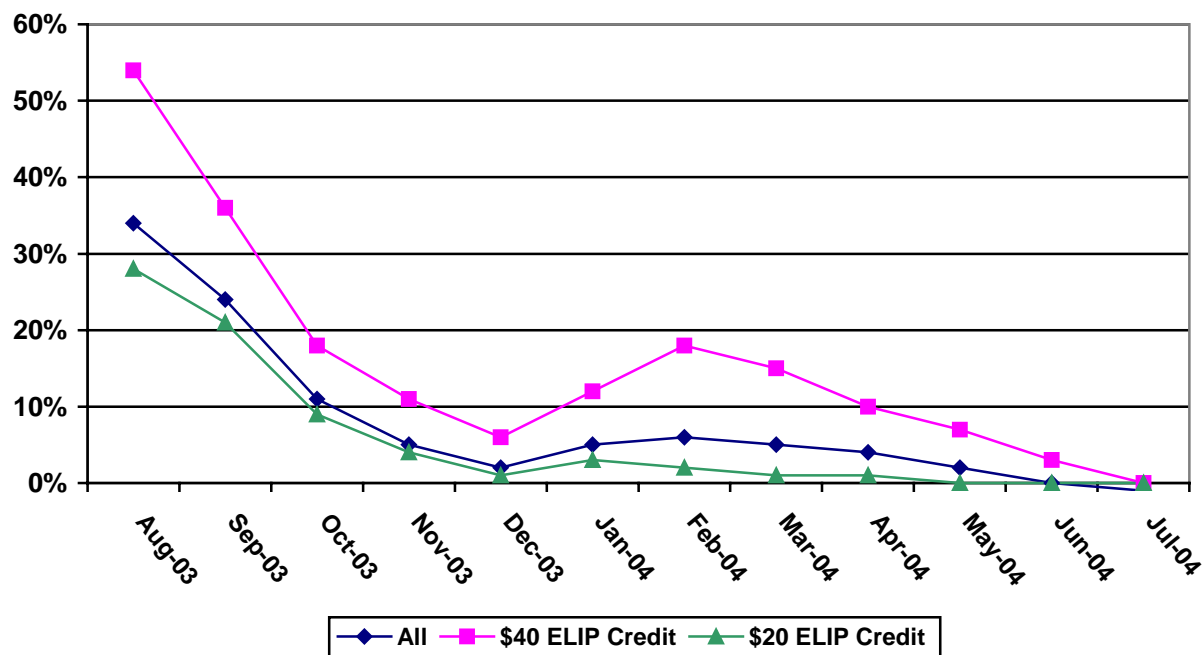
<b>Table 4. Second Year Payment-to-Bill Ratio for Selected Months Tier 1 and Tier 2 Customers</b>						
Tier 1 customers	Aug-04	Oct-04	Dec-04	Feb-05	Apr-05	Jun-05
Number of bills	130	122	135	121	106	106
No. of payments	128	126	134	125	107	109
Ratio	1.0	1.0	1.0	1.0	1.0	1.0
Tier 2 customers	Aug-04	Oct-04	Dec-04	Feb-05	Apr-05	Jun-05
Number of bills	262	257	289	300	295	284
No. of payments	269	263	286	294	299	291
Ratio	1.0	1.0	1.0	1.0	1.0	1.0

<sup>6</sup> This statement is made recognizing that the high winter heating bills may have been high natural gas bills owed to a different utility.

## **\$0 Payments**

Figure 2 shows data from the converse perspective. Figure 2 presents the number of ELIP participants that made a \$0 payment (*i.e.*, made no payment) by month for Year One. These customers missed payments altogether in a particular month. After again setting aside the ramp-up months of the program,<sup>7</sup> the percentage of the total ELIP population completely missing payments in any given month remained relatively constant, at under 10%.

The number of \$40 ELIP credit recipients, however, saw a proportionately significant number of customers missing payments during the winter months, with the percentage of \$40 credit recipients tripling from 6% in December to 18% in February, before coming back down to 10% in April, 7% in May, and 0% (or near 0%) in June and July. In contrast, virtually none of the more moderate income customers (those receiving \$20 credits) made \$0 payments in any of the last eight months (November through July) of the program year.



**Figure 2. Percent Account Making \$0 Payments**

In Year 2 of ELIP, \$0 payments were nearly non-existent. As the table below shows, while within the cold weather months, there were a handful (*i.e.*, fewer than 10 per month) of \$0 payments within the Tier 2 population, no such nonpayment appeared after February. The Year 1 success of ELIP in reducing \$0 payments to none (or nearly none) carried through Year 2 as well.

<sup>7</sup> It is not clear why the payment metrics were so much different during the first three months of the program. This evaluation offers no opinion on that.

<b>Table 5. Second Year \$0 Payments for Selected Months Tier 1 and Tier 2 Customers</b>						
	Aug-04	Oct-04	Dec-04	Feb-05	Apr-05	Jun-05
Total	0	0	2	3	0	0
Tier 1 customers	2	0	1	0	0	0
Tier 2 customers	0	0	3	6	0	0

### **Prior Month Arrears**

Despite the increase in the percentage of Tier 1 ELIP participants missing electric payments during the winter months, there is not a substantial number of customers that had been making regular pre-winter payments, but stopped making their payments during the cold-weather months. The table below presents monthly data on the ELIP accounts having arrears each individual month of the program year. For all accounts with arrears in each month, the table then examines three different payment attributes:

- Had the account experienced an arrears in any prior month of the program year?
- Was the account arrears-free (*i.e.*, have \$0 in arrears) in the immediately preceding month? and
- Was the account arrears-free (*i.e.*, have \$0 in arrears) in both of the two immediately preceding months?

These three inquiries can be used to identify the number of customers that make regular payments in the non-winter months, but start missing payments in the cold weather months. Moreover, the three inquiries will identify whether there are discernible patterns of complete nonpayment (*i.e.*, customers making \$0 payments) over the course of the year.

To illustrate, from the table below, we find that 218 of the total number of ELIP participants had an arrears in March 2004. Of those 218 accounts with a March arrears, 34 had experienced no previous arrears during the ELIP program year (*i.e.*, March was the first month since August 2003 that the account had experienced an arrears). In addition, 66 of the 218 accounts with arrears in March had not had an arrears on their February bill (no arrears last month). Finally, 47 of the 218 accounts with a March arrears had not had an arrears on either their February or January bills (no arrears for prior 2 months). Similarly, 62 accounts receiving \$40 ELIP credits had an arrears in January 2004. Of those 62 accounts, 13 had experienced no prior arrears during the August through December time period. In addition, 17 of those 62 accounts had not had an arrears on their December bill, while 15 of those 62 accounts had no an arrears on either their November or December bills.



<b>Table 6. Year 1 Accounts with Arrears in Current Month by Arrears in Prior Months (No. of Accounts)</b>											
	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	June-04	Jul-04
	<b>All ELIP Accounts</b>										
Accounts with Arrears	162	161	163	183	195	207	218	219	225	247	231
No Prior Arrears	115	53	25	27	37	43	34	28	17	23	29
No Arrears Last Month	115	59	41	53	49	69	66	56	43	57	59
No Arrears for Prior 2 Months	---	53	25	41	40	55	47	40	31	42	48
	<b>\$40 ELIP Credit Accounts (Tier 1)</b>										
Accounts with Arrears	40	42	54	53	62	83	89	99	94	100	100
No Prior Arrears	27	14	9	5	13	26	19	13	5	9	13
No Arrears Last Month	27	14	16	9	17	36	29	30	15	19	22
No Arrears for Prior 2 Months	---	14	11	9	15	31	22	18	7	11	18
	<b>\$20 ELIP Credit Accounts (Tier 2)</b>										
Accounts with Arrears	121	118	109	130	132	124	129	120	131	147	131
No Prior Arrears	88	39	16	22	23	17	15	15	12	14	16
No Arrears Last Month	88	45	25	44	31	33	37	26	28	38	37
No Arrears for Prior 2 Months	---	39	14	32	24	24	25	22	24	31	30

There is somewhat of an upward tick in the presence of new arrears during the winter months of January through March. The upward tick, however, tends to occur only in the lowest income (Tier 1) customers. There is a significant increase in the number of “new” arrears in February amongst the lowest income (Tier 1) customers. The table reveals that 83 Tier 1 accounts had arrears in February, 21 more than had arrears in January (n=62). Of those 83 additional accounts with arrears, 26 (31%) had not previously had arrears at all in the ELIP program year. Of the 83 additional accounts with arrears, 36 (43%) had not had arrears in January,<sup>8</sup> and 31 (37%) had not had arrears in either January or December.

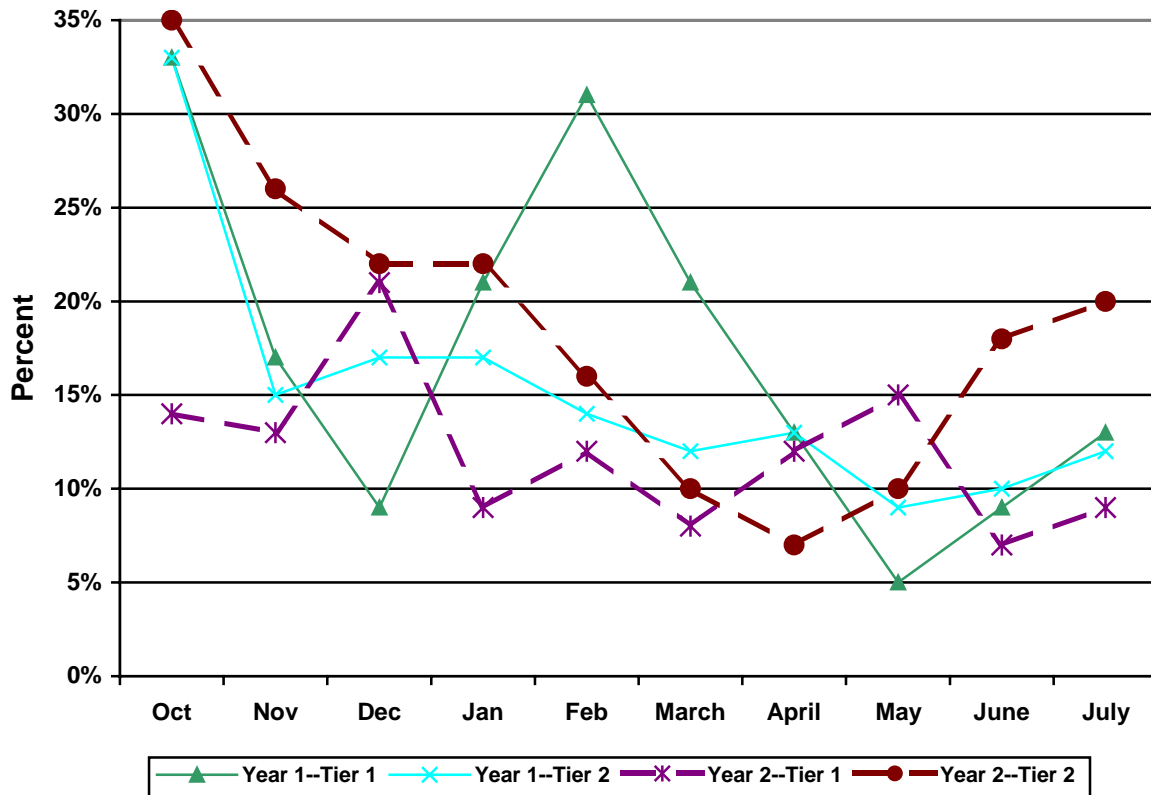
It is the increase in the number of Tier 1 accounts with new arrears, however, that is striking. The growth of accounts in arrears with no prior arrears (n=13, from 13 in January to 26 in February), with no arrears in the prior month (n=19, from 17 in January to 36 in February), and with no arrears in the prior two months (n=16, from 15 in January to 31 in February) all far exceeded the growth in these three metrics in any other given month.<sup>9</sup>

The highest proportionate growth in new arrears occurred at the lowest income levels. As the figure below shows, while 21% of the Tier 1 accounts in arrears in January had not previously

<sup>8</sup> Given the change in the number of participants, some of the growth in the number of accounts with arrears can be attributed to new program participants.

<sup>9</sup> Some, but not all, of this growth can be attributed to the growth in the total number of ELIP accounts.

been in arrears during the program year, and 31% of the Tier 1 accounts in arrears in February had not, only 9% of the Tier 1 accounts in arrears in December had not previously been in arrears. A similar increase in the proportion of Tier 2 accounts “newly” in arrears did not occur.



***Figure 3. Accounts with Arrears by Month by No Prior Arrears in Program Year***

The growth in the proportion of accounts newly incurring arrears bottoms out in May for both the Tier 1 and Tier 2 populations. This figure, remember, does not show the proportion of total accounts in arrears. Rather, it shows that the proportion of those accounts in arrears that had not previously had arrears in the ELIP program year. For Tier 1 customers, in other words:

- roughly 30% of the accounts in arrears in February had not previously been in arrears during the program year;
- roughly 20% of the accounts in arrears in March had not previously been in arrears in the program year;
- roughly 12% of the accounts in arrears in April had not previously been in arrears in the program year;
- roughly 5% of the accounts in arrears in April had not previously been in arrears in the ELIP program year.

The same downward trend of the proportion of accounts in arrears representing completely “new” arrears can be seen for Tier 2 customers, albeit at a much slower rate. The proportion of new arrears tended down from somewhat under 15% in December to somewhat under 10% in May. The proportion of accounts with arrears that represent “new” arrears for both Tier 1 and Tier 2 began to trend up again beginning in June.

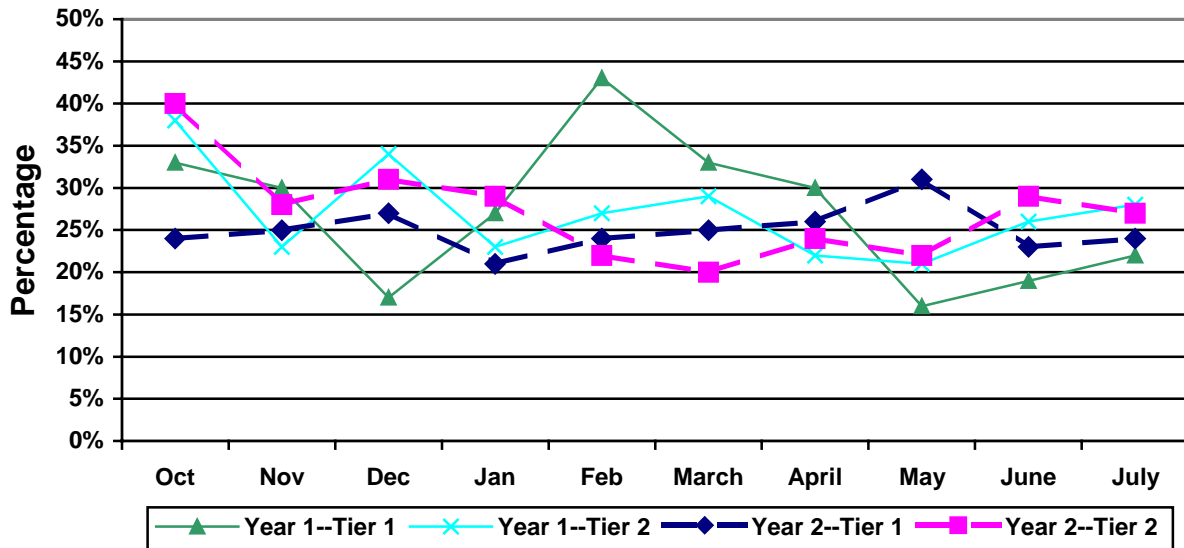
The Year 2 trends for Tier 1 accounts are somewhat different. The number of Tier 1 customers with new arrears remained relatively constant throughout the year. The Year 2 trend of new Tier 1 arrears was definitely downward, beginning at nearly 15% and ending at below 10%. The Year 2 percentage of new accounts did not show the same volatility as Year 1 percentages did. In contrast, the more moderate income Tier 2 participants had a sharply different payment pattern in Year 2. Unlike the level proportion of new arrears throughout Year 1, Tier 2 showed a continuing decline in the proportion of accounts with new arrears from October through April. The proportion of Tier 2 accounts with new arrears in Year 2 nearly tripled from April to July, where it ended at 20%.

The two figures below show that February appears to be an important month for accruing arrears within the lowest income customers of the ELIP program. While 43% of the Tier 1 (\$40 credit) accounts in arrears in February had not been in arrears in January (Figure 4), 37% of Tier 2 customers with arrears in February had not been in arrears in either December or January (Figure 5).<sup>10</sup>

The turnover of accounts in arrears is evident from Figure 4 below. This Figure shows how low-income customers move in and out of arrears, with some accounts having arrears in a particular month, and different accounts having arrears in the next month. While 43% of the Tier 1 accounts in arrears in February had not been in arrears the prior month, 33% of the Tier 1 accounts in arrears in March had not been in arrears the prior month, and 30% of the Tier 1 accounts in arrears in April had not been in arrears the immediately preceding month. Again, similar figures were not observed for the more moderate income Tier 2 customers.

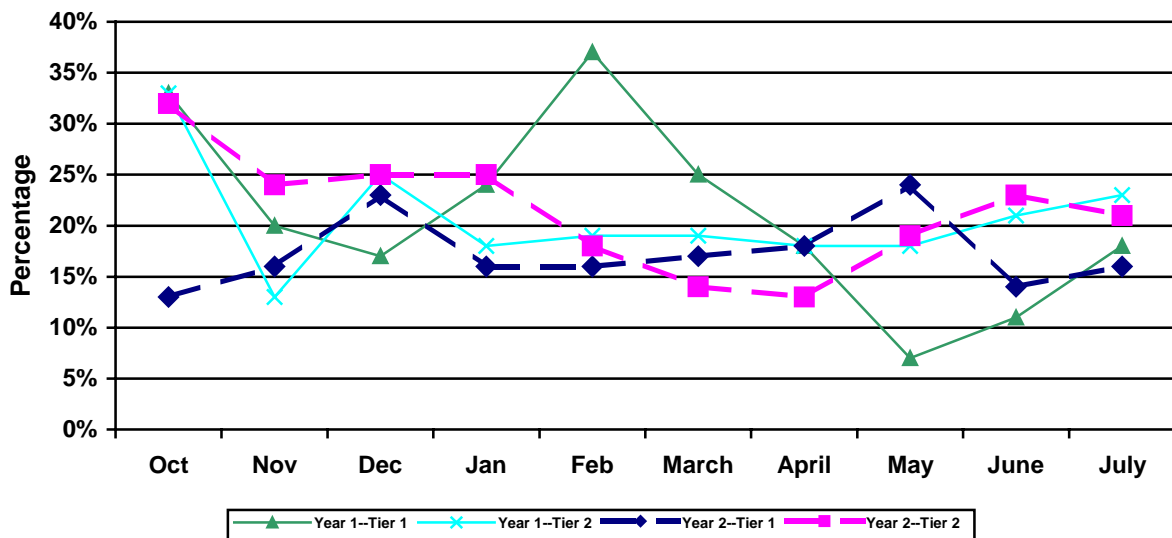
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<sup>10</sup> There was a significant increase in overall ELIP participation in February. This increase in total participation may affect these figures.



**Figure 4. Accounts with Arrears by Month by No Arrears in Immediately Preceding Month**

The problem facing the lowest income customers in paying their winter utility bills is highlighted again in the figure below. The spike in nonpayment by customers that had, for the previous two months, had \$0 in arrears, shows that customers that had not been payment-troubled moved into payment troubled status during the cold weather months. Of those Tier 1 customers in arrears in February, more than 35% had *not* been in arrears in either January or December. Indeed, the plunging ratio of “new” arrears through May indicates that Tier 1 customers that fell into arrears stayed in arrears throughout the remainder of the winter heating season. Only when the months of June and July were reached did the accounts with “new” arrears again begin to become a bigger proportion of the total number of accounts with arrears.



**Figure 5. Accounts with Arrears by Month by No Arrears in Immediately Preceding Two Months**

A comparison of the lowest income accounts with the more moderate income Tier 2 accounts (those with incomes between 50% and 100% of the Federal Poverty Level, and receiving only a \$20 credit) reveals a marked difference in payment patterns. The proportion of Tier 2 accounts in arrears that represent “new” arrears stayed virtually constant throughout the months of January through May. During that five month period, the proportion of accounts in arrears each month that had experienced \$0 in arrears for both of the preceding two months varied between 18% and 19%. Even these accounts began to pay off their winter arrears in June, thus leaving a higher proportion of accounts in arrears being accounts that had not been in arrears for the previous two months.

Year 2 showed a distinctly different payment pattern for Tier 1 customers. The winter spike in accounts with arrears that did not have arrears for the prior month was eliminated. Instead, the proportion of Tier 1 accounts with new arrears (no arrears in the prior month) remained stable year-round, ranging narrowly around 25% (Figure 4). In contrast, Tier 2 accounts had a Year 2 payment pattern that reasonably reflected their Year 1 results.

The same Year 2 results can be observed for accounts with arrears that did not have arrears in the preceding two months. Year 2 saw an elimination of winter month new arrears for Tier 1 customers. Tier 2 payment patterns in Year 2 tracked Year 1 payment patterns.

### **Complete Bill Payment**

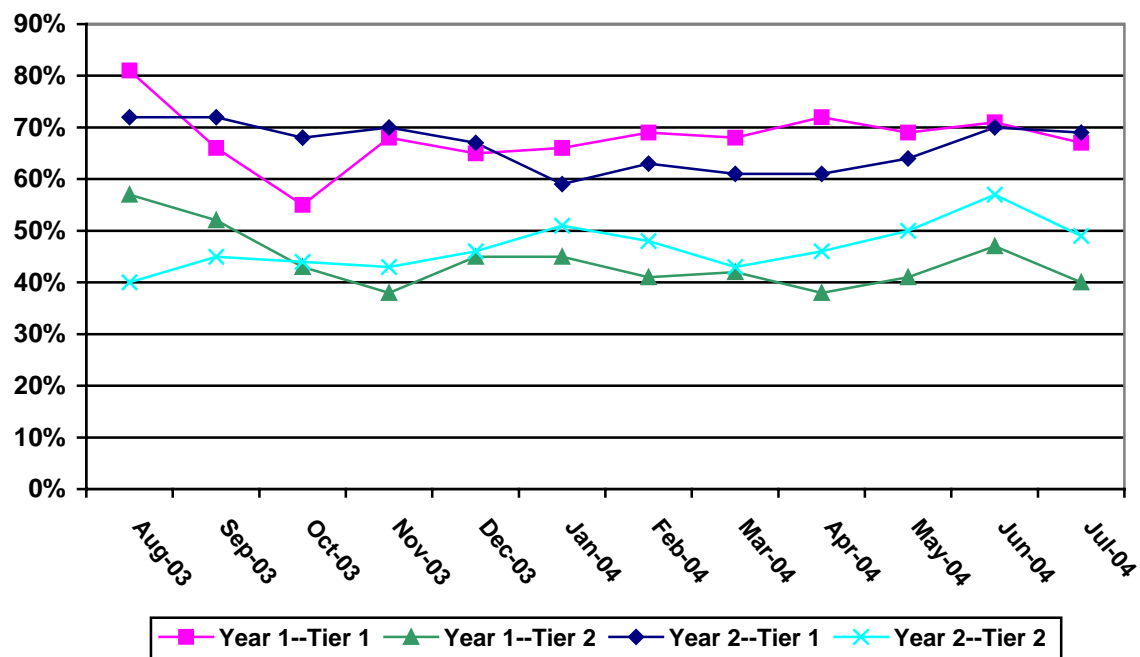
The second inquiry to use in assessing the payment performance of ELIP participants involves an examination of the extent to which, if at all, ELIP participants made complete bill payments. Traditional analysis is based on the incidence and level of arrears. It is with these two metrics that we begin our discussion.

### **Incidence of Arrears**

Roughly half of all ELIP accounts began the program in arrears, and remained in arrears throughout the program.<sup>11</sup> Figure 6 shows, however, that real differences existed between the Tier 1 and Tier 2 customers. While roughly 70% of Tier 1 (\$40 credit) participants had arrears in any given month of Year 1 of the ELIP program, only 40% of Tier 2 (\$20 credit) participants did. While differences appeared in the absolute incidence of arrears as between the two populations of participants, fluctuations in the incidence of arrears did not. Neither population experienced a significant variance in the overall proportion of accounts in arrears in any given month.

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<sup>11</sup> This is not surprising given that customers entering the program with arrears were given the option of entering into a deferred payment plan of either 12 or 24 months.



***Figure 6. Percent Total Accounts in Arrears***

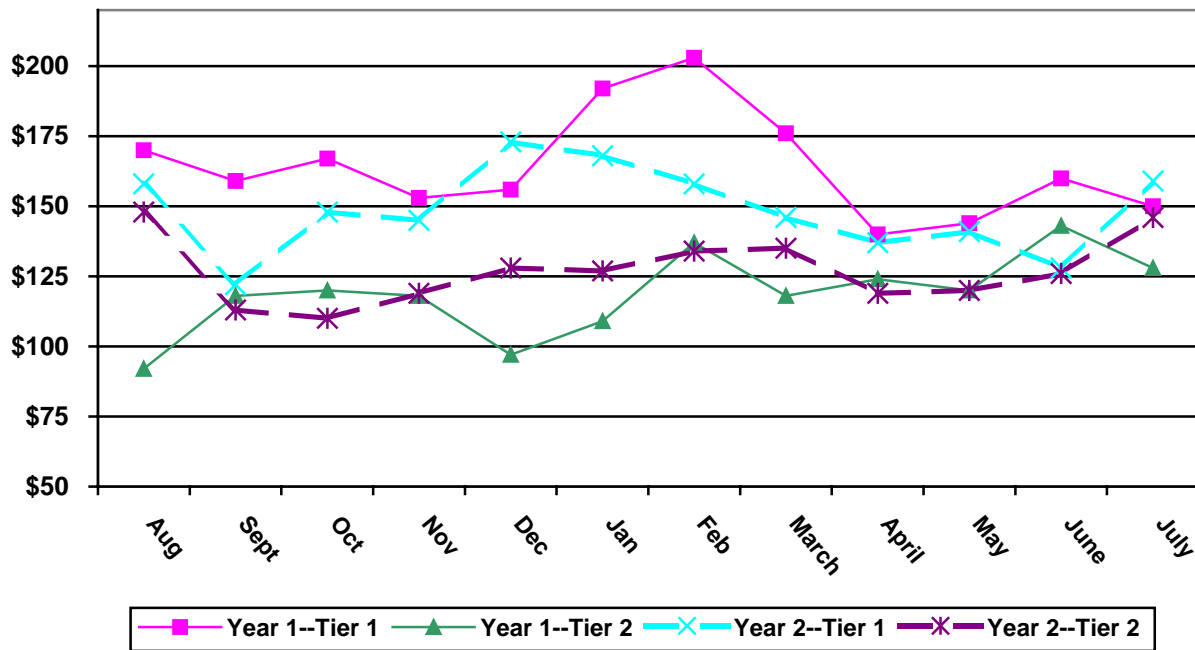
These constant figures are particularly significant given the above findings with respect to the increasing proportion of accounts with new arrears during the cold weather months. While there was a significant proportion of accounts in arrears that were “new” arrears in any given winter month, the total proportion of accounts in arrears increased somewhat, but not significantly, over the course of the winter. The proportion of Tier 1 accounts in arrears, for example, only increased from 66% in January to 72% in April. Just as some accounts were developing new arrears, other accounts were retiring old arrears, with the proportion of total accounts in arrears remaining relatively constant.

The proportion of Tier 1 accounts in arrears showed a small, but nonetheless noticeable, drop from Year 1 to Year 2 of ELIP. While the proportion was nearly constant at roughly 70% in Year 1, it ranged narrowly around 60% in Year 2. In contrast, the proportion of Tier 2 accounts in arrears actually increased in Year 2. While the proportion was a nearly constant 40% in Year 1, it increased to a narrow range around 50% in Year 2.

### **Level of Arrears**

Unlike the incidence of arrears, while the average level of arrears for the two tiers of ELIP participants differed markedly at the beginning of the program, that gap closed significantly over the first year of ELIP. Tier 1 customers (below 50% of FPL) began the program with much higher arrears than Tier 2 customers. While Tier 1 participants having arrears entered ELIP with arrears of close to \$170, Tier 2 customers with arrears had an average arrears of only \$92. The pattern of adding to arrears during cold weather months was very similar between the two populations, with the average arrears of accounts having arrears experiencing an increase of

roughly \$40 between December and February. Average arrears for Tier 1 accounts having arrears increased from \$156 to \$203 (an increase of \$47), while the average arrears for Tier 2 accounts increased from \$97 to \$137 (an increase of \$40) in that same time period.



*Figure 7. Average Arrears for Accounts in Arrears*

Average Tier 1 arrears, however, declined sharply in the post-winter months, decreasing \$60 from \$203 in February to \$140 in April. In contrast, average Tier 2 arrears declined by less than \$20 during that same time frame (from \$137 in February to \$120 in April). The difference in average arrears between Tier 1 and Tier 2 accounts remained reasonably small for the last three months of the ELIP program year, ranging from \$24 in May (\$144 to \$120), to \$22 in June (\$150 to \$128).

In Year 2, Tier 1 customers continued to see a decline in their average arrears. The average steadily declined from December through June (\$175 to \$125) before seeing an upward bounce in July. As with other payment patterns, the Year 2 results for Tier 2 customers closely mirrored the Year 1 results. Tier 2 customers appear to maintain higher arrears in the warm weather months.

### **Retirement of Arrears**

Not only did the average arrears decrease on an aggregate basis during Year 1 of ELIP, but also a substantial percentage of ELIP accounts that had electric arrears going into the winter heating season were free of arrears by the end of the program year. The table below shows that within the total ELIP population, 183 had arrears in December of 2003. By the end of the winter (April), 40% of those ELIP accounts (n=73) were arrears free. By July, half of those 183

accounts (n=91) were completely free of arrears. While Tier 2 ELIP accounts (\$20 ELIP credit accounts) retired arrears more quickly than did the lower income (Tier 1) accounts by the end of the winter (43% Tier 2 accounts compared to 32% Tier 1 accounts), the rates had become nearly equal by the end of the program year (51% Tier 2 accounts compared to 47% Tier 1 accounts).

<b>Table 7. Number of Accounts with December Arrears Who Had No Arrears Remaining in Comparison Month</b>								
	<b>\$40 ELIP Accounts</b>				<b>\$20 ELIP Accounts</b>			
	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>
	<b>Year 1 (2003 - 2004)</b>							
No. w/ December Arrears	53	53	53	53	130	130	130	130
Still have arrears	36	36	35	28	74	75	80	64
No. with no arrears	17	17	18	25	56	55	50	66
Pct with no arrears	32%	32%	34%	47%	43%	42%	38%	51%
	<b>Year 2 (2004 - 2005)</b>							
No. w/ December Arrears	91	91	91	91	134	134	134	134
Still have arrears	39	33	37	29	78	74	68	52
No. with no arrears	52	58	54	62	56	60	66	82
Pct with no arrears	57%	64%	59%	68%	42%	45%	49%	61%

The results improved further in the second year of ELIP. While 47% of the Tier 1 customers with arrears in December 2003 were arrears-free by July 2004, 68% of the Tier 1 customers with arrears in December 2004 were arrears-free by July 2005. The performance of Tier 2 customers improved as well. While 51% of the Tier 2 accounts with arrears in December 2003 were arrears-free by July 2004, 61% of the tier 2 accounts with arrears in December 2004 were arrears-free by July 2005. The Year 2 improvement was much greater for Tier 1 customers (21%: from 47% to 68%) than for Tier 2 customers (10%: from 51% to 61%).

While the percentages changed, the underlying absolute numbers changed as well. For Tier 1 customers, a substantially higher number had December arrears in December 2004 (n=91) than in December 2003 (n=53). A virtually identical number of Tier 1 accounts remained with arrears in July 2005 (n=29) as in July 2004 (n=28). In contrast, the number of Tier 2 accounts with arrears was about the same in December 2004 (n=134) as in December 2003 (n=130). The absolute number remaining with arrears was thus lower in July 2005 (n=52) than in July 2004 (n=64).

### **Reduction in Arrears**

Even within the remaining accounts that had arrears but did not retire them completely, there was a substantial reduction in arrears within the ELIP participant population. The table below examines those accounts that had arrears in December, and still had arrears remaining in the last four months of the first ELIP program year (April through July). The analysis examines the ratio



of the December arrears to the arrears remaining in the comparison month. If the ratio is equal to 1.0, the arrears are exactly the same. If the ratio is greater than 1.0, the level of December arrears was greater than the level of arrears remaining in the comparison months (i.e., the arrears had decreased since December). If the ratio is less than 1.0, the December arrears was less than the level of arrears in the comparison months (i.e., the arrears had increased since December). The table includes only those accounts that had arrears in both December and the comparison month. Those accounts that had retired their arrears by time of the comparison month were discussed immediately above.

A modestly greater number of total ELIP accounts decreased their arrears between December and the comparison months. By the end of the program year, of those accounts having December arrears (n=183), 92 had arrears remaining, 51 of which had arrears lower than that which was on the account in December (41 accounts had a July arrears higher than their December arrears). This modest success in reducing arrears (when the arrears were not retired completely) was not universal. Within the lowest income ELIP customers, of the 28 Tier 1 accounts having December arrears (and continuing to have arrears at the end of the program year), more than half (n=15) had experienced an increase in arrears, while only 13 had experienced a reduction. Nonetheless, within the Tier 2 accounts, of the 64 accounts with arrears remaining, 38 had arrears smaller in July than they had on their account in December.

**Table 8. Number of Accounts with December Arrears  
with Arrears Remaining in Comparison Month  
By Ratio of December Arrears to Comparison Month Arrears**

	Year 1 (2003-2004)								Year 2 (2004 - 2005)							
	\$40 ELIP Accounts				\$20 ELIP Accounts				\$40 ELIP Accounts				\$20 ELIP Accounts			
	Ratio TO December Arrears OF:				Ratio TO December Arrears OF:				Ratio TO December Arrears OF:				Ratio TO December Arrears OF:			
	Apr	May	Jun	July	Apr	May	Jun	July	Apr	May	Jun	July	Apr	May	Jun	July
>0 <=.25	3	4	2	3	6	3	3	6	4	1	5	4	3	6	2	3
>.25 <=.5	5	4	5	3	5	10	5	10	8	3	5	2	12	7	5	6
>.5 <=.75	7	7	3	4	14	5	6	4	6	9	6	5	11	10	9	9
>.75 <=1	7	5	3	5	13	13	8	6	8	4	2	5	10	13	5	3
>1 <=1.25	2	5	3	0	7	10	11	2	2	3	6	1	11	7	8	4
>1.25 <=1.5	4	1	1	1	6	10	12	2	3	2	3	1	7	3	6	5
>1.5 <=1.75	0	1	3	1	4	4	3	3	3	1	2	2	2	0	7	4
>1.75 <=2	1	2	5	1	5	1	8	7	0	1	1	1	2	6	6	0
>2 <=10	6	6	8	6	12	14	19	21	4	8	6	7	19	22	19	17
>10	1	1	2	4	2	5	5	3	1	1	1	1	1	0	1	1
Total <=1 /a/	22	20	13	15	38	31	22	26	26	17	18	16	36	36	21	21
Total >1 /b/	14	16	22	13	36	44	58	38	13	16	19	13	42	38	47	31
NOTES:																
/a/ A ratio of less than 1.0 means the December arrears was less than the arrears in the comparison month (arrears increased in months after December).																
/b/ A ratio of greater than 1.0 means the December arrears was greater than the arrears in the comparison month (arrears decreased in months after December).																

The pattern of reducing arrears, even if not eliminating them completely, carried over to Year 2 of ELIP. Of the 29 Tier 1 accounts that had arrears remaining in July 2005 (after having a December 2004 arrears), 13 had reduced their arrears (even if not retiring them completely). Of the 62 Tier 2 accounts that had arrears remaining in July 2005 (after having a December 2004 arrears), 31 had reduced those arrears (even though not retiring them). The pattern of seeing roughly 50% of the accounts with remaining arrears experience a reduced level of arrears held true over the four comparison months of April through July.

**Table 9. Number of Accounts with December Arrears  
Who Had No or Decreased Arrears Remaining in Comparison Month**

Year 1 (2003 - 2004)	\$40 ELIP Accounts				\$20 ELIP Accounts			
	April	May	June	July	April	May	June	July
No. w/ December Arrears	53	53	53	53	130	130	130	130
Either no or reduced arrears	31	33	40	38	92	99	108	104
Pct with no or reduced arrears	58%	62%	75%	72%	71%	76%	83%	80%
Year 2 (2004 - 2005)	\$40 ELIP Accounts				\$20 ELIP Accounts			
	April	May	June	July	April	May	June	July
No. w/ December Arrears	91	91	91	91	134	134	134	134
Either no or reduced arrears	65	74	73	75	98	98	113	113
Pct with no or reduced arrears	71%	81%	80%	82%	73%	73%	84%	84%

The combination of reduced and eliminated arrears demonstrates that ELIP customers were quite successful in either eliminating or reducing any arrears that may have been on their accounts going into the winter season. Within the Tier 1 population, nearly three-fourths (72%) had either reduced or eliminated their arrears. In addition, 80% of the Tier 2 ELIP participants had either reduced their December arrears or eliminated those December arrears altogether. These figures held true for Year 2 as well, with 80% of Tier 1 customers having arrears in December either retiring or reducing those arrears by July. Nearly 85% of the Tier 2 customers with arrears in December 2004 had either retired or reduced those arrears by July 2005.

### **Payments Relative to Current Bills**

The table below shows payment data for individual ELIP participant accounts. The table tracks the proportion of each account's current bill that was paid on a monthly basis. To illustrate, the table shows that 26 ELIP participants made a payment equal to between 50% and 75% of their current bill in March 2004. In contrast, 17 ELIP participants made a payment between 150% and 175% of their current bill in January. A payment of less than 1.0 means the current bill was not covered by the payment and an arrears was incurred in that month. A payment of more than 1.0 means the current bill was covered and the arrears on that account, if any, was reduced. This data is only for customers making payment. The pattern of \$0 payments as discussed earlier.

Several significant observations arise from the data presented. The table shows a noticeable increase in the number of ELIP participants paying more than 100% of their current bills in the warm weather months. Within the Tier 1 population, the number making payments higher than 1.0 moved from roughly 40 in the shoulder months (42 in April/39 in May) to over 50 in the warm weather months (55 in June/51 in July). The Tier 2 population experienced an even greater proportionate increase from the shoulder months (86 in April/81 in May) to the warm weather months (124 in June/112 in July).

The data shows that Year 2 data follows the same pattern. The number of accounts making payments of greater than their current monthly bill holds relatively constant throughout the winter months and experiences a moderate increase when the weather begins to warm in April and May. With Tier 2 customers, for example, while the number of customers making payments of greater than their current bill head steady at between 70 (April), 72 (January) and 76 (February and March) during Year 2, that number began to make a modest increase in May (n=94) and June (n=121). The change, while not of the same magnitude within the Tier 1 customers in Year 2, is nonetheless present and discernible.

<b>Table 10. Of Accounts with Payments and Current Bills in Month, Number of Accounts by Ratio of Payment to Current Bills Year 1 (2003 - 2004)</b>											
Ratio of Dollars		Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	July-04
		\$40 ELIP Credit Accounts									
>0	<=.25	0	2	2	1	4	3	4	5	2	1
>.25	<=.5	8	8	9	15	19	12	28	31	25	34
>.5	<=.75	7	15	5	15	11	15	13	21	16	22
>.75	<=1	17	29	25	20	25	29	35	31	36	33
>1	<=1.25	9	9	8	11	9	13	14	13	12	15
>1.25	<=1.5	9	1	11	3	5	9	8	8	8	4
>1.5	<=1.75	5	1	7	3	4	8	6	8	6	7
>1.75	<=2	0	1	2	1	2	4	2	1	7	4
>2	<=10	3	3	5	6	14	14	8	4	11	13
>10	>10	2	0	0	2	4	3	4	5	11	8
		\$20 Credit Accounts									
>0	<=.25	22	29	24	29	37	22	23	19	13	29
>.25	<=.5	24	36	18	34	43	38	32	36	17	38
>.5	<=.75	13	10	12	14	14	10	14	16	10	37
>.75	<=1	100	134	122	120	117	137	151	155	145	86
>1	<=1.25	37	30	32	27	27	26	33	32	25	34
>1.25	<=1.5	8	6	19	7	10	15	17	14	16	26
>1.5	<=1.75	9	6	13	14	8	9	11	5	7	11
>1.75	<=2	9	3	11	10	7	13	8	3	10	10
>2	<=10	7	12	26	22	22	27	14	16	45	26
>10	>10	0	3	2	4	3	2	3	11	21	5

**Table 11. Of Accounts with Payments and Current Bills in Month,  
Number of Accounts by Ratio of Payment to Current Bills  
Year 2 (2004 - 2005)**

Ratio of Dollars		Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	July-05
		\$40 ELIP Credit Accounts									
>0	<=.25	6	4	5	4	7	3	0	3	2	3
>.25	<=.5	20	18	21	30	23	25	21	19	12	30
>.5	<=.75	15	15	17	22	18	19	18	15	13	18
>.75	<=1	26	31	22	27	24	24	20	29	23	22
>1	<=1.25	9	12	16	10	9	11	9	12	8	4
>1.25	<=1.5	12	6	6	8	9	5	9	2	15	2
>1.5	<=1.75	7	6	3	6	6	8	4	7	5	4
>1.75	<=2	2	4	3	2	4	3	4	2	3	3
>2	<=10	10	16	18	14	13	5	12	10	11	5
>10	>10	4	11	15	6	2	2	3	4	9	4
		\$20 Credit Accounts									
>0	<=.25	28	23	29	27	29	25	30	20	17	35
>.25	<=.5	37	28	42	46	42	30	38	33	16	38
>.5	<=.75	17	22	15	18	24	12	12	10	8	40
>.75	<=1	102	99	108	115	109	138	134	123	115	84
>1	<=1.25	26	26	29	24	34	27	21	41	35	25
>1.25	<=1.5	6	12	10	3	8	9	10	6	12	8
>1.5	<=1.75	4	10	10	14	8	13	6	9	6	8
>1.75	<=2	4	4	5	3	10	4	8	11	9	7
>2	<=10	12	28	20	21	15	20	16	16	33	15
>10	>10	2	10	7	7	1	3	9	11	26	7

Despite the increase in the number of ELIP participants making payments more than 100% of their current bills, the relationship between the number paying more than 100% and the number of participants paying less than 75% did not change during these months. The table below shows totals for three groups of payments

- 1% - 75% of the current bill;
- 76% to 100% of the current bill;<sup>12</sup> and
- more than 100% of the current bill.

<sup>12</sup> The large number of customers falling into this category would include all those that had no arrears and simply paid their entire current bill each month.

Consistent with what has been previously observed, in Year 1, the Tier 2 (\$20 credit) customers have a noticeably better pattern of bill payment than do the lower-income Tier 1 customers. In all months but February, more Tier 2 customers have a payment of greater than 100% of their current bill than have a payment less than 75%. The number of customers paying their current bill (no more and no less) remains relatively constant. Two spikes in reduced payments occur for Tier 2 customers, one in February and again in July. In June, however, there is a sharp one month anomalous break in the payment pattern, with the number of low payments sharply decreasing and the number of high payments sharply increasing.

<b>Table 12. Of Accounts with Payments and Current Bills in Month, Total Number of Accounts by Ratio of Payment to Current Bills</b>										
	Year 1 (2003 - 2004)									
Ratio of Dollars	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	July-04
	<b>\$40 ELIP Credit Accounts</b>									
>0 <.75	15	25	16	31	34	30	45	57	43	57
>.75 =<1	17	29	25	20	25	29	35	31	36	33
>1	28	15	33	26	38	51	42	39	55	51
	<b>\$20 Credit Accounts</b>									
>0 <.75	59	75	54	77	94	70	69	71	40	104
>.75 =<1	100	134	122	120	117	137	151	155	145	86
>1	70	60	103	84	77	92	86	81	124	112
	Year 2 (2004 - 2005)									
	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	July-05
	<b>\$40 ELIP Credit Accounts</b>									
>0 <.75	41	37	43	56	48	47	39	37	27	51
>.75 =<1	26	31	22	27	24	24	20	29	23	22
>1	44	55	61	46	43	34	41	37	51	22
	<b>\$20 Credit Accounts</b>									
>0 <.75	82	73	86	91	95	67	80	63	41	113
>.75 =<1	102	99	108	115	109	138	134	123	115	84
>1	54	90	81	72	76	76	70	94	121	70

In contrast to the more consistently high payments of the Tier 2 customers, there is no similarly evident pattern of payments within the Tier 2 population. In the time period December 2003 through July 2004, there are four months in which the number of payments exceeding the current bill was higher than the number of payments less than 75% of the current bill. However, there were also four months in which the number of payments less than 75% of the current bill exceeded the number of payments exceeding 100%. No discernible pattern is evident.

The pattern breaks in Year 2, however. As we know from above, the data shows an increased number of Tier 2 customers falling into arrears in Year 2 of ELIP. That result appears in this data as well. Unlike the first year of the program, multiple months appear where the number of Tier 2 customers making payments less than their full current bill outnumber the number of Tier

2 customers making payments more than their current bill. As a result, more Tier 2 customers fall into arrears. In Year 2, the Tier 1 customers had difficulty in making payments of more than their current bill in the winter months. After seeing a substantial excess of the number of Tier 1 customers paying more than their current bill through December, the trend reversed for the three months of January through March. After holding constant in April and May, the Tier 1 customer payments returned to their pre-winter pattern in June 2005.

For both the Tier 1 and Tier 2 populations, there appears to be a reasonably stable group of customers who receive a current bill and pay it on a monthly basis. The proportion of these customers to the total number of accounts on which payments are made is much larger for the Tier 2 population than for the Tier 1 population. These customers can be expected to represent customers who are not in arrears (and thus do not pay *more* than 100% of the current bill) and do not fall into arrears (by paying less). The consistency of the numbers from month to month indicate, however, a stable population of good paying customers who receive their bill and pay it, never incurring arrears and thus never implicating the credit and collection process.<sup>13</sup>

### **Partial Payments**

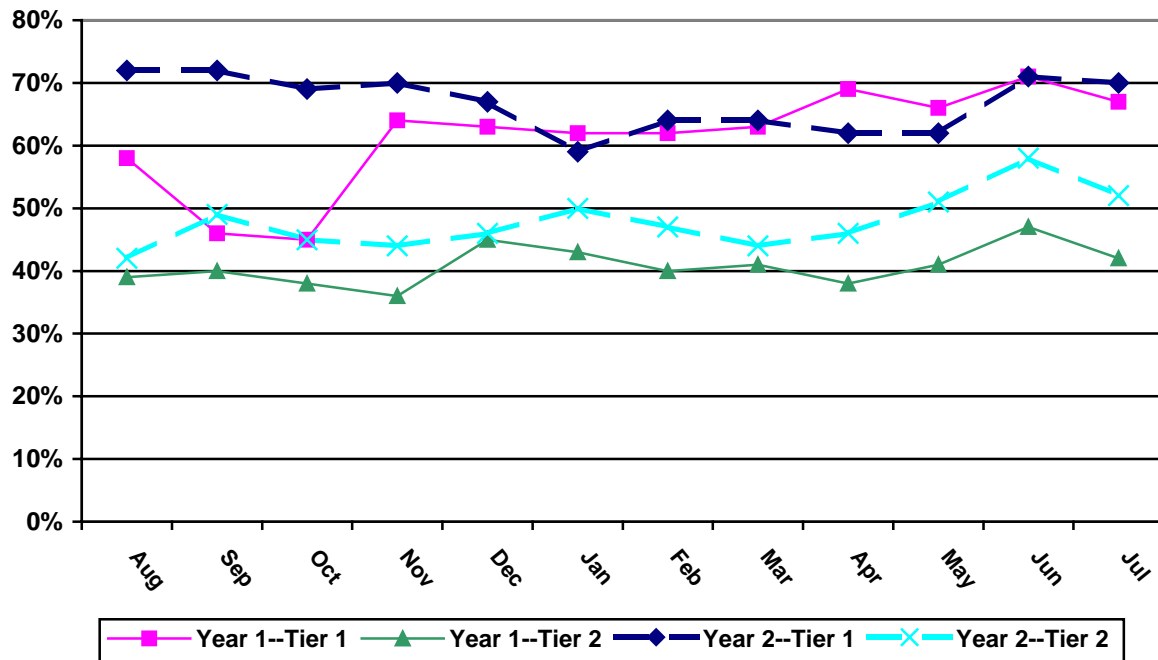
The ratio of total payments to current bills would appear to indicate that a sizeable percentage of ELIP customers make payments each month that are only a part of their bill for current usage. When measured directly, that result is confirmed. A high percentage of Tier 1 accounts making payments each month made payments equal to only a proportion of their current bills. Beginning in November 2003, between 60% and 70% of Tier 1 customers made partial payments. On the one hand, that appears to be “bad news,” in that these customers were not making complete payments on their monthly bills. On the other hand, the news is encouraging that the lowest income customers (below 50% of FPL) were still making payments even though the payments were less than their total current bill. The Tier 1 customers did not exhibit an “all or nothing” approach to paying their ELIP bills.

A significantly smaller proportion of Tier 2 customer payments represented partial payments. As the Figure below demonstrates, consistently 40% of payments made by Tier 2 customers were partial payments, indicating that roughly 60% of all payments made by Tier 2 customers were equal to or greater than their current bills.

The proportion of partial payments made by both Tier 1 and Tier 2 customers held steady throughout the cold weather months. While the proportion of payments that were partial payments ranged between 63% and 64% for Tier 1 customers from December through March, the proportion of payments that were partial payments ranged between 40% and 45% for Tier 2 customers. The converse of these observations are that between 36% and 37% of Tier 1 customers making payments during the cold weather months made complete payments toward their current bills. Between 55% and 60% of Tier 2 customers making payments made complete payments toward their monthly cold weather bills.

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<sup>13</sup> The reason for the anomalous payment pattern in July for Tier 2 customers is not readily evident. Seeking an explanation for the sharp one month spike in nonpayment in July 2004 is beyond the scope of this evaluation.



***Figure 8. Percent of Payments that are Partial Payments***

The Year 2 data confirms data previously presented. A higher percentage of Tier 2 customers are making partial payments in Year 2, consistent with the observation that a greater number of customers are not only in arrears, but are further in arrears. The proportion of Tier 1 customers making partial payments in Year 2 remains virtually constant with Year 1. No discernible seasonal variation in the proportion of customers making partial payments occurs for either Tier of customers.

Over the full year of Year 2, however, there is a slight but noticeable continuing upward trend in the proportion of Tier 2 customers making partial payments. This pattern is a continuation of the trend that began in Year 1. While the proportion of Tier 2 customers making partial payments began at less than 40% in August 2003, but June/July 2004, that proportion was up to between 40% and 50%. At the beginning of Year 2, the proportion remained at between 40% and 50%, but by June/July 2005, had increased further to between 50% and 60%. Even setting aside those first three months of Year 1 as anomalous (which we have done with previous metrics), there is an identifiable increase in the proportion of Tier 2 customers making partial payments between the beginning and end of ELIP.

### **Level of Bills and Payments**

The difference in whether ELIP accounts paid their current bills, or continued to develop arrears, occurs on the payment side of the equation. Because of the fact the ELIP is a program directed toward electric bills, along with the fact that ELIP participants were required to enroll in the Company's levelized budget billing program, significant differences did not appear between winter and non-winter bills. The table below presents the average monthly current bill, along



with the average monthly payment, for both total ELIP accounts and ELIP accounts having arrears in each month.

On an annual basis in Year 1, while Tier 1 bills are noticeably higher than Tier 2 bills, the bills between those accounts with arrears and those accounts without are nearly identical. The average monthly bill for Tier 1 accounts (\$90) is noticeably larger than Tier 2 accounts (\$79). The difference appears in February, when Tier 1 bills escalated to \$92, while Tier 2 bills remained at roughly \$80. The difference continued throughout the remainder of the year. Nonetheless, the bills between those accounts with arrears and all accounts were nearly identical. Within the Tier 1 population, the average monthly bill for accounts in arrears (\$90) was identical to the average monthly bill for all Tier 1 accounts. So, too, within the Tier 2 population was the average bill for accounts in arrears (\$79) identical to the average monthly bill for all Tier 2 accounts (\$79).

The same patterns hold true for Year 2 data. The average monthly bill for the 12-months of Year 2 for Tier 1 customers was \$93 for both all Tier 1 customers and Tier 1 customers in arrears. The average monthly bill for the 12-months of Year 2 for Tier 2 customers was \$77 for all customers and \$78 for Tier 2 customers in arrears.

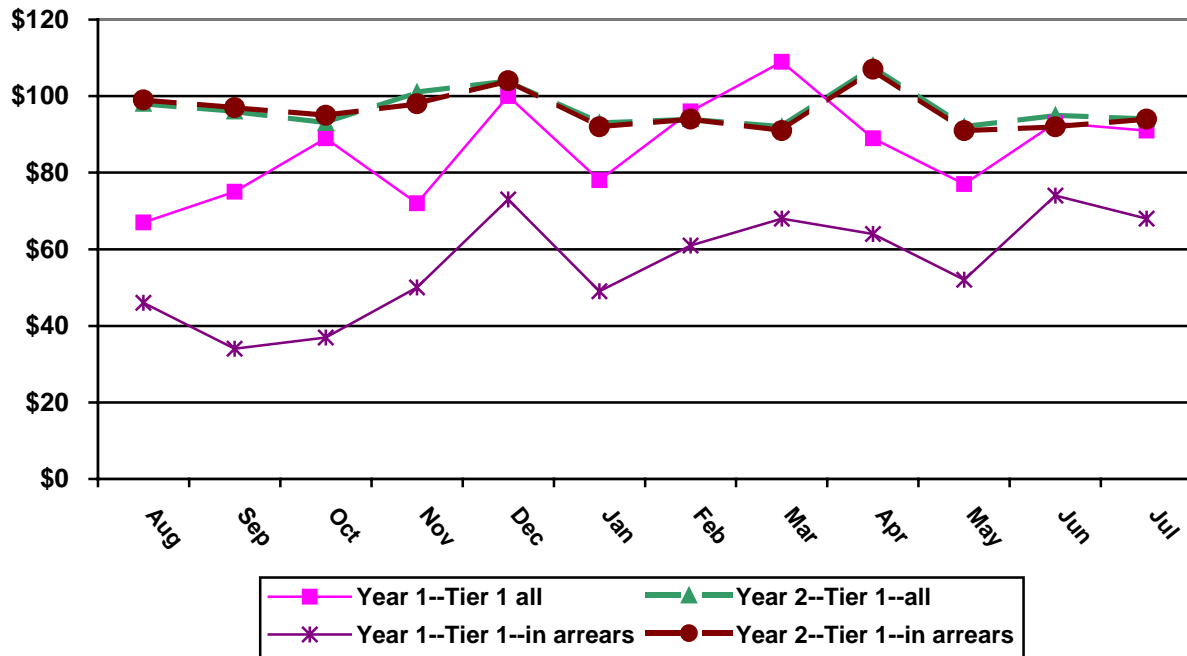
The differences between those accounts in arrears and those not arises in the payments made. While the average Year 1 payments made by Tier 1 accounts making payments was \$89, the average payment made by those accounts in arrears (and making payments) was only \$60. While the average Year 1 payment of Tier 2 customers making payments was \$77, the average payment of Tier 2 accounts in arrears (and making payments) was only \$39.

**Table 13. Average Bill and Average Payment by All ELIP Accounts and  
By All ELIP Accounts in Arrears**

	Year 1 (2003 - 2004)											
	Sep-03	Oct-03	Nov-03	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04	Ann Avg
	Current Bills											
Tier 1 accounts	\$92	\$88	\$85	\$88	\$84	\$92	\$92	\$93	\$94	\$86	\$95	\$90
Tier 2 accounts	\$80	\$83	\$82	\$83	\$82	\$79	\$81	\$80	\$76	\$66	\$83	\$79
Tier 1 accts in arrears	\$92	\$84	\$86	\$88	\$83	\$87	\$93	\$93	\$95	\$84	\$95	\$90
Tier 2 accts in arrears	\$82	\$84	\$86	\$87	\$84	\$83	\$84	\$82	\$70	\$52	\$74	\$79
	Payments											
Tier 1 accounts	\$75	\$89	\$72	\$100	\$78	\$96	\$109	\$89	\$77	\$93	\$91	\$89
Tier 2 accounts	\$60	\$73	\$74	\$94	\$83	\$74	\$85	\$79	\$74	\$79	\$73	\$77
Tier 1 accts in arrears	\$34	\$37	\$50	\$73	\$49	\$61	\$68	\$64	\$52	\$74	\$68	\$60
Tier 2 accts in arrears	\$28	\$31	\$31	\$58	\$48	\$37	\$48	\$36	\$35	\$43	\$37	\$39
	Year 2 (2004 - 2005)											
	Sep-04	Oct-04	Nov-04	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	June-05	Jul-05	Ann Avg
	Current Bills											
Tier 1 accounts	\$95	\$97	\$88	\$86	\$97	\$94	\$96	\$91	\$89	\$83	\$112	\$93
Tier 2 accounts	\$77	\$76	\$73	\$76	\$76	\$80	\$79	\$78	\$74	\$67	\$93	\$77
Tier 1 accts in arrears	\$95	\$96	\$86	\$84	\$95	\$93	\$95	\$90	\$88	\$82	\$112	\$93
Tier 2 accts in arrears	\$78	\$77	\$73	\$77	\$77	\$81	\$80	\$79	\$75	\$66	\$94	\$78
	Payments											
Tier 1 accounts	\$96	\$93	\$101	\$104	\$93	\$94	\$92	\$108	\$92	\$95	\$94	\$97
Tier 2 accounts	\$78	\$69	\$79	\$74	\$71	\$76	\$85	\$76	\$74	\$84	\$75	\$76
Tier 1 accts in arrears	\$97	\$95	\$98	\$104	\$92	\$94	\$91	\$107	\$91	\$92	\$94	\$96
Tier 2 accts in arrears	\$81	\$71	\$82	\$74	\$72	\$78	\$85	\$79	\$74	\$86	\$78	\$78

The same data is shown in the figure directly below. As the figure shows, the *pattern* of payment levels is quite consistent between each of the populations. The average payment noticeably increases in December, perhaps reflecting the receipt of LIHEAP payments for electric bills by some ELIP customers. There is another bump in payment in March. However, within each population, the payment level remains reasonably constant from January through June.

What payment volatility occurs is evident in the lowest income customers (both those with arrears and the total population). For the Tier 1 customers, both those in arrears and the population as a whole,<sup>14</sup> there is a variability in payment amounts between March and July that does not exist for the Tier 2 customers. The average payment level for Tier 1 accounts in arrears builds from a low of \$49 in January to a peak of \$68 in March before falling back to \$52 in May. The Tier 1 accounts in arrears then builds back again to roughly \$70 a month in both June and July. Payments by total Tier 1 accounts reflect this same pattern.<sup>15</sup>

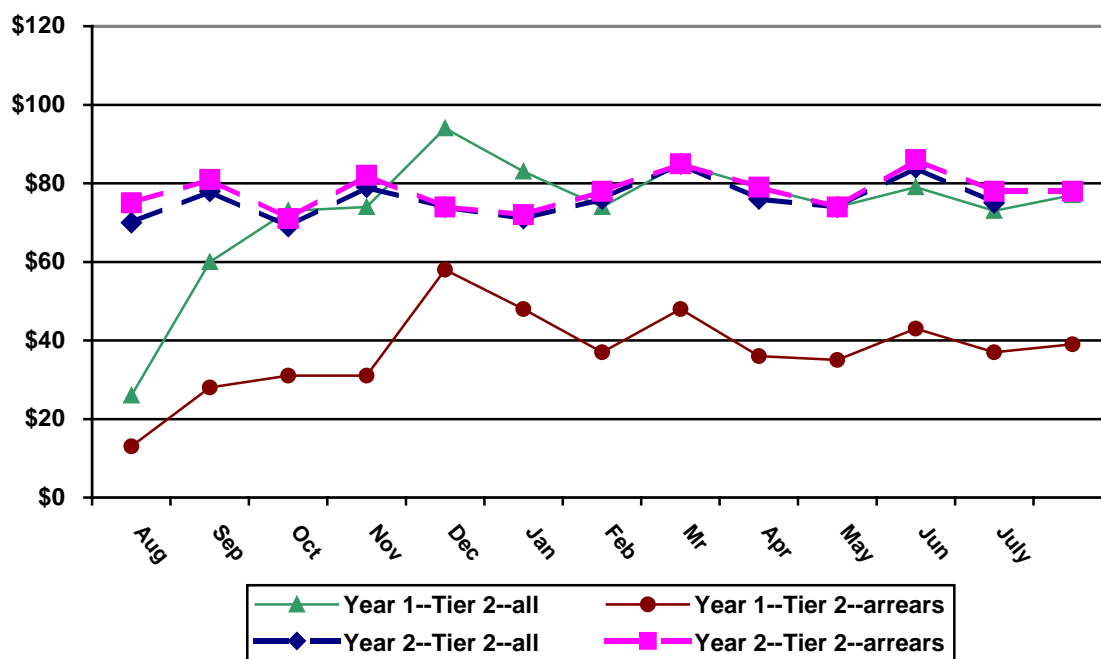


**Figure 9. Average Payment by All Tier 1 Accounts and Tier 1 Accounts in Arrears**

Customers in arrears, for both Tier 1 and Tier 2, made substantively higher payments on their accounts in Year 2 of ELIP. While the Tier 1 customers in arrears made an average monthly payment of \$60 in Year 1 of ELIP, the Tier 1 customers in arrears made an average monthly payment of \$96 in Year 2. While Tier 2 customers in arrears made an average monthly payment of \$39 in Year 1, Tier 2 customers in arrears made an average monthly payment of \$78. This occurred even though bills remained virtually identical. The average monthly Year 1 bill for Tier 1 customers in arrears was \$90, compared to an average monthly Year 2 bill of \$93. The average monthly Year 1 bill for Tier 2 customers in arrears was \$79, compared to an average monthly Year 2 bill of \$77.

<sup>14</sup> The comparison is not between those in arrears and those not. It is between those in arrears and the total population, which includes those in arrears.

<sup>15</sup> This should be expected to a certain extent, given that the accounts in arrears are included in the total accounts.



***Figure 10. Average Payment by All Tier 2 Accounts and Tier 2 Accounts in Arrears***

## Timely Bill Payments

The promptness of bill payment considers not merely whether a customer pays his or her utility bill in full, but whether the customer pays his or her utility bill on time as well. 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 measured by the use of a “weighted arrears” statistic called “bills behind.”

### “Bills Behind” Statistic

The use of “weighted arrears” as a mechanism to assess payment outcomes is based on a foundation first provided by the Bureau of Consumer Services (BCS) of the Pennsylvania Public Utilities Commission. According to a 1983 BCS analysis, contrary to the argument by that state’s utility companies, the Pennsylvania winter shutoff moratorium did not result in an increase in the number of unpaid bills, or the amount of unpaid bills, that would have existed in the absence of a moratorium. The BCS study reported that:

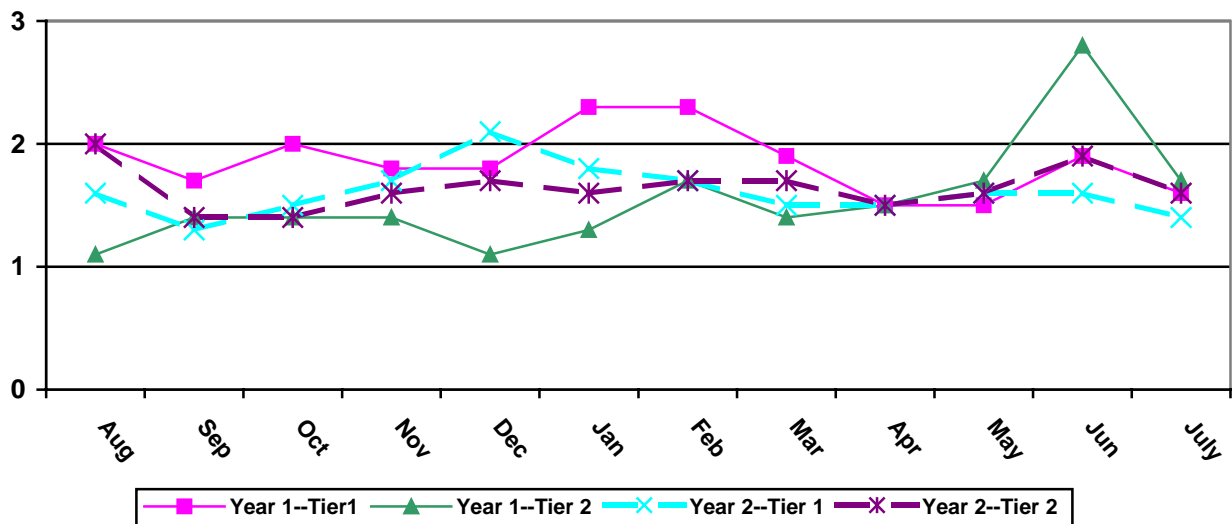
Average overdue bills are at a low in November and rise to a high point in March or April. The apparent relationship of this pattern to Public Utility Commission regulations is obvious. That is, arrears are greatest at the end of the Commission’s winter termination restrictions (December 1 to March 31 of the following year) and have been reduced to their lowest point immediately prior to the introduction of those restrictions for the following year. This pattern is consistent with the assertion put forward by utilities that they would be able to

control arrearages if there were no winter termination restraints. However, the seasonal fluctuations are substantial only for heating accounts. Arrearages for non-heating accounts show only minor seasonal fluctuations. A comparison of [the data] suggests a simple explanation for this difference, that is, that the size of arrearages is related to the size of monthly bills. Heating customers' bills grow radically in the winter and so do their arrearages. Non-heating customers' bills change very little seasonally and their arrearages follow suit. In other words, if the assertion that winter termination restraints invite nonpayment were correct, then non-heating arrearages should show the same seasonal pattern of variations as do heating arrearages. That they do not casts substantial doubt on the assertion that PUC winter termination restraints are responsible for willful non-payment and consequent collection problems.<sup>16</sup>

This Pennsylvania report introduces the notion that any assessment of arrears must control for the impact of monthly bills. The BCS report is consistent with the BCS recommendation, often stated, to use a "weighted arrears" or "bills behind" statistic to factor out the impact of increased arrears caused by factors other than nonpayment.

BCS explains that its "bills behind" statistic "permits comparisons to be drawn between companies by eliminating the effects of different customer bills on arrearages." Without such a measure, "the interpretation of average arrearages, either over time or in comparison between companies, presents some difficulties."<sup>17</sup>

A similar analysis was performed for this evaluation. Figure 11 shows the number of average Year 1 "bills behind" by month starting with August 2003 and continuing through July 2004. Year 2 data for August 2004 through July 2005 is also presented.



***Figure 11. Bills Behind for Accounts in Arrears***

<sup>16</sup> Joseph Farrell (1983). *Utility Payment Problems: The Measurement and Evaluation of Responses to Customer Nonpayment*, at 19, Pennsylvania Public Utility Commission: Harrisburg, PA

<sup>17</sup> *Id.*

The ELIP program appears to have had more success in improving the timeliness of payments for the Tier 1 (\$40 credit) customers than for the more moderate income customers. As Figure 9 shows, while Tier 1 customers carried monthly arrears equal to roughly two times the current monthly bill (*i.e.*, they were two “bills behind” in any given month) through February, the bills behind statistic improved beginning in March and stabilized at a new and somewhat lower level after the 2003/2004 winter heating season.<sup>18</sup> In contrast to the Tier 1 customers, Tier 2 customers showed a modest deterioration in their bills behind statistic. As with discussions above, there is an unexplained spike in bill nonpayment in the late months of Year 1 of the ELIP program year for Tier 2 customers. The impact of this brief, but significant, nonpayment period ramifies throughout each of the payment metrics.

Throughout Year 2, however, the “bills behind” statistic for both Tier 1 and Tier 2 accounts appears to have been stabilized. For Tier 1 customers, with the exception of a slight bump in December 2004, the accounts maintained a bills behind of between 1.3 and 1.6 during Year 2. For Tier 2 customers, with the exception of a slight late program bump, the bills behind statistic remained at between 1.4 and 1.7. The bills behind statistic is calculated only for customers in arrears. While ELIP does not seem to have reduced the bills behind for accounts in arrears, the program does appear to have taken the seasonal volatility out of how far an ELIP participant might be in any given month.

#### **Four Month Current Bill Coverage**

One of the weaknesses of the bills behind statistic, as with any of the individual statistics discussed in this evaluation, if viewed standing alone, is that it provides an incomplete picture of the collections picture. The weakness with bills behind is that it examines only those customers that continue to have arrears. As discussed in more detail above, a substantial proportion of the ELIP customers that began the program year with arrears, had retired their arrears completely by the months of June and July. Those customers fall out of the bills behind analysis. The analysis, in other words, examines the number of bills behind for those accounts having arrears.

A second way to examine the timeliness of payments is to compare bills and payments not on a monthly basis, but on a rolling four-month basis instead. As with many of the metrics used in this evaluation, customer payments are set forth in a payment-to-bills ratio. If the ratio is 1.0, the payments made by the customer in the four month period are exactly equal to the bills current bills rendered in that period. If the ratio is greater than 1.0, the customer has made payments that completely cover the current bill and have retired some portion of the pending arrears. If the ratio is less than 1.0, the customer has paid less than the current bill and is falling into arrears (or falling further into arrears).

The four-month ratio is used to allow the analysis to determine whether there are periods of the year in which payment coverage deteriorates and the company is forced to delay receipt of payments to cover its costs of service. To the extent that electric bills are not paid during the cold weather months, for example, with the missed winter payments made up when warm

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<sup>18</sup> There is an expected spike in the “bills behind” statistic in June. This occurs because arrears that might still be relatively high from the winter heating season are divided by a much lower shoulder month (or low-cost non-cooling month) bill, thus yielding a high “bills behind.” The May/June spike in bills behind is not uncommon.

weather returns, the four month payment-to-bills ratio would begin to deteriorate during the month of January and experience a noticeable dip in February and March. When warm weather returned, with payments being made up, the four-month payment-to-bills ratio would then begin to rehabilitate itself. The ratio would, in short, reveal the time-shifting engaged in by customers who move payment for their winter bills to the non-winter months.

<b>Table 14. Ratio of Four Month Payments in Dollars to Four Month Current Bills in Dollars--Year 1 (2003 - 2004)</b>									
		\$40 ELIP Credits							
		Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04
0	0	1	3	0	0	0	0	0	0
>0	<=.25	1	2	2	0	0	1	0	0
>.25	<=.5	2	2	1	0	3	5	5	7
>.5	<=.75	9	7	7	3	5	15	20	18
>.75	<=1	26	30	34	30	35	40	34	53
>1	<=1.25	10	15	13	22	18	22	28	25
>1.25	<=1.5	0	3	9	12	8	10	16	12
>1.5	<=1.75	2	3	2	2	6	3	4	2
>1.75	<=2	0	1	1	2	0	1	1	0
>2	>2	0	1	2	1	2	0	1	3
		\$20 ELIP Credits							
		Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04
0	0	0	0	0	0	0	0	0	1
>0	<=.25	3	2	2	0	0	1	1	1
>.25	<=.5	12	10	6	1	13	10	3	2
>.5	<=.75	24	24	19	8	25	27	26	22
>.75	<=1	104	120	140	158	144	150	137	128
>1	<=1.25	42	56	64	71	59	57	64	83
>1.25	<=1.5	14	24	25	22	22	17	23	28
>1.5	<=1.75	7	8	6	4	2	8	12	10
>1.75	<=2	0	3	1	2	4	2	2	3
>2	>2	0	0	0	2	2	2	12	6

Virtually no ELIP participants made \$0 payments over any four-month period throughout the year. Indeed, in Year 1, no ELIP participant went four months without a payment for periods ending February (November-February), March (December-March), April (January-April), May (February-May), or June (March-June). Only one ELIP participant made no payment in the four-month April through July period.

A similarly small number of ELIP participants made aggregate four-month payments of less than 25% of their four-month bills. No participant had aggregate payments of less than 25% during

the fourth-month periods ending March and April. Only two participants made payment of less than 25% during the period ending May, and only one participant made payments of less than 25% in the four month periods ending June and July.

Year 2 data is presented in identical form below. This Year 2 data reflects Year 1. Virtually no customers made \$0 payments over any given four month period.

<b>Table 15. Ratio of Four Month Payments in Dollars to Four Month Current Bills in Dollars--Year 2 (2004 - 2005)</b>									
		\$40 ELIP Credits							
		Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05
0	0	0	0	0	0	0	0	0	0
>0	<=.25	1	0	0	1	0	0	0	0
>.25	<=.5	3	5	2	2	1	3	4	2
>.5	<=.75	9	10	6	8	13	13	6	14
>.75	<=1	31	30	32	33	38	35	40	33
>1	<=1.25	20	34	26	27	23	21	20	13
>1.25	<=1.5	14	13	13	11	7	9	7	8
>1.5	<=1.75	6	3	4	4	2	3	1	6
>1.75	<=2	2	3	2	1	3	1	4	2
>2	>2	4	4	4	2	1	5	3	3
		\$20 ELIP Credits							
		Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05
0	0	0	1	2	1	0	0	0	0
>0	<=.25	1	1	3	2	1	0	1	1
>.25	<=.5	10	6	7	19	14	13	6	7
>.5	<=.75	27	24	24	27	33	25	20	23
>.75	<=1	82	114	125	126	132	132	120	125
>1	<=1.25	48	41	44	45	44	61	66	54
>1.25	<=1.5	11	20	20	11	13	16	24	13
>1.5	<=1.75	8	8	6	9	9	6	6	6
>1.75	<=2	3	1	0	2	2	2	5	6
>2	>2	4	4	3	2	2	3	5	3

Indeed, as is seen in the table above, virtually no ELIP participant made a payment of less than 50% of the current bill. Tier 2 customers had payment outcomes noticeably worse than their Tier 1 counterparts in this regard. While fewer than a half doze Tier 1 customers made four month payments of between 25% and 50% of their current bills, between 10 and 20 Tier 2 customers made payments at that level of their current bills. This data is consistent with the deterioration of payment outcomes found elsewhere in this evaluation for Tier 2 customers in Year 2 of ELIP.



**Table 16. Percentage of Accounts by  
Whether Four Month Payment Less or More than Four Month Current Bills**

	Year 1 (2003 - 2004)							
	Tier 1 Participants							
	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04
Less than 75%	25%	21%	14%	4%	10%	22%	23%	21%
More than 100%	6%	9%	10%	15%	13%	13%	18%	15%
	Tier 2 Participants							
	Dec-03	Jan-04	Feb-04	Mar-04	Apr-04	May-04	Jun-04	Jul-04
Less than 75%	19%	15%	10%	3%	14%	14%	11%	9%
More than 100%	31%	37%	37%	38%	33%	31%	40%	46%
	Year 2 (2004 - 2005)							
	Tier 1 Participants							
	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05
Less than 75%	14%	15%	9%	12%	16%	18%	12%	20%
More than 100%	51%	56%	55%	51%	41%	43%	41%	40%
	Tier 2 Participants							
	Dec-04	Jan-05	Feb-05	Mar-05	Apr-05	May-05	Jun-05	Jul-05
Less than 75%	20%	15%	15%	20%	19%	15%	11%	13%
More than 100%	38%	34%	31%	28%	28%	34%	42%	34%

The table above converts the cumulative monthly numbers of accounts reported as paying either more or less than their current bill on a four-month basis into percentages. More Tier 2 ELIP participants consistently pay more than 100% of their current bill on a four-month basis than do not. From December through July, between 30% and 40% of Tier 2 ELIP participants paid more than 100% of their current bill on a four month basis. As a general rule, the percentage of Tier 2 customers paying less than 75% of their bills during the same time periods ranged from 10% to 15%. The percentage paying more than 100% appears to begin to increase even more, and the percentage paying less than 75% appears to begin to decrease even more, during the warm weather months of June and July.

The lower income Tier 1 participants have a more difficult time consistently paying more than their current bill on a four-month basis. A higher percentage of these ELIP participants paid less than 75% of their four-month bills than paid more than 100% of their four-month bills. Moreover, the proportion paying more than 100% of their current bills on a four-month basis was half that of the higher income Tier 2 participants. The proportion of Tier 1 participants paying less than 75% of their four-month current bills was 50% (or more) higher than the Tier 2 participants. Like Tier 2 participants, the proportion of Tier 1 customers paying more than 100% of their current bill (on a four month basis) appears to begin to increase in the warm weather months of June and July, though the increase is not as pronounced.

The above data does not reveal a significant time-shifting in payments by ELIP participants. A significant proportion of ELIP participants appear to be making timely payments toward their current bills.

### **Summary of Payment Impacts**

Based on the above data, the following conclusions are proffered with respect to the payment impacts generated by the Empire District Electric Experimental Low-Income Program (ELIP):

- ELIP improved the regularity of bill payment. During the second program year, the payment-to-bill ratio remained constant at 1.0 or higher for both Tier 1 and Tier 2 ELIP participants. The number of months in which bills payments were missed entirely was reduced to virtually none. While the number of Tier 1 customers with new arrears remained constant in Year 1 and trended down in Year 2, Tier 2 customers showed a continuing decline in the proportion of accounts with new arrears.
- ELIP improved the completeness of bill payment. Not only did average arrears decrease on an aggregate basis, but also a substantial percentage of ELIP account that had arrears going into the winter heating season were free of arrears by the end of the program year. Even within the remaining accounts that had arrears but did not retire them completely, there was a substantial reduction in arrears within the ELIP population. Finally, even while bills remained virtually identical, customers in arrears, for both Tier 1 and tier 2, made substantively higher payments on their accounts in Year 2 of ELIP.
- ELIP improved the timeliness of bill payment. The “bills behind” statistic for both Tier 1 and Tier 2 customers appears to have been stabilized. The data does not reveal any significant time-shifting in payments by ELIP participants. A significant proportion of ELIP participants appears to be making payments toward their current bills.
- Tier 1 customers (with incomes at or below 50% of the Federal Poverty Level) experience noticeably greater difficulties in making bill payments than do Tier 2 customers (with income between 50% and 100% of the Poverty Level). This occurs despite the higher fixed credits paid to the lower income customers.

More detailed findings are presented in the Chapter 4 below.

## **Chapter 3:**

# **Payment Patterns and Selected Demographics**

Whether ELIP participants succeed in making complete, regular and timely bill payments can be affected as much by demographics other than income as much as it is affected by the level of bills (and amount of subsidy received through ELIP credits). By matching utility-provided billing and payment data with demographic data provided by the Community Based Organization (CBOs) doing ELIP outreach and intake, it is possible to gain some insight into the extent to which, if at all, factors such as source of income, household age, and household tenure status (homeowner or tenant) have on payment outcomes.

To pursue the analysis below, agency-provided data was matched with a list of ELIP participants that participated in the program in both program years. A total of 266 ELIP participants had both billing and payment data and demographic data over the course of the two year period. The demographic data is current as of the time the household applied for ELIP service.

### **Baseline Data**

The beginning of this analysis looks at the ELIP population that participated in both years of the ELIP program and for which agency data was also available. There were 266 ELIP participants that met these two criteria. The purpose of this first section is to provide an overview of the ELIP population as a whole before looking at narrower sub-populations defined by demographic characteristics.

ELIP participants tended to be in arrears over the course of the entire ELIP program. Exactly one-third (33%) of all customers that participated in ELIP for both years were in arrears for 13 or more months. Since customers cycled on and off ELIP (participation in both years does not mean that ELIP customers had a full 24 months of participation), this data is generated for ELIP customers for whom there are a minimum of 19 months of current month bills. A very small proportion (5%) of ELIP participants were in arrears at no point during the program, while roughly half (46%) were in arrears for six or fewer of the months (given a minimum of 19 months of bills).

*Table 17. Number of ELIP Accounts by Number of Months in which Arrears Appeared with Current Bill  
(Base Case)*

Months with Arrears	Baseline
0	5%
1-6	46%
7-12	17%
13-18	21%
19-24	11%
Total	100%
Total #	143

\*\*\*Minimum of 19 current bills received.

Despite the fact that most ELIP customers were in arrears, those customers did not universally (or even overwhelmingly) fall further into arrears over the course of the winter heating season. Of those customers in arrears in December of each year, roughly half experienced a deterioration in their arrears status while the other half saw an improvement. In the first program year, 55% of all ELIP participants having an arrears in December either saw no change (5%) in their arrears by next April or saw a decrease (50%) in their arrears. There was, however, a decline in payment success from the first year of the program to the second. In the second year of ELIP (2004/2005), only 49% of the ELIP participants either saw no change (2%) in their arrears or a decline (47%).

Few ELIP participants, however, saw major deterioration in their arrears over the winter heating season. Only one quarter saw their December arrears double over the winter months, and less than 10% saw their arrears quadruple.<sup>19</sup>

*Table 18. Number of ELIP Accounts by Ratio of December Arrears to April Arrears  
(for Accounts with December Arrears)  
(Base Case)*

Ratio: December to April Arrears	December 2003 vs. April 2004***	December 2004 vs. April 2005***
	Baseline	Baseline
<0.25	8%	7%
<0.50	17%	19%
<1.0	45%	51%
=1.0	5%	2%
>1.0	50%	47%
Total	100%	100%
Total #	60	57

\*\*\*Of accounts having December arrears.

<sup>19</sup> While having an arrears “quadruple” may seem unreasonable, it is not at all out of the question. If a customer had a \$50 December arrears, and misses two winter bills of \$90, the arrears nearly quadruples, from \$50 to \$230.

Two-year ELIP participants, as a whole, made reasonably consistent payments toward their current bills during the winter months. No ELIP participant made \$0 in payments in either year of the ELIP program. Virtually no ELIP participants made payments of less than 50% of their current bills during the January through March winter months. In contrast, roughly 60% of all ELIP participants (63% in Year 1 and 59% in Year 2) made winter month payments equal to or greater than their current winter bills in both years of the ELIP program.

*Table 19. Number of ELIP Accounts by Ratio of Winter Payments to Winter Current Bills (January - March)  
(Base Case)*

Ratio: Payments to Current Bills	January through March 2004***	January through March 2005***
	Baseline	Baseline
= 0.0	0%	0%
0.0 - 0.49	3%	5%
0.50 - 0.99	34%	36%
= 1.0	33%	28%
> 1.0	30%	31%
Total	100%	100%
Total #	199	167

\*\*\*Of accounts with bills in January through March.

ELIP participants consistently made payments that sufficient to prevent their accounts from falling further into arrears. Exactly half of all ELIP participants (with a minimum of 19 current bills) made payments that were greater than their current bills in 13 or more months. Only 1% of ELIP participants with a minimum of 19 current bills made payments in excess of their current bill in fewer than six months. Only one-eighth of ELIP participants (12%) made payments of less than their current bills in 13 or more months.

*Table 20. Number of ELIP Accounts by Number of Months in which Payment was More/Less Than Current Bill  
(Base Case)*

Number of Months	Payment was Less than Current Bill***	Payment was More than Current Bill***
	Baseline	Baseline
0	0%	0%
1 - 6	27%	1%
7 - 12	61%	48%
13 - 18	12%	38%
19 - 23	0%	12%
24	0%	0%
Total	100%	100%
Total #	143	143

\*\*\*Minimum of 19 current bills in two year ELIP program.

Overall, while Empire District customers tended to enter the ELIP program with arrears, these customers made good faith efforts at payment throughout the program. In particular, these customers continued to make payments during the cold weather months and made noticeable efforts to retire their arrears by paying more than their current bills on a month to month basis.

Having reached these conclusions for the ELIP population as a whole, the remainder of this chapter will consider the payment patterns of specific subpopulations. The discussion will examine those customers who receive LIHEAP compared to those that do not. It will examine customer by source of income. It will finally examine customers by housing tenure (homeowners compared to tenants).

## LIHEAP Recipients

Of the 266 ELIP participants that were a part of ELIP for both program years (and had agency data against which to match utility data), 209 received assistance through the federal Low-Income Home Energy Assistance Program (LIHEAP). Far more LIHEAP recipients were in Tier 2 (50% - 100% of Federal Poverty Level) (n=152) than were in Tier 1 (0% to 50% of FPL) (n=57).

LIHEAP recipients did not carry arrears in fewer months within the population of customers also receiving ELIP assistance. The table below presents data on the number of months in which a customer experienced an arrears for all ELIP participants receiving at least 18 current bills over the course of the two year program.

*Table 21. Number of ELIP Accounts by Number of Months in which Arrears Appeared with Current Bill (LIHEAP Recipient vs. LIHEAP Non-Recipient)*

Months with Arrears	Received LIHEAP***	Did Not Receive LIHEAP***
0	5%	3%
1-6	43%	56%
7-12	15%	22%
13-18	23%	13%
19-24	13%	6%
Total	100%	100%
Total #	111	32

\*\*\*Minimum of 19 current bills received.

As can be seen, for ELIP participants receiving more than 18 bills, LIHEAP recipients carried arrears in more months than did non-LIHEAP recipients. While 36% of LIHEAP recipients carried arrears in 13 or more months during the two year ELIP program, only 19% of non-LIHEAP recipients did. While 63% of LIHEAP recipients carried arrears in 12 or fewer months of the two year ELIP program, 81% of non-LIHEAP recipients did.

*Table 22. Number of ELIP Accounts by Ratio of December Arrears to April Arrears (for Accounts with December Arrears)  
(LIHEAP Recipient vs. LIHEAP Non-Recipient)*

Ratio: December to April Arrears	December 2003 vs. April 2004***		December 2004 vs. April 2005***	
	Received LIHEAP	Did Not Receive LIHEAP	Received LIHEAP	Did Not Receive LIHEAP
<0.25	8%	11%	9%	0%
<0.50	14%	33%	19%	21%
<1.0	39%	78%	56%	36%
=1.0	6%	0%	2%	0%
>1.0	55%	22%	42%	64%
Total	100%	100%	100%	100%
Total #	51	9	43	14

\*\*\*Of accounts having December arrears.

Not only did ELIP LIHEAP recipients carry arrears in a greater number of months overall, they also experienced worse winter payment patterns than did customers not receiving LIHEAP. The table above analyzes whether ELIP customers increased or decreased their arrears over the course of the winter heating season. The table examines the ratio of December arrears to the April arrears at the end of the same winter heating season. A ratio of greater than 1.0 indicates that arrears decreased over winter months (December arrears were higher than April arrears). A ratio of less than 1.0 indicates that arrears increased (December arrears were less than April arrears).

The proportion of LIHEAP recipients (receiving ELIP) that experienced a growth in arrears over the course of the winter heating season exceeded the proportion of non-LIHEAP recipients in the 2004/2005 heating season. While 56% of LIHEAP recipients saw their arrears grow from December 2004 to April 2005, only 36% of non-LIHEAP recipients did. While 42% saw their arrears decrease over those five winter heating months, 64% of non-LIHEAP recipients did. The numbers for the 2004/2005 winter heating season were substantively different from the 2003/2004 heating season. LIHEAP recipients performed better in the previous year.

*Table 23. Number of ELIP Accounts by Ratio of Winter Payments to Winter Current Bills (January - March)  
(LIHEAP Recipient vs. LIHEAP Non-Recipient)*

Ratio: Payments to Current Bills	January through March 2004***		January through March 2005***	
	Received LIHEAP	Did Not Receive LIHEAP	Received LIHEAP	Did Not Receive LIHEAP
= 0.0	0%	0%	0%	0%
0.0 - 0.49	2%	6%	2%	12%
0.50 - 0.99	34%	33%	37%	33%
= 1.0	32%	36%	31%	19%
> 1.0	31%	24%	30%	36%
Total	100%	100%	100%	100%
Total #	166	33	125	42

\*\*\*Of accounts with bills in January through March.

More LIHEAP recipients paid their entire three month deep winter bill (January through March) than did non-LIHEAP recipients. While payment patterns declined in January through March of 2005 compared to one year earlier, substantially more than half of both LIHEAP and non-LIHEAP recipients paid their deep winter bills. The table above examines the number of accounts by the ratio of their payments to current bills for the January through March winter months. While 61% of LIHEAP recipients in 2005 made payments equal to 100% or more of their current monthly bills in 2005, only 55% of non-LIHEAP recipients did. While 2% of LIHEAP recipients made payments equal to less than 50% of their January through March bills, 12% of non-LIHEAP recipients did. While the numbers change somewhat between 2004 and 2005, the relationships do not. In neither year, did any LIHEAP or non-LIHEAP recipient make no payment toward the customer's January through March bills.

*Table 24. Number of ELIP Accounts by Number of Months in which Payment was More/Less Than Current Bill  
(LIHEAP Recipient vs. LIHEAP Non-Recipient)*

Number of Months	Payment was Less than Current Bill***		Payment was More than Current Bill***	
	Received LIHEAP	Did Not Receive LIHEAP	Received LIHEAP	Did Not Receive LIHEAP
0	0%	0%	0%	0%
1 - 6	31%	16%	0%	6%
7 - 12	60%	63%	49%	47%
13 - 18	9%	22%	37%	44%
19 - 23	0%	0%	14%	3%
24	0%	0%	0%	0%
Total	100%	100%	100%	100%
Total #	111	32	111	32

\*\*\*Minimum of 19 current bills in two year ELIP program.



On a monthly basis, LIHEAP recipients exhibited a better payment pattern than did customers who did not receive LIHEAP. For accounts receiving a minimum of 19 current bills in the ELIP program, fewer LIHEAP recipients had months in which they paid less than the current bill. More LIHEAP recipients had months in which they paid more than the current bill. Paying less than the current bill means that the account is falling further into arrears. Paying more than the current bill means the current bill is completely paid and some portion of the arrears is being retired.

Having fewer months when payments are less than the current bill is a sign of a better payment pattern. The “best” payment pattern would be if a customer had zero (0) months in which the bill payment was less than the current bill. Nearly one-third (31%) of LIHEAP recipients paid less than their current bill in six or fewer months. In contrast, only one-half of that percentage (16%) of non-LIHEAP recipients had payments less than their current bill in six or fewer months. This payment pattern was reflected on the other end of the spectrum as well. While 22% of non-LIHEAP recipients paid less than their current bill in 13 or more months, only 9% of LIHEAP recipients paid less than the current bill in the same number of months.

More LIHEAP recipients paid their complete bill over the two years of the ELIP program. While 14% of LIHEAP recipients made payments more than their current bill in 19 or more months, only 3% of non-LIHEAP recipients did. While 6% of non-LIHEAP recipients paid more than their current bill in six or fewer months, no LIHEAP recipients did.

### **Source of Income**

Of the 266 ELIP participants that were a part of ELIP for both program years (and had agency data against which to match utility data), 52 had wage income while 214 did not. In addition, 39 received income through TANF<sup>20</sup> while 154 received Social Security.

Social Security recipients carried arrears in fewer months than households did with incomes from other sources within the population of customers also receiving ELIP assistance. The table below presents data on the number of months in which a customer experienced an arrears for all ELIP participants receiving at least 18 current bills over the course of the two year program. The table examines households receiving wage income, households receiving TANF, and households receiving Social Security income.

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<sup>20</sup> Temporary Assistance to Needy Families, formerly known as Aid to Families with Dependent Children. TANF is the program commonly thought of as “welfare.”

*Table 25. Number of ELIP Accounts by Number of Months in which Arrears Appeared with Current Bill  
(Selected Sources of Income)*

Months with Arrears	Wage Income	TANF	Social Security
0	0%	0%	6%
1-6	30%	8%	54%
7-12	15%	17%	17%
13-18	30%	42%	14%
19-24	25%	33%	10%
Total	100%	100%	100%
Total #	52	39	154

\*\*\*Minimum of 19 current bills received.

As can be seen, for ELIP participants receiving more than 18 bills, TANF recipients carried arrears in more months than did either Social Security recipients or households with wage income. While 75% of TANF recipients carried arrears in 13 or more months during the two year ELIP program, only 55% of wage earners did, and, Only 24% of Social Security recipients carried arrears in 13 or more months. While 77% of Social Security recipients carried arrears in 12 or fewer months of the two year ELIP program, 25% of TANF recipients, and 45% of wage earners, did.

*Table 26. Number of ELIP Accounts by Ratio of December Arrears to April Arrears  
(for Accounts with December Arrears)  
(Selected Sources of Income)*

Ratio: December to April Arrears	December 2003 vs. April 2004***			December 2004 vs. April 2005***		
	Wage Income	TANF	Social Security	Wage Income	TANF	Social Security
<0.25	12%	0%	13%	0%	0%	10%
<0.50		8%	23%	19%	0%	24%
<1.0	53%	15%	47%	44%	25%	62%
=1.0	0%	8%	7%	0%	0%	0%
>1.0	47%	77%	47%	56%	75%	38%
Total	100%	100%	100%	100%	100%	100%
Total #	17	13	30	16	8	29

\*\*\*Of accounts having December arrears.

While ELIP TANF recipients carry arrears in a greater number of months overall, they did not necessarily experience worse winter payment patterns than customers with other sources of income did. The table above analyzes whether ELIP customers increased or decreased their arrears over the course of the winter heating season. The table examines the ratio of December arrears to the April arrears at the end of the same winter heating season. A ratio of greater than 1.0 indicates that arrears decreased over winter months (December arrears were higher than April

arrears). A ratio of less than 1.0 indicates that arrears increased (December arrears were less than April arrears).

The proportion of Social Security recipients (receiving ELIP) that experienced a growth in arrears over the course of the winter heating season exceeded the proportion of customers with other sources of income in the 2004/2005 heating season. While 62% of Social Security recipients saw their arrears grow from December 2004 to April 2005, only 44% of wage earners recipients did.<sup>21</sup> While 38% of Social Security recipients saw their arrears decrease over those five winter heating months, 56% of wage earners did. The numbers for the 2004/2005 winter heating season were somewhat different from the 2003/2004 heating season. Social Security recipients performed better in the previous year. Proportionately more Social Security recipients saw a decrease in their arrears over the 2003/2004 winter heating season, and proportionately fewer saw an increase.

*Table 27. Number of ELIP Accounts by Ratio of Winter Payments to Winter Current Bills (January - March)  
(Selected Sources of Income)*

Ratio: Payments to Current Bills	January through March 2004***			January through March 2005***		
	Wage Income	TANF	Social Security	Wage Income	TANF	Social Security
= 0.0	0%	0%	0%	0%	0%	0%
0.0 - 0.49	3%	3%	4%	4%	9%	4%
0.50 - 0.99	43%	43%	28%	46%	55%	34%
= 1.0	11%	7%	41%	7%	0%	36%
> 1.0	43%	47%	27%	43%	36%	26%
Total	100%	100%	100%	100%	100%	100%
Total #	35	30	130	28	11	116

\*\*\*Of accounts with bills in January through March.

More Social Security recipients paid their entire three month deep winter bill (January through March) than did ELIP participants with other income sources. While payment patterns declined in January through March of 2005 compared to one year earlier, substantially more than half of all Social Security recipients paid their deep winter bills in both years. The table above examines the number of accounts by the ratio of their payments to current bills for the January through March winter months. While 62% of Social Security recipients in 2005 made payments equal to 100% of more of their current monthly bills in 2005, only 50% of wage earners did. In neither year, did any ELIP participant having Social Security, wage or TANF income make no payment toward the customer's January through March bills.

The proportion of Social Security recipients making payments exactly equal to their current bills (ratio equals 1.0) is noteworthy. These customers generally do not have arrears and thus have no need to pay more than their current bill. The proportion of Social Security recipients making

<sup>21</sup> Only 25% of TANF recipients saw a growth in arrears over the winter. Note, however, that only eight TANF recipients were ELIP participants with December 2004 arrears. The small number of persons in this population makes the figure less robust.

payments exactly equal to their current bills is much higher than for customers with either wage or TANF income.

*Table 28. Number of ELIP Accounts by Number of Months in which Payment was More/Less Than Current Bill (Selected Sources of Income)*

Number of Months	Payment was Less than Current Bill***			Payment was More than Current Bill***		
	Wage Income	TANF	Social Security	Wage Income	TANF	Social Security
0	0%	0%	0%	0%	0%	0%
1 - 6	0%	0%	35%	5%	0%	0%
7 - 12	70%	83%	55%	75%	100%	39%
13 - 18	30%	17%	10%	20%	0%	45%
19 - 23	0%	0%	0%	0%	0%	16%
24	0%	0%	0%	0%	0%	0%
Total	100%	100%	100%	100%	100%	100%
Total #	20	12	109	20	12	109

\*\*\*Minimum of 19 current bills in two year ELIP program.

On a monthly basis, Social Security recipients exhibited a better payment pattern than did customers with other sources of income. For accounts receiving a minimum of 19 current bills in the ELIP program, more Social Security recipients (90%) than wage earners (70%) had a small number of months (12 or fewer) in which they paid less than the current bill. Conversely, more Social Security recipients (61%) than wage earners (20%) had a high number of months (13 or more) in which they paid more than the current bill. Paying less than the current bill means that the account is falling further into arrears. Paying more than the current bill means the current bill is completely paid and some portion of the arrears is being retired.

Having fewer months when payments are less than the current bill is a sign of a better payment pattern. The “best” payment pattern would be if a customer had zero (0) months in which the bill payment was less than the current bill.

## Housing Tenure

Of the 266 ELIP participants that were a part of ELIP for both program years (and had agency data against which to match utility data), 96 were homeowners while 170 were tenants.

More tenants carried arrears in more months within the population of customers also receiving ELIP assistance. The table below presents data on the number of months in which a customer experienced an arrears for all ELIP participants receiving at least 18 current bills over the course of the two year program.

*Table 29. Number of ELIP Accounts by Number of Months in which Arrears Appeared with Current Bill (Housing Tenure)*

Months with Arrears	Homeowner	Tenant
0	7%	3%
1-6	49%	44%
7-12	16%	17%
13-18	21%	21%
19-24	7%	14%
Total	100%	100%
Total #	96	170

\*\*\*Minimum of 19 current bills received.

As can be seen, for ELIP participants receiving more than 18 bills, more tenants carried arrears more than did homeowners. While 35% of tenants carried arrears in 13 or more months during the two year ELIP program, only 28% of homeowners did. While 72% of homeowners carried arrears in 12 or fewer months of the two year ELIP program, only 64% of tenants did.

*Table 30. Number of ELIP Accounts by Ratio of December Arrears to April Arrears (for Accounts with December Arrears) (Housing Tenure)*

Ratio: December to April Arrears	December 2003 vs. April 2004***		December 2004 vs. April 2005***	
	Homeowner	Tenant	Homeowner	Tenant
<0.25	3%	10%	0%	11%
<0.50	17%	13%	20%	19%
<1.0	37%	40%	55%	49%
=1.0	37%	5%	5%	0%
>1.0	27%	55%	40%	51%
Total	100%	100%	100%	100%
Total #	30	40	20	37

\*\*\*Of accounts having December arrears.

Not only did ELIP tenants carry arrears in a greater number of months overall, they also experienced worse winter payment patterns than did homeowners. The table above analyzes whether ELIP customers increased or decreased their arrears over the course of the winter heating season. The table examines the ratio of December arrears to the April arrears at the end of the same winter heating season. A ratio of greater than 1.0 indicates that arrears decreased over winter months (December arrears were higher than April arrears). A ratio of less than 1.0 indicates that arrears increased (December arrears were less than April arrears).

The proportion of tenants (receiving ELIP) that experienced a growth in arrears over the course of the winter heating season exceeded the proportion of homeowners in the 2004/2005 heating

season. While 40% of tenants saw their arrears grow from December 2004 to April 2005, only 37% of homeowners did. While 64% of homeowners saw their arrears decrease or stay the same over those five winter heating months, 60% of tenants did.

The numbers for the 2004/2005 winter heating season showed a somewhat different picture. Fewer tenants and more homeowners saw a decrease their December 2004 arrears by April 2005. While 51% of tenants saw a decrease in 2004/2005, 55% had seen a decrease in 2003/2004. While 40% of homeowners saw a decrease in 2004/2005, only 27% had seen a decrease in the preceding year. An increased proportion of both homeowners and tenants saw an increase in their arrears in the 2004/2005 winter heating season relative to the preceding year. While 40% of tenants saw a growth in arrears in 2003/2004, 49% saw a growth in 2004/2005. While 37% of homeowners saw a growth in arrears in 2003/2004, 55% saw a growth in 2004/2005. The deterioration in performance came in the number of accounts making payment exactly equal to their current bills during the winter months.

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*Table 31. Number of ELIP Accounts by Ratio of Winter Payments to Winter Current Bills (January - March)  
(Housing Tenure)*

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Ratio: Payments to Current Bills	January through March 2004***		January through March 2005***	
	Homeowner	Tenant	Homeowner	Tenant
= 0.0	0%	0%	0%	0%
0.0 - 0.49	0%	5%	6%	4%
0.50 - 0.99	31%	36%	38%	35%
= 1.0	43%	26%	30%	27%
> 1.0	26%	33%	26%	35%
Total	100%	100%	100%	100%
Total #	80	119	66	101

\*\*\*Of accounts with bills in January through March.

---

More tenants made their entire three month deep winter bill (January through March) than did homeowners. While payment patterns declined in January through March of 2005 compared to one year earlier, substantially more than half of both homeowners and tenants paid their deep winter bills. The table above examines the number of accounts by the ratio of their payments to current bills for the January through March winter months. While 62% of tenants in 2005 made payments equal to 100% or more of their current monthly bills in 2005, only 56% of homeowners did. While 4% of tenants made payments equal to less than 50% of their January through March bills, 6% of homeowners did.

The numbers change somewhat between 2004 and 2005. The proportion of ELIP participants making payments greater than their current bill stayed roughly constant from 2004 to 2005. The number of homeowner participants making payments exactly equal to their current bills declined in 2005 (from 43% to 30%) at the same time the proportion of homeowners making payments less than their current monthly bill increased.

In neither year, did any homeowner or tenant make no payment toward the customer's January through March bills.

*Table 32. Number of ELIP Accounts by Number of Months in which Payment was More/Less Than Current Bill (Housing Tenure)*

Number of Months	Payment was Less than Current Bill***		Payment was More than Current Bill***	
	Homeowner	Tenant	Homeowner	Tenant
0	0%	0%	0%	0%
1 - 6	33%	23%	2%	1%
7 - 12	61%	60%	42%	52%
13 - 18	5%	16%	42%	36%
19 - 23	0%	0%	14%	10%
24	0%	0%	0%	0%
Total	100%	100%	100%	100%
Total #	57	86	57	86

\*\*\*Minimum of 19 current bills in two year ELIP program.

On a monthly basis, homeowners exhibited a better payment pattern than did tenants. For accounts receiving a minimum of 19 current bills in the ELIP program, fewer homeowners had months in which they paid less than the current bill. More homeowners had months in which they paid more than the current bill. Paying less than the current bill means that the account is falling further into arrears. Paying more than the current bill means the current bill is completely paid and some portion of the arrears is being retired.

Having fewer months when payments are less than the current bill is a sign of a better payment pattern. The “best” payment pattern would be if a customer had zero (0) months in which the bill payment was less than the current bill. One-third (33%) of homeowners paid less than their current bill in six or fewer months. In contrast, only one-quarter of tenants (23%) had payments less than their current bill in six or fewer months. This payment pattern was reflected on the other end of the spectrum as well. While 16% of tenants paid less than their current bill in 13 or more months, only 5% of homeowners paid less than the current bill in the same number of months.

More homeowners paid their complete bill over the two years of the ELIP program. While 14% of homeowners made payments more than their current bill in 19 or more months, only 10% of tenants did. While 1% of tenants paid more than their current bill in six or fewer months, 2% of homeowners did.

## Chapter 4: Findings

Based on the data and discussion above, the following factual findings are proffered for the ELIP program administered by Empire District Electric Company.

### **Regular Bill Payments**

1. The regularity of payments is first measured by indexing the total number payments to the total number of bills rendered each month. A payment-to-bill ratio of 1.0 means that for every bill that is rendered, exactly one payment has been received. More meaningful is to conclude that for every ten (10) bills rendered, ten (10) payments have been received. A payment-to-bill ratio of 0.8 means that for every ten bills rendered, eight payments have been received. ELIP participants made regular payments toward their EDE bills each month, after an initial ramp-up of program participation. During the second program year, the payment-to-bill ratio remained constant at 1.0 or higher for both Tier 1 and Tier 2 ELIP participants. At no point in the program's second year did the ratio fall below 1.0 for either population.
2. After a poor performing year 1, the percentage of the total ELIP population completely missing payments in any given month remained relatively constant and at minimum levels. Tier 2 customers saw proportionately greater numbers of missed payments, with the percentage of Tier 2 participants tripling from December to February in Year 1, before coming back down to 0% (or near 0%) in June and July. In contrast, virtually none of the more moderate income customers (those receiving \$20 credits) made \$0 payments in Year 1. In Year 2 of ELIP, \$0 payments were nearly non-existent.
3. ELIP did not experience a substantial number of customers that had been making regular pre-winter payments, but stopped making their payments during the cold-weather months. In Year 1, there is somewhat of an upward tick in the presence of new arrears during the winter months of January through March. The upward tick, however, tends to occur only in the lowest income (Tier 1) customers. There is a significant increase in the number of "new" arrears in February amongst the lowest income (Tier 1) customers. A similar increase in the proportion of Tier 2 accounts "newly" in arrears did not occur.
4. The Year 2 trends are somewhat different. The number of Tier 1 customers with new arrears remained relatively constant throughout the year. The Year 2 trend of new Tier 1 arrears was definitely downward. Similarly, unlike the level proportion of new arrears throughout Year 1, Tier 2 showed a continuing decline in the proportion of accounts with new arrears throughout Year 2.



## **Complete Bill Payment**

5. Roughly half of all ELIP accounts began the program in arrears, and remained in arrears throughout the program. Real differences existed between the Tier 1 and Tier 2 customers. While roughly 70% of Tier 1 (\$40 credit) participants had arrears in any given month of Year 1 of the ELIP program, only 40% of Tier 2 (\$20 credit) participants did. While differences appeared in the absolute incidence of arrears as between the two populations of participants, fluctuations in the incidence of arrears did not. Neither population experienced a significant variance in the overall proportion of accounts in arrears in any given month.
6. Unlike the incidence of arrears, while the average arrears for the two tiers of ELIP participants differed markedly at the beginning of the program, that gap closed significantly over the first year of ELIP. Tier 1 customers began the program with much higher arrears than Tier 2 customers. Average Tier 1 arrears, however, declined sharply in the post-winter months. The difference in average arrears between Tier 1 and Tier 2 accounts remained reasonably small for the last three months of the ELIP program year. In Year 2, Tier 1 customers continued to see a decline in their average arrears. As with other payment patterns, the Year 2 results for Tier 2 customers closely mirrored the Year 1 results.
7. Not only did the average arrears decrease on an aggregate basis during Year 1 of ELIP, but also a substantial percentage of ELIP accounts that had electric arrears going into the winter heating season were free of arrears by the end of the program year. By July, half of the accounts that had December arrears were completely free of arrears. While Tier 2 ELIP accounts retired arrears more quickly than did the lower income (Tier 1) accounts by the end of the winter, the rates had become nearly equal by the end of the program year.
8. Even within the remaining accounts that had arrears but did not retire them completely, there was a substantial reduction in arrears within the ELIP participant population. The combination of reduced and eliminated arrears demonstrates that ELIP customers were quite successful in either eliminating or reducing any arrears that may have been on their accounts going into the winter season. Within the Tier 1 population, nearly three-fourths had either reduced or eliminated their arrears. In addition, 80% of the Tier 2 ELIP participants had either reduced their December arrears or eliminated those December arrears altogether. These figures held true for Year 2 as well, with 80% of Tier 1 customers having arrears in December either retiring or reducing those arrears by July. Nearly 85% of the Tier 2 customers with arrears in December 2004 had either retired or reduced those arrears by July 2005.
9. The data reveals a noticeable increase in the number of ELIP participants paying more than 100% of their current bills in the warm weather months. Within the Tier 1 population, the number making payments higher than 1.0 increased substantively from the shoulder months (April/May) to the warm weather months (June/July). The Tier 2

population experienced an even greater proportionate increase from the shoulder months to the warm weather months. Year 2 data follows the same pattern as Year 1.

10. Tier 2 (\$20 credit) customers have a noticeably better pattern of bill payment than do the lower-income Tier 1 customers.
11. The difference in whether ELIP accounts paid their current bills, or continued to develop arrears, occurs on the payment side of the equation. The differences between those accounts in arrears and those not arises in the payments made. While the average Year 1 payments made by Tier 1 accounts making payments was \$89, the average payment made by those accounts in arrears (and making payments) was only \$60. While the average Year 1 payment of Tier 2 customers making payments was \$77, the average payment of Tier 2 accounts in arrears (and making payments) was only \$39.
12. Customers in arrears, for both Tier 1 and Tier 2, made substantively higher payments on their accounts in Year 2 of ELIP. While the Tier 1 customers in arrears made an average monthly payment of \$60 in Year 1 of ELIP, the Tier 1 customers in arrears made an average monthly payment of \$96 in Year 2. While Tier 2 customers in arrears made an average monthly payment of \$39 in Year 1, Tier 2 customers in arrears made an average monthly payment of \$78. This occurred even though bills remained virtually identical.

### **Timely Bill Payment**

13. The ELIP program appears to have had more success in improving the timeliness of payments for the Tier 1 (\$40 credit) customers than for the more moderate income customers. While Tier 1 customers carried Year 1 monthly arrears equal to roughly two times the current monthly bill (*i.e.*, they were two “bills behind” in any given month) through February, the bills behind statistic improved beginning in March and stabilized at a new and lower level after the 2003/2004 winter heating season. In contrast, Tier 2 customers showed a modest deterioration in their bills behind statistic.
14. Throughout Year 2, however, the “bills behind” statistic for both Tier 1 and Tier 2 accounts appears to have been stabilized. For Tier 1 customers, with the exception of a slight bump in December 2004, the accounts maintained a bills behind of between 1.3 and 1.6 during Year 2. For Tier 2 customers, with the exception of a slight late program year bump, the bills behind statistic remained at between 1.4 and 1.7.
15. Virtually no ELIP participants made \$0 payments over any four-month period throughout the year. Indeed, in Year 1, no ELIP participant went four months without a payment for periods ending February (November-February), March (December-March), April (January-April), May (February-May), or June (March-June). Only one ELIP participant made no payment in the four-month April through July period. A similarly small number of ELIP participants made aggregate four-month payments of less than 25% of their Year 1 four-month bills. No participant had aggregate payments of less than 25% during the fourth-month periods ending March or April. Year 2 data mirrored Year 1 in this regard.

16. The lower income Tier 1 participants have a more difficult time consistently paying more than their current bill on a four-month basis. A higher percentage of these ELIP participants paid less than 75% of their four-month bills than paid more than 100% of their four-month bills. Moreover, the proportion paying more than 100% of their current bills on a four-month basis was half that of the higher income Tier 2 participants. The proportion of Tier 1 participants paying less than 75% of their four-month current bills was 50% (or more) higher than the Tier 2 participants.
17. The data does not reveal a significant time-shifting in payments by ELIP participants. A significant proportion of ELIP participants appear to be making timely payments toward their current bills.

### **Two-Year Participants by Select Demographics**

18. Whether ELIP participants succeed in making complete, regular and timely bill payments can be affected as much by demographics other than income as much as it is affected by the level of bills (and amount of subsidy received through ELIP credits).

### **Base Line Data**

19. ELIP participants tended to be in arrears over the course of the entire ELIP program. Exactly one-third (33%) of all customers that participated in ELIP for both years were in arrears for 13 or more months. A very small proportion (5%) of ELIP participants was in arrears at no point during the program.
20. Despite the fact that most ELIP customers were in arrears, those customers did not universally (or even overwhelmingly) fall further into arrears over the course of the winter heating season.
21. Two-year ELIP participants, as a whole, made reasonably consistent payments toward their current bills during the winter months. No ELIP participant made \$0 in payments in either year of the ELIP program. Virtually no ELIP participants made payments of less than 50% of their current bills during the January through March winter months.
22. Overall, while Empire District customers tended to enter the ELIP program with arrears, these customers made good faith efforts at payment throughout the program. In particular, these customers continued to make payments during the cold weather months and made noticeable efforts to retire their arrears by paying more than their current bills on a month to month basis.

### **LIHEAP Recipients vs. Non-LIHEAP Recipients**

23. A large majority (80%) of the 266 ELIP participants that were a part of ELIP for both program years received assistance through the federal Low-Income Home Energy Assistance Program (LIHEAP). Far more LIHEAP recipients were in Tier 2 (50% - 100% of Federal Poverty Level) than were in Tier 1 (0% to 50% of FPL).

24. For ELIP participants receiving more than 18 bills, LIHEAP recipients carried arrears in more months than did non-LIHEAP recipients.
25. Not only did ELIP LIHEAP recipients carry arrears in a greater number of months overall, they also experienced worse winter payment patterns than did customers not receiving LIHEAP. The proportion of LIHEAP recipients (receiving ELIP) that experienced a growth in arrears over the course of the winter heating season exceeded the proportion of non-LIHEAP recipients in the 2004/2005 heating season. LIHEAP recipients performed better in the previous year.
26. More LIHEAP recipients paid their entire three month deep winter bill (January through March) than did non-LIHEAP recipients.
27. On a monthly basis, LIHEAP recipients exhibited a better payment pattern than did customers who did not receive LIHEAP. For accounts receiving a minimum of 19 current bills in the ELIP program, fewer LIHEAP recipients had months in which they paid less than the current bill. More LIHEAP recipients had months in which they paid more than the current bill. More LIHEAP recipients paid their complete bill over the two years of the ELIP program.

#### **Source of Income**

28. Of the 266 ELIP participants that were a part of ELIP for both program years, 52 had wage income. In addition, 39 received income through TANF while 154 received Social Security.
29. Social Security recipients carried arrears in fewer months than households with incomes from other sources within the population of customers also receiving ELIP assistance.
30. The proportion of Social Security recipients (receiving ELIP) that experienced a growth in arrears over the course of the winter heating season exceeded the proportion of customers with other sources of income in the 2004/2005 heating season. Social Security recipients performed better in the previous year. Proportionately more Social Security recipients saw a decrease in their arrears over the 2003/2004 winter heating season, and proportionately fewer saw an increase.
31. More Social Security recipients paid their entire three month deep winter bill (January through March) than did ELIP participants with other income sources. While payment patterns declined in January through March of 2005 compared to one year earlier, substantially more than half of all Social Security recipients paid their deep winter bills in both years.
32. The proportion of Social Security recipients making payments exactly equal to their current bills (ratio equals 1.0) is noteworthy. These customers generally do not have arrears and thus have no need to pay more than their current bill. The proportion of Social

Security recipients making payments exactly equal to their current bills is much higher than for customers with either wage or TANF income.

33. On a monthly basis, Social Security recipients exhibited a better payment pattern than did customers with other sources of income. For accounts receiving a minimum of 19 current bills in the ELIP program, more Social Security recipients than wage earners had a small number of months (12 or fewer) in which they paid *less* than the current bill. Conversely, more Social Security recipients than wage earners had a high number of months (13 or more) in which they paid *more* than the current bill.

### **Housing Tenure**

34. Of the 266 ELIP participants that were a part of ELIP for both program years (and had agency data against which to match utility data), 96 were homeowners while 170 were tenants.
35. More tenants carried arrears in more months within the population of customers also receiving ELIP assistance.
36. Not only did ELIP tenants carry arrears in a greater number of months overall, they also experienced worse winter payment patterns than did homeowners.
37. The proportion of tenants (receiving ELIP) that experienced a growth in arrears over the course of the winter heating season exceeded the proportion of homeowners in the 2004/2005 heating season. The numbers for the 2004/2005 winter heating season showed a somewhat different picture. Fewer tenants and more homeowners saw a decrease their December 2004 arrears by April 2005.
38. On a monthly basis, homeowners exhibited a better payment pattern than did tenants. For accounts receiving a minimum of 19 current bills in the ELIP program, fewer homeowners had months in which they paid less than the current bill. More homeowners had months in which they paid more than the current bill.
39. More homeowners paid their complete bill over the two years of the ELIP program.

## Chapter 4:

# Summary and Conclusions

The ELIP program was designed to provide affordable home electric service to low-income Empire District customers. Through this initiative, Empire District aspired to create the opportunity where low-income customers could afford to pay their bills in a full, timely and regular fashion. For these purposes, “low-income” was defined to include customers that had gross annual income at or below 100% of the Federal Poverty Level.

The data presented in this evaluation documents that the program substantially succeeded in generating full, timely and regular payments toward current from the low-income customers receiving ELIP credits. ELIP improved the regularity of bill payment. During the second program year, the payment-to-bill ratio remained constant at 1.0 or higher for both Tier 1 and Tier 2 ELIP participants. The number of months in which bill payments were missed entirely was reduced to virtually none. While the number of Tier 1 customers with new arrears remained constant in Year 1 and trended down in Year 2, Tier 2 customers showed a continuing decline in the proportion of accounts with new arrears.

ELIP improved the completeness of bill payment. Not only did average arrears decrease on an aggregate basis, but also a substantial percentage of ELIP account that had arrears going into the winter heating season were free of arrears by the end of the program year. Even within the remaining accounts that had arrears but did not retire them completely, there was a substantial reduction in arrears within the ELIP population. Finally, even while bills remained virtually identical, customers in arrears, for both Tier 1 and tier 2, made substantively higher payments on their accounts in Year 2 of ELIP.

ELIP improved the timeliness of bill payment. The “bills behind” statistic for both Tier 1 and Tier 2 customers appears to have been stabilized. The data does not reveal any significant time-shifting in payments by ELIP participants. A significant proportion of ELIP participants appears to be making payments toward their current bills.

These successes counsel that the company would be well-served to continue the ELIP program.

Despite this success, certain program improvements should be considered. The following improvements, in particular, are recommended.

- *First*, Tier 1 customers (with incomes at or below 50% of the Federal Poverty Level) experience noticeably greater difficulties in making bill payments than do Tier 2 customers (with income between 50% and 100% of the Poverty Level). This occurs despite the higher fixed credits paid to the lower income customers. A re-examination of the level of fixed credits is in order. A modest increase in the fixed credits to the Tier 1 customers may be necessary to generate the same level of payment success within this lowest income group as has been generated in the more

moderate, but still low-income, population of ELIP customers (those between 50% and 100% of the Federal Poverty Level).

- Second, while ELIP customers appeared to be able to make full, timely and regular payments toward their current bills, these program participants appeared to continue to struggle with pre-existing arrears. While ELIP participants succeeded in preventing *increased* arrears, they frequently were unable to retire those arrears that they brought into the program. Empire District should consider a modest arrearage forgiveness program through which timely current payments will be “rewarded” with credits applied against pre-existing arrears that exceed affordable levels. Through this added initiative, ELIP participants that have a demonstrated ability to stay current will be able to work with a clean slate in the future.
- Third, while most ELIP customers appear to make reasonable payments toward their current winter bills, it appears that high prices for non-electric fuels place a sufficient burden on these low-income customers to have a noticeable detrimental impact on electric bill payments. While the ELIP program is, by design, directed toward customers already participating in the federal fuel assistance program (LIHEAP), Empire District would benefit from targeting outreach for the Earned Income Tax Credit (EITC) toward its payment-troubled ELIP participants. With an average benefit of more than \$2,000, the EITC would provide an important additional resource to help these low-income customers meet their total winter fuel payments, including their Empire District payments.

ELIP provides important benefits to Empire District and its low-income customers. The program should be continued and enhanced as described above.