Cinergy's Payment Plus Pilot Program: Teaching Customers the Skills They Need to Save Energy and Manage their Payment Performance

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ABSTRACT

Cinergy Corp has designed, implemented, and evaluated a program with a new twist to serving low-income customers with substantial arrearage levels. Typically low-income programs have focused on installing weatherization measures in homes (Berry 1997, Blasnik 1999, Brown 1996) and in some cases providing energy education services (Harrigan 1992, Hall 2004, Pye 1996). However few low-income programs have provided a comprehensive set of energy-related services that focus on multiple goals (energy savings, debt reduction, educated consumers, improved payments, etc.) As a result, many of these customers do not have the financial management skills needed to develop and follow a household budget that will help them stay out of debt and manage their reduced energy bills. The Cinergy program fills this gap. Cinergy's Payment Plus Pilot Program takes a three-step approach to helping their low-income customers reduce consumption and manage household finances. The three steps include: 1) Energy education workshops, 2) Household financing and budgeting workshops, and 3) Installation of weatherization measures. This paper discusses the design and operations of three Payment Plus pilot programs, highlighting the changes that were made to the program in 2003 and the results of the process, customer, and arrearage evaluations.

Introduction

Like all utilities, Cinergy (an investor owned electric and gas utility serving Ohio, Kentucky & Indiana) has low-income customers who have high energy bills and high arrearage (debt to the utility, typically in excess of $500). These customers struggle to make ends meet, often facing choices between paying utility bills or buying other necessities. These customers not only struggle, they cost the utility and other ratepayers money through arrearages, higher collection costs, and disconnection costs. For years Cinergy has worked with these customers, providing weatherization programs that make their homes more energy efficient. However, recently Cinergy has combined its weatherization program with two types of educational services to create the Payment Plus (PP) Program. The program provides high-debt low-income customers with weatherization services packaged with a dual focus educational component. The educational component provides two sets of participant workshops; one workshop focused on energy conservation and efficiency practices and the second focused on financial management practices.

The objective of this pilot program is to test whether the combination of energy efficiency education, budget management training, and weatherization can help customers reduce their bills and gain control of their financial condition so that they are better able to manage their account and pay their bills.

This pilot program is being conducted in Kentucky, the smallest of Cinergy's territories, under the subsidiary name of Union Light Heat & Power. The program is being conducted in three phases from May 2002 to May 2004. Phases I & II have been completed and Phase III is in progress.

Program Theory

The program theory is based on the assumption that a portion of low-income customers with high arrears can gain control over their bills and begin to pay down their debt if provided with the skills and support services needed to assist them through that process. The program tests this assumption by providing the skills and services needed to help reduce energy consumption and the associated amount of money the customer owes the utility. To help customers reduce consumption, lower bills, and improve payment behaviors, the program provides significant incentives, training, and weatherization services.

Program Description

Cinergy's PP Pilot Program takes a three-step approach to helping low-income customers reduce consumption and manage household finances. The three steps include:

1. Energy education workshops focusing on ways to reduce energy consumption through behavior modifications,
2. Household financing and budgeting workshops focusing on how to live within one's household income, and
3. Installation of weatherization measures that make the home more energy efficient.

While weatherization services appeal to many low-income households, classroom style educational programs often suffer from poor attendance. To encourage program enrollment and participation, the PP offers an incentive to customers who complete one or more of the program components. The incentive takes the form of bill credits that go directly toward paying down arrearage levels, directly reducing the total cost of the utility bill.

The program is funded by Cinergy utilizing demand-side management funds and is implemented by the Northern Kentucky Community Action Commission (NKCAC), a state-funded community action agency, in concert with People Working Cooperatively (PWC), a non-profit home repair and weatherization agency. NKCAC manages and administers the program and provides the participant training services. PWC provides the weatherization services once the participants complete the training component(s).

The program is now in its second of three pilot periods. The first pilot program was offered in 2002. At that time the program underwent a 3-phase evaluation consisting of:

1. A process evaluation that examined program designs and operations;
2. A customer satisfaction and experience evaluation in which customers were surveyed regarding their experiences and opinions, and
3. An arrearage impact evaluation to examine how the program changed arrearage levels. Following the evaluations the program was considerably redesigned to address the evaluation results and a second improved version of the program was piloted in 2003.

This second program is now undergoing a 3-phase evaluation. The third program begins in late 2003. In addition to these short-term studies the longer-term arrearage effects of the first pilot program are being evaluated in 2004.

The primary purpose of the pilot program is to determine if the combination of the three aspects of the program can help low-income customers with significant arrearage and payment problems obtain the information and learn the skills needed to control their consumption, reduce their utility bills and manage their accounts in a way that results in lower arrearage levels. To obtain the full participation credit the participants need to complete all three phases of the program.

Pilot I

PP Pilot I was implemented in the spring of 2002. The multi-month pilot had three main components, energy education, budget management training and weatherization, but also had incentives to pay the utility bill on time. If the participant paid their "current usage" energy bill on time each month, they received an incentive. These incentives were:

- Month one payment on time = $80 credit
- Month two payment on time = $70 credit
- Month three payment on time = $60 credit
- Month four payment on time = $40 credit

Participants who maintained timely bill payments for four months, attended the two education sessions (energy and budgeting), and had their homes weatherized would receive an additional $500 arrearage credit for a total participation incentive of the lesser of $750 or their arrearage balance. No credits above the arrearage could be applied. Participants were not disconnected if they keep up their payments and participated. If they dropped out of the program they reverted back to their regular payment agreements or were disconnected. Credits were issued in the form of vouchers used at the Cinergy office to make payment.

Key Lessons from the 2002 Evaluation of Pilot I

Pilot I enrolled 55 people in the program with a target of having 50 participate in all phases of the program. During the program, however, over half of the participants did not complete the required components and forfeited their utility bill credits. There were several reasons for the high dropout rate. First, most enrollees thought that program participation was required in order to obtain utility bill crisis assistance to maintain their utility connection. When customers came in to the agency to obtain "crisis" help to keep their power on, they were enrolled in PP. In many cases customers were not aware that the PP was an option and was not required in order for them to obtain crisis dollars to keep their power on. This misconception caused people to enroll with no intention of following through. Second, the requirement of monthly on time payments is very difficult for this group. Participants were often unable to pay their bill on time even with substantial incentives to do so. Many just did not have the money to pay their bill. Third, Weatherization measures were difficult to install in these homes because landlord consent was difficult to obtain. Others simply did not want program staff in their home.

The requirement for monthly on time payment was also very labor intensive for both Cinergy and the program staff. Throughout the program both Cinergy and NKCAC staff needed to repeatedly contact participants encouraging them to pay their bills to stay in the program.

Pilot II

PP II was redesigned based on the experience of PP I. The Pilot II effort planned to serve 100 participants who had levels of utility debt greater than $500. The program enrolled 78 participants who participated in one or more program components. The primary program change was removal of the "on-time" monthly payment incentive. The incentives were restructured to reward program participation and progress. The incentives were structured as follows:

- Attend the 3-hour Energy Education Session = $200 credit
- Attend the Budget Management Training = $150 credit
- Free weatherization = $150 credit

Under this structure a participant could receive up to $500 in arrearage credits if their debt was at least $500 (credits could only be applied to the arrearage level). In Pilot II the energy education session was required. The other two components (budgeting and weatherization) were encouraged through the incentives provided.

The second major change to the program was arrearage credit processing. To reduce labor for Cinergy's credit processing tasks and to make it easy for the participants, vouchers for the arrearages were eliminated and replaced with automatic internal credit processing by Cinergy. As participants took part in the program's components, their account numbers were provided to Cinergy for direct credit processing. While this made the administrative process more direct, it did cause additional problems associated with the speed at which the credits could be applied and the ability to stop any pending disconnect orders.

PP II served 78 participants who took advantage of one or more of the program services. The program had 25 enrollees who refused to participate in any of the program activities. The following table provides an overview of the enrollees and the activities in which they participated.

Table 1. Summary of Participation Status of Enrollees

	Refusers	Participants n = 78			
	Enrolled, but did not participate.	Attended both Training Sessions and received Weatherization	Attended only the Energy Training Session	Attended Energy and Financial Training Sessions	Attended Energy Training Session and received Weatherization
Enrollees	25	33	12	27	6
Credits	$0	$500	$200	$350	$350

Key Lessons from the 2003 Evaluation of Pilot I and II

This section of the paper presents the findings from the program evaluation conducted in late 2003. This evaluation examined the effects of the Pilot I program on arrearage levels and

payment behaviors (for Pilot I participants). The evaluation also included a process evaluation of the Pilot II program, including the results of interviews with program participants.

Pilot I billing analysis evaluation findings. The PP I evaluation examined participant and control group billing and payment streams. This examination compared billing amounts and dates with payment amounts and dates to determine how arrearage levels were affected as a result of changes to payment behaviors. The examination also looked at energy consumption levels for both participants and non-participants across a pre- and post-program participation period. This energy use analysis was not a degree-day normalized PRISM-type analysis, but a simple comparison of pre- and post-program consumption levels compared to a matched control group of non-participants across identical periods of time. As a result, the effects of weather and other conditions are, in theory, controlled. However, in practice, the PP I billing analysis was hampered by the small number of participants with adequate data throughout the pre- and post-program examination periods.

The number of program participants examined in the billing analysis presents a significant weakness in the analysis. The participation group that could be used in the analysis was smaller than desired because many of the participants did not have a significant history of pre-program account information, and because several of the participants moved or terminated their accounts after the program. As a result, many accounts had to be eliminated from this analysis. Because of this erosion, the following analysis is based upon ten participants that had sufficient pre- and post-program data to be included in the analysis. To begin the comparative analysis a control group of 150 program-eligible low-income customers were identified. This group would be used to estimate what would have happened to participants if the program was not conducted. However, because of similar erosion issues, the control group was reduced to 69 customers with enough pre- and post-program data to serve the analysis. As a result, the PP billing analysis is based on 10 program participants and 69 members of the control group. In addition, we were unable to identify differences in billing patterns, arrearage levels or energy consumption for participants who had their home weatherized (a subset of the participant group) versus those that did not.

As a result of this small participant sample the sample's precision level and the associated confidence interval are not rigorous enough to draw definitive conclusions, but instead should be considered preliminary indicators of results. The sample available for this analysis represents a 90% level of precision with a plus or minus 25% confidence interval. This means that if this study were repeated 100 times we would expect that 90% of the studies would have findings that would be the same as the findings in this study plus or minus 25%, and that 10 of the studies would be different than these findings plus or minus 25%. This confidence interval in not considered strong enough for developing conclusions, but provides preliminary evidence of program effects. The primary findings from these activities are reported below.

1. Arrearage levels for both participants and non-participants substantially increased over the sixteen months following the program indicating the effects of a deteriorating economy on the level of arrearage owed to the utility. However, non-participants' arrearage levels increased at a rate faster than participants. The control group increased their arrearage level by about 105% while participant's arrearage level increased by 70%, suggesting that participant's arrearage levels increased at a rate of 35% less than non-

participants. As can be seen in the tables provided below, these changes in arrearage levels are highly significant.

Table 2. Mean Arrearage Levels and Percent of Bill Paid of the Participant Group

Mean Arrearage 12 months Pre-Program	Mean Arrearage 12 months Post-Program
$200.34	$339.51
t = -3.545	significance = .005*
Mean Percent of Bill Paid Pre-Program	**Mean Percent of Bill Paid Post-Program**
17.30%	22.65%
t = -0.954	significance = .365*

Table 3. Mean Arrearage Levels and Percent of Bill Paid of the Control Group

Mean Arrearage 12 months Control	Mean Arrearage 12 months Control
$188.49	$387.72
t = -10.154	significance = .000*
Mean Percent of Bill Paid Control	**Mean Percent of Bill Paid Control**
20.73%	23.46%
t = -2.060	significance = .069*

*Tests of significance were performed on average monthly data.

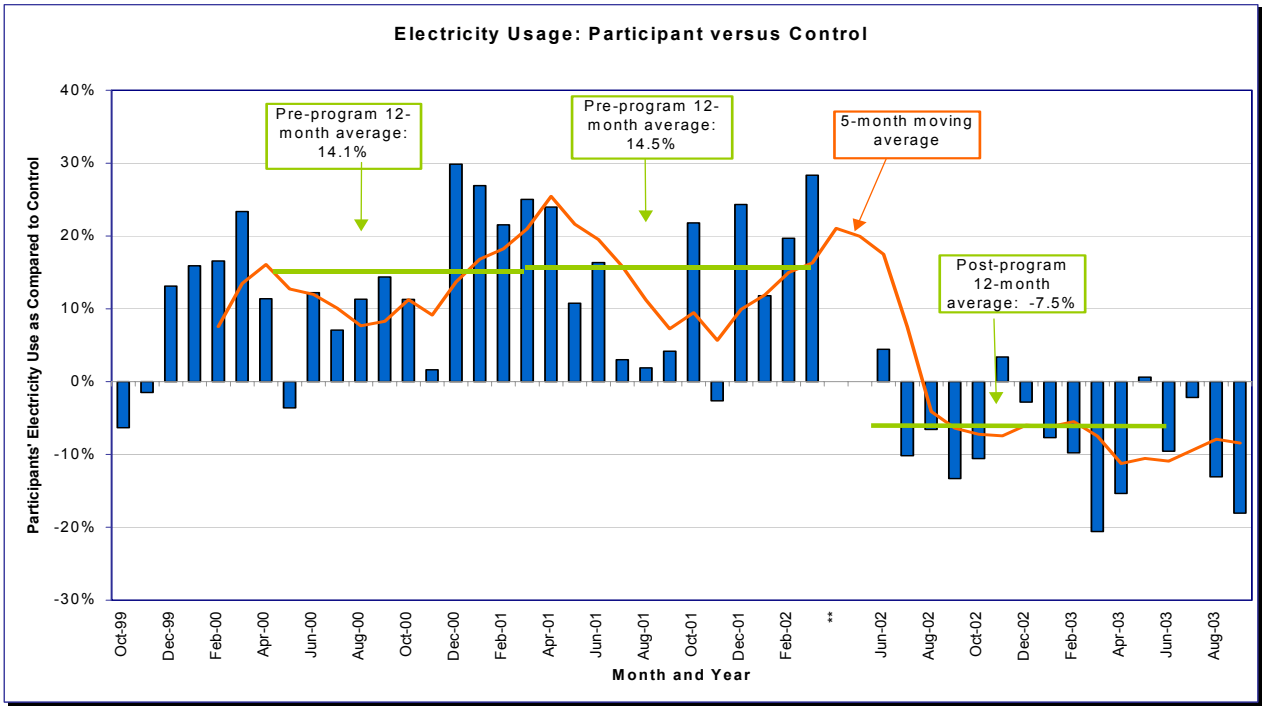
2. Percent of Bill Paid. Prior to the program participants paid, on average, 17% of their monthly bill compared to 23% of the bill following participation, while the control group paid 21% of their bill prior to the program and 24% during the post-program period. These changes are not statistically significant for the participant group, but will be reexamined during the spring of 2004 after the PP II participants are added to the analysis allowing for a larger sample of participants.
3. Electric Savings. Participants use about 22% less electricity following program participation than a control group of similar customers. Prior to the program the participant group used about 14.3% more electricity than non-participants. Following the program participants used 7.5% less electricity than non-participants for a total reduction of almost 22%. These savings represent the difference between the participant group and the control group over the pre- and post-program examination period.
4. Participants also used about 22% less natural gas following participation than non-participants. Over the two-year prior to the program participants used 5.9% more natural gas than the control group. After the program participants used 16.3% less than non-participants for a total reduction of about 22%. While these savings represent the difference between the participant group and the control group over the pre- and post-program examination period, there is some evidence that suggests that some of the downward tread in energy consumption may have started in the test group prior to program participation.

The following two figures present the difference between the pre- and post-program consumption levels for the participant group compared to the control group. Monthly consumption greater than the control group appears as a bar graphic extending above the zero line, while consumption below the zero line indicates that the participant group consumed less

than the control group for that month. As the following figure illustrates, prior to the program, electric consumption for the participant group was, on average, greater than 14% more than the control group. Following the program the participant group consumed about 7.5% less than the control group. Compared with the control group, the participant group consumed 10.4% more natural gas during the year from April 2000 through March 2001, and 1.3% less natural gas during the year from April 2001 through March 2002. During the year following participation (7/2002–6/2003), the participant group consumed 16.3% less than the control group. While the drop in consumption between the second and third year is significant, it should be noted that the pre-program trend in gas consumption was already decreasing during the two-year pre-program period. Unfortunately, because of the small sample size available for this study we are unable to determine if that trend would or would not have continued without the program.

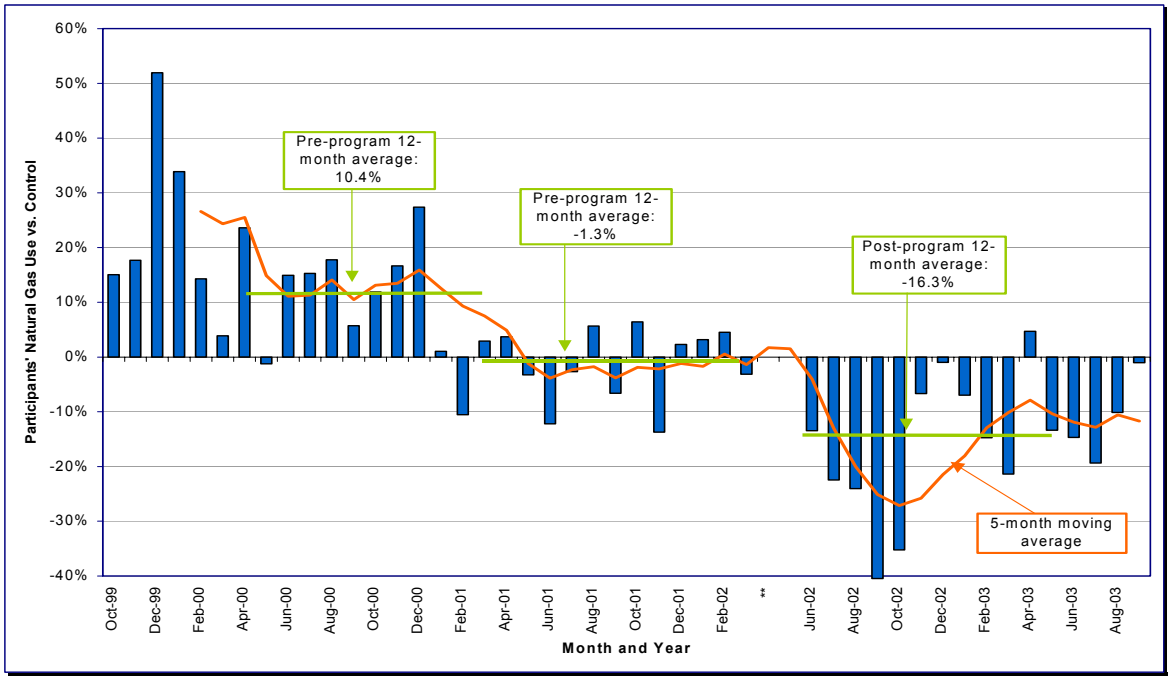
Figure 4 presents the actual energy usage of the Participant and Control group in the time period before and after participation in the program. While these figures do not allow for easy comparisons of the differences in consumption, they provide the mean actual energy consumption.

Figure 1. Electricity Usage of Participants Compared to the Control Group



** Program period. No data provided for these months.

Figure 2. Natural Gas Usage of Participants Compared to the Control Group



** Program period. No data provided for these months.

While these findings are preliminary and represent the results for the 10 PP I participants, it is clear that the program may be having an effect on the participant group that is consistent with the program theory. This analysis will be reexamined during the spring of 2004 for the participants of PP II, increasing the sample of participants that can be examined in this analysis. We expect that this analysis will enable us to draw a stronger conclusion about the electric and natural gas savings beyond these preliminary results.

Figure 3. Participant's Energy Usage in BTUs, Before and After Participation

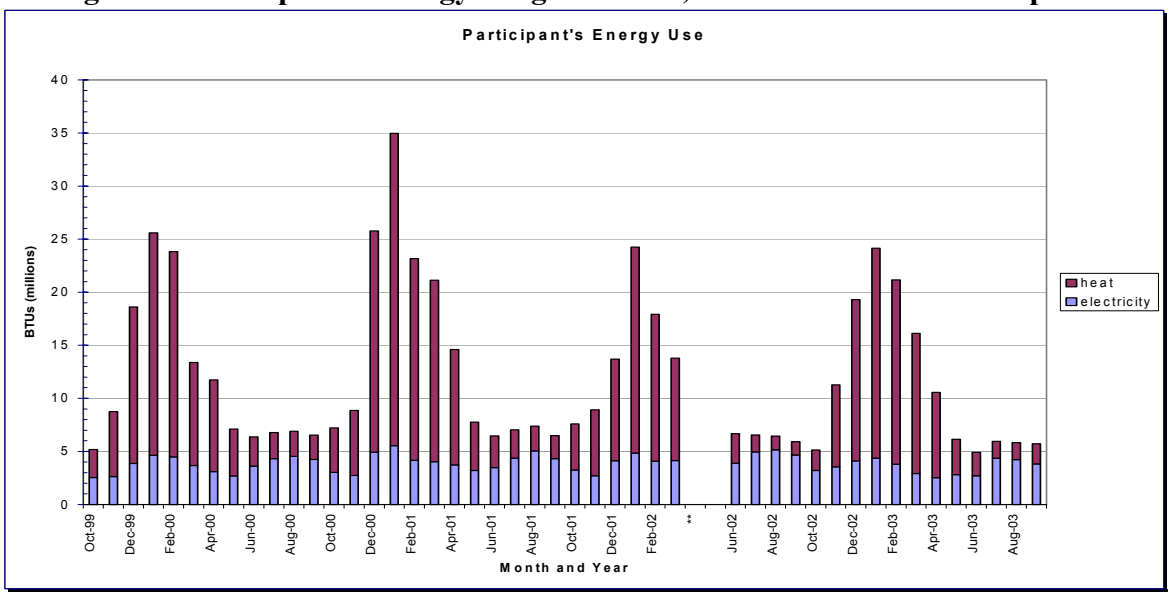
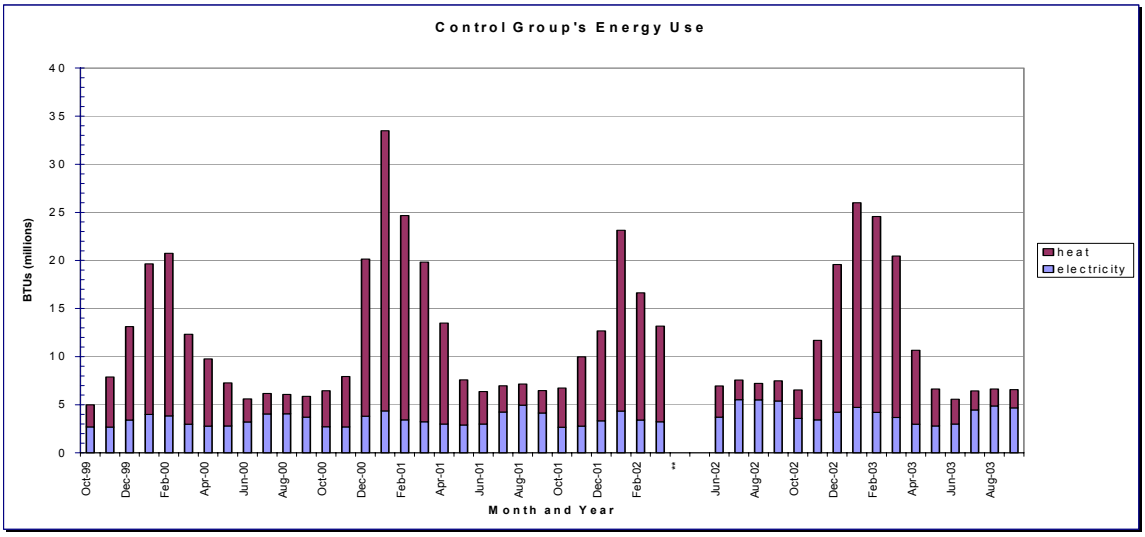


Figure 4. Control Group's Energy Usage in BTUs



Pilot II process evaluation findings. The Pilot II process evaluation findings are presented below to help convey the experiences of the program and to help others who may be designing a similar program.

1. **Enrollment**: The program enrollment letter sent to 450 Cinergy low-income customers was successful at convincing 16% of the target market to participate in the program. Follow-up calls to targeted customers were successful at attracting additional participants. Sixty percent of enrollees learned of the program via the NKCAC outreach letter and 10% learned about the program through contacts with the NKCAC office. The remainder said they learned about the program from friends and neighbors or from talking with Cinergy staff. Note: In Pilot III (currently under way) enrollment also occurred during the State Weatherization Assistance cycle, consequently recruitment also occurred when customers applied for weatherization assistance. These customers were later verified for qualification.
2. **Training:** The program's training materials supported the educational efforts and were a positive contribution to the sessions. The materials used covered the key issues and actions appropriate for the target market across both the energy and budget management sessions.
3. **Budget Management:** The Budget Management session should consider changing its name and marketing effort to focus on benefits to participants instead of focusing on the financial management aspects of the training session that may alienate potential participants.
4. **Bill Credits:** During the Pilot II, there were significant delays in applying the credits to participants' bills in the Cinergy system. A system needs to establish for crediting participants quickly to offset any pending disconnect orders and to appear on the customer's next bill. Unapplied earned credits and their impact on the customer was the only significant complaint for this program.

Pilot II participant interview findings

1. **Incentive Levels**: Seventy-five percent of enrollees report that the $500 arrearage credit incentive was the primary driver of enrollment and participation, however 20% said they enrolled to learn about ways to reduce their bills.
2. **Participant Characteristics:** Homeowners are four times more likely to enroll in the program than renters, and single mothers are most likely to enroll to obtain the bill credits.
3. **Non-Attendance:** Reason reported for non-attendance in one or more of the educational sessions indicate that the "choice" to attend may not be a matter of choice, but rather lack of ability to attend. Participants who could not attend indicate that health, work, transportation or other valid reasons kept them from attending.
4. **Weatherization:** Participants eligible for weatherization, but who refused it indicate a number of reasons for the decision, including; resistant landlords, not enough time, forgot about it, home is a mess and don't want people inside, and moving, as reasons for not approving weatherization services. Satisfaction with weatherization is high.
5. **Program Understanding**: Unlike PP I, program II participants fully understood the program requirements, the credit values and the requirement that credits can only be used to pay their arrearage. Participants were not confused by the program requirements or designs, however older participants appear to have had a better understanding of the program than younger participants.
6. **Participant Satisfaction:** Participants are very satisfied with the Training Sessions. On a scale of 1-10, average scores for all aspects of the training sessions were high across most response categories for both sessions (energy & budgeting). Satisfaction was particularly high when rating the instructor's knowledge (9.4 & 9.8), comprehensiveness of subject matter (9.3 & 9.3), materials used (9.2 & 9.5), and presentation skills of instructor (9.1 & 9.2). The convenience of attending the session was the only response group that received satisfaction scores below 9 (8.6 & 8.8).
7. **Perceptions of Cinergy:** Participant's opinions of Cinergy are greatly improved as a result of the program, with almost half of the participants report "much more" positive opinions of Cinergy and an additional 18% report "somewhat more" positive opinions of Cinergy.
8. **Knowledge:** Ninety percent of the participants reported an increase in their knowledge of how to save energy – with most reporting several actions taken since attending the Energy Education Session.
9. **Participant Perception of Bill Impact:** Seventy-one percent of participants report that their utility bills have decreased *somewhat* or *a lot* since their participation, indicating that most participants think the program has helped reduce their consumption. This fact is substantiated through a review of participant and non-participant consumption records, indicating that participants have substantially reduced their electric and gas consumption.

Pilot III

Pilot III is targeting an additional 100 participants and began in October of 2003 and will run through May of 2004. Overall the design of Pilot III is the same as Pilot II but with additional recruitment allowed during the state weatherization assistance program application

process. In PP III the NKCAC was allowed to screen applicants in the state weatherization program to determine if they were eligible for PP III. If they were eligible they were offered the opportunity to enroll in the new pilot program.

In addition to enrollment procedure changes, processing improvements were made to increase the speed of credit processing within the Cinergy billing system. This change required the commitment of Cinergy staff to process credits within a specified period following the earning of those credits at program events. The program also changed the management of service disconnections. In PP II, program participation did not automatically result in the cancellation of a disconnect order if the program participant earned a credit, though non were disconnected. In PP III managers agreed to block a disconnect order if the participant participated in a program event that provided the credits necessary to keep the account in active status. The updated evaluation will be completed over the next few months and presented at the Summer Study.

Conclusions

While there are indicators from this research that energy education, budget management training and weatherization can reduce bills of participants, it is not yet clear that there is sustainable reduction in energy use and improved payment behaviors by the participants. To determine these long-term impacts, Cinergy will continue to monitor energy use and payment behavior against a control group. This is being completed for Pilot I & II participants as this paper is being prepared and will be presented for these groups at the Summer Study. Pilot III participants will be monitored over time as well to assess benefits and sustainability.

For utilities considering implementing this type of program, there are lessons learned that should be considered during the program design process. First to consider is the identification of potential participants. By comparing utility arrearage data with customers who also receive energy assistance (and thus are income qualified), a good target list can be developed for direct mail solicitations. Potential participants can also be recruited by the energy assistance agencies in the territory, but potential participants must still be checked for appropriate qualifications. Cinergy's participation criteria required an arrearage of $500 or more and 12 months or more of historic billing (a minimum of 6 winter months) at the current address so that the bill history and payment evaluation could be completed. Renters or homeowners could also participate, however weatherization was completed in rental properties only with the permission of the owner. Second, the trainer must be someone who can relate well and teach the low-income participants through understanding and relating well to their situation. It is also important that the administrative & training agency have recognition and credibility within the low-income community. Third, the payment processing system can be a challenge and should be thoroughly thought through and functioning prior to starting the program. And last, communication and coordination between the agency teaching the classes, the weatherization agent (if different) and the program manager is important. This program is a representation of the utility and needs to reflect the utility's customer service approach and attitude.

If the program theory holds consistent through the longer-term bill analysis (that energy education, budget management and weatherization intervention can reduce bills and customers can maintain payments avoiding arrearages) this program can be a win/win/win situation for utilities, ratepayers, and participants. This preliminary data suggests that the utility may obtain a reduction in the amount of arrearage owed and a customer with improved payment behaviors. And, if these findings hold up under a more rigorous study, the utility may also receive reduced

costs associated with fewer disconnections. Ratepayers and the utility also benefit from energy savings and demand side reductions due to installed weatherization measures and customer behavior changes learned during the training sessions. Participants also benefit by obtaining reduced bills and by getting out of the "cycle" of arrearage problems. They also learn how to better manage their energy and bill payments.

References

Berry, Linda. 1997. State-Level Evaluations of the Weatherization Assistance Programs in 1990-1996: A Meta-Evaluation that Estimates National Savings.: ORNL/CON-435.

Blasnik, Michael. 1999. Impact Evaluation of Ohio's Home Weatherization Assistance Program - 1994 Program Year.: Proctor Engineering Group report to the Ohio Department of Development Office of Energy Efficiency.

Blasnik, Michael. 1997. A Comprehensive Evaluation of Ohio's Low-Income HWAP: Big Benefits for Clients and Rate Payers.: 1997 International Energy Program Evaluation Conference Proceedings.

Blasnik, Michael. 1998. Ohio's Home Weatherization Assistance Program: An Independent Evaluation Ohio Department of Development.: Community Development Division, Office of Energy Efficiency contracted with Proctor Engineering Group and the Tellus Institute.

Brown, Marilyn A., Linda G. Berry, and Laurence F Kinney. 1996. Weatherization Works: Final Report of the National Weatherization Evaluation.: ORNL/CON-395.

Chandrasekar. 1996. Utility Sponsored Low-Income Weatherization as a DSM Option.: 1996 ACEEE Summer Study Proceedings. Vol. 6, page 29.

Harrigan, Merrilee. 1992. Evaluating the Benefits of Comprehensive Energy Management for Low-Income, Payment-Troubled Customers.: Alliance to Save Energy's Final Report to the Niagara Mohawk Power Partnership Pilot.

Hall, Nick, John Reed, Andrew Oh. 2004. An Evaluation of the PP Pilot Program: Results of a Process and Arrearage Effects Evaluation.: Cinergy Services Inc.

Hall, Nick, Johna Roth. 2004. An Evaluation of the PP Pilot Program: Results of a Process Customer Satisfaction and Arrearage Effects Evaluation.: Cinergy Services Inc.

Jacobson, Bonnie Brown. 1998. Demand Management Development Decision Matrix for Low-Income/Special Needs Customers: A Program Ranking and Marketing Tool.: ACEEE Summer Study Proceeding, Vol. 6.

Khawaja, Sami M, Douglas W Ballou, and Karen E Schch-McDaniel. 1992. Effects of Weatherization Programs on Low-Income Customer Arrearages.: ACEEE Summer Study Proceedings, Vol. 7.

Megdal, Lori M and Melissa Piper. 1994. Finding Methods to Estimate Social Benefits of Low-Income Energy Efficiency Programs.: ACEEE Summer Study Proceedings, Vol. 4.

Pye, Miriam. 1996. Energy Efficiency Programs for Low-Income Households: Successful Approaches for a Competitive Environment.: ACEEE Summer Study Proceedings.

Quaid, Maureen and Scott Pigg. 1991. Measuring the Effects of Low-Income Energy Services on Utility Customer Payments.: International Energy Program Evaluation Conference.

Synergic Resources Corporation. 1988. Evaluation of the Cost-Effectiveness of a Bad Debt Conservation Program.: Northeast Utilities Co.

Wisconsin Gas Company. 1998. Weatherization Arrears Savings. Milwaukee.