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JOHN J. FINNIGAN, JR.
Senior Counsel

VIA OVERNIGHT MAIL

September 29, 2004

CINERGY.

RECEIVED
SEP 30 2004
PUBLIC SERVICE COMMISSION

Case 2004-00389

Ms. Elizabeth O'Donnell
Executive Director
Kentucky Public Service Commission
211 Sower Boulevard
P.O. Box 615
Frankfort, Kentucky 40602-0615

RE: Filing of the Annual Status Report, Application for Continuation of the Energy Education and Bill Assistance Program, Application for Approval of New Residential and Small Business Energy Efficiency Programs with Recovery of Costs, Lost Revenues, and Shared Savings, and Adjustment of the 2005 DSM Cost Recovery Mechanism with Filing of the Amended Tariff sheets for Gas Rider DSM (Revised Sheet No. 62.8) and Electric Rider DSM (Revised Sheet No. 78.8)

Dear Ms. O'Donnell:

Enclosed please find an original and twelve (12) copies of the above-referenced filing on behalf of The Union Light, Heat and Power Company.

Please return two (2) file-stamped copies in the enclosed overnight envelope. If you have any questions, please do not hesitate to contact me at (513) 287-3601.

Sincerely,

John J. Finnigan, Jr.
Senior Counsel

JJF/sew
Enclosures

133103

BEFORE THE
KENTUCKY PUBLIC SERVICE COMMISSION

In The Matter Of:	)	
	)	
THE ANNUAL COST RECOVERY FILING	)	CASE NO. 2004-00389
FOR DEMAND SIDE MANAGEMENT BY	)	
THE UNION LIGHT, HEAT AND POWER COMPANY	)	

FILING OF THE ANNUAL STATUS REPORT, APPLICATION FOR CONTINUATION OF THE ENERGY EDUCATION AND BILL ASSISTANCE PROGRAM, APPLICATION FOR APPROVAL OF NEW RESIDENTIAL AND SMALL BUSINESS ENERGY EFFICIENCY PROGRAMS WITH RECOVERY OF COSTS, LOST REVENUES, AND SHARED SAVINGS, AND ADJUSTMENT OF THE 2005 DSM COST RECOVERY MECHANISM WITH FILING OF THE AMENDED TARIFF SHEETS FOR GAS RIDER DSM (REVISED SHEET NO. 62.8) AND ELECTRIC RIDER DSM (REVISED SHEET NO. 78.8)

Now comes The Union Light, Heat & Power Company ("ULH&P" or "Company") with the consensus of the Residential Collaborative and the new Commercial and Industrial ("C&I") Collaborative, pursuant to this Commission's November 20, 2003 Order in Case No. 2003-00367, to file the annual status report and to propose an adjustment to the 2004 DSM Cost Recovery Riders (Application). In addition, ULH&P, with the consensus of the Residential Collaborative, applies for recovery of costs, lost revenues, and shared savings associated with the current set of residential DSM programs, continuation of the Energy Education and Bill Assistance Program (Payment Plus), as well as two new programs: the Energy Star Products and Energy Efficiency Website programs. Further, ULH&P, with the consensus of the C&I Collaborative, applies for recovery of costs, lost revenues, and shared savings associated with a new High Efficiency Incentive Program.

The Applicant is ULH&P of 1697 A Monmouth Street, Newport Shopping Center, Newport, Kentucky 41071. The Residential Collaborative members are: Ann Louise

Cheuvront of the Attorney General's office (AG), Nina Creech (People Working Cooperatively), Joy Rutan (League of Women Voters), Brian Angus, the Northern Kentucky Community Action Commission (CAC), Beth Hodge (Brighton Center), Carl Melcher (Northern Kentucky Legal Aid), Karen Reagor (Kentucky NEED Project), Pat Dressman (Campbell County Fiscal Court), Monica Braunwart (Boone County Fiscal Court), and Kentucky Division of Energy represented by Geoff Young until August 17, 2004. The Department of Energy has endorsed in writing the set of residential programs in this Application. Also, the United Way is an ongoing member of the Collaborative, however, its representative left the agency. United Way has not filled that position on the Collaborative at the time of this filing. The Collaborative is working to obtain new representatives for these open positions.

The C&I Collaborative members are: Ann Louise Cheuvront (AG), Jim Smith (People Working Cooperatively), Pam Proctor (Kentucky Energy Smart Schools, a division of Kentucky NEED Project), Kris Knochelmann (Knochelmann Heating & Air), Robert Lape (Kenton County Schools), Ralph Dusing (Ashley Development), Elizabeth Glazier (Humpert & Wolnitzek Architects), John Cain (Wiseway Supply), Nicole Christian (Northern Kentucky Chamber of Commerce), Russell Guy (Campbell County Fiscal Court), Pat Dressman (Campbell County Fiscal Court), Ed Monohan, Sr. (Monohan Development), and Gary Sinclair (Kenton County Fiscal Court). The Kentucky Division of Energy has been represented by Geoff Young until August 17, 2004. The Department of Energy has also endorsed in writing the commercial and industrial DSM programs in this Application. The Collaborative is seeking a replacement for this opening on the C&I Collaborative Board.

In addition to filing the annual status report, ULH&P and the Collaboratives respectfully request a modification of ULH&P'S DSM Riders to reconcile planned and actual expenditures.

I. INTRODUCTION

A. Background

On December 17, 2002, the Commission issued its Order in Case No. 2002-00358 approving ULH&P's plan to continue three demand-side management (DSM) programs, Residential Conservation and Energy Education, Residential Home Energy House Call, and Residential Comprehensive Energy Education for a three-year period ending December 31, 2005; to continue to fund the expansion and improvement of existing programs and the development of new programs; and to implement a revised low-income home energy assistance program as a pilot through May 31, 2004. The Commission, in its November 30, 2003 Order in Case No. 2003-00367, also approved the implementation of Power Manager, a residential direct load control program, through the year 2007.

This filing specifically addresses the requirement in the Commission's November 20, 2003 Order in Case No. 2003-00367 that ULH&P's next scheduled DSM filing is due by September 30, 2004. In the status and reconciliation portion of this report, expenses are reported for the period July 1, 2003 through June 30, 2004. In addition, this filing seeks approval to continue the Energy Education and Bill Assistance Program (Payment Plus) as a pilot program at the same funding and participation levels through the year 2006, to implement two new residential programs (Energy Star Products and Energy Efficiency Website), and to implement a new Commercial & Industrial High Efficiency Incentive

program proposed herein, through the year 2009.

If the Commission is delayed in making its determination until after December 31, 2004, the Company requests the ability to continue to continue implementing the current set of programs and to continue recovering costs for its existing DSM programs under its existing tariffs, until the effective date of new tariffs to be implemented pursuant to the Commission's order in this proceeding.

Also, ULH&P informs the Commission that some of these programs have been proposed for PSI Energy, Inc., the regulated utility operating in the Indiana portion of Cinergy's service area. Proposals for these programs are currently being reviewed by the Indiana Utility Regulatory Commission ("IURC"). Due to the cost sharing nature across the utility service areas of two of these programs (specifically, Energy Star Products and Home Energy House Call), denial of the application to implement these programs by the IURC would raise the fixed costs for the programs and would affect their cost-effectiveness in Kentucky. ULH&P will immediately inform the Collaboratives and the Commission, if the IURC fails to approve either of these programs, and the parties can consider whether to modify or eliminate the programs at that time.

B. Definitions

For the purposes of this Application, the following terms will have the same meanings established in the Principles of Agreement, Demand Side Management (Exhibit 1 to the Application in Case No. 95-312, dated July 15, 1995):

1) **"DSM Revenue Requirements"** shall mean the revenue requirements associated with all Program Costs, Administrative Costs, Lost Revenues (less fuel savings), and the Shareholder Incentive.

2) **"Collaborative"** shall mean the ULH&P DSM Collaborative, which was established by the Signatories and other parties separately from this process. The Application will differentiate between the Residential Collaborative and the C&I Collaborative as appropriate.

3) **"Program Costs"** shall mean the costs incurred for planning, developing, implementing, monitoring and evaluating the DSM programs described in Section XI of the Principles of Agreement Demand Side Management (pp. 11-19) and the DSM programs that have been approved by the Collaborative.

4) **"Administrative Costs"** shall mean the costs incurred by or on behalf of the collaborative process and that are approved by the Collaborative, including, but not limited to, costs for consultants, employees and administrative expenses.

5) **"Lost Revenues"** shall have the meaning in Section IV of the Principles of Agreement Demand Side Management.

6) **"Shareholder Incentive"** shall have the meaning in Section IV of the Principles of Agreement Demand Side Management.

7) **"DSM Cost Recovery Mechanism"** shall have the meaning in Section IV of the Principles of Agreement Demand Side Management.

8) **"Voucher"** shall mean the credit receipt the customer receives from a social service agency. The voucher can be used by the customer as a partial payment toward the utility bill.

II. STATUS OF CURRENT DSM PROGRAMS

ULH&P currently offers the following programs, the costs of which are recoverable through the DSM Cost Recovery Rider mechanism approved by the Commission in Case

No. 2003-00367.

Program 1: Residential Conservation and Energy Education (Low-Income Weatherization)

Program 2: Residential Home Energy House Call

Program 3: Residential Comprehensive Energy Education Program (NEED)

Program 4: Program Administration, Development & Evaluation Funds

Program 5: Energy Education and Bill Assistance (Payment Plus)

Program 6: Power Manager

Under the current DSM Agreement and prior Commission Orders, Programs 1-4 terminate at the end of 2005. Program 5 is a pilot program that terminated May 31, 2004. Program 6 is a direct load control program approved for implementation through the year 2007.

This section of the Application provides a brief description of each current program, a review of the current status of each program, and information on any changes that may have been made to the programs. In addition, this section makes application for continuation of the Energy Education and Bill Assistance program (Payment Plus) as a pilot program with the same funding and participation levels through 2006.

Program 1: Residential Conservation and Energy Education (Low-Income Weatherization)

The Residential Conservation and Energy Education (RCEE) program was designed by the ULH&P DSM Collaborative to help the Company's income-qualified customers reduce their energy consumption and lower their energy costs. This program

specifically focuses on Low Income Home Energy Assistance Program (LIHEAP) customers that meet the income qualification level of 150% of federal poverty level. This program uses the LIHEAP intake process as well as other community outreach to improve participation. The RCEE program provides direct installation of weatherization and energy-efficiency measures and educates ULH&P's income-qualified customers about their energy usage and other opportunities to reduce energy consumption and lower their costs.

The Company estimates that at least 6,000 customers (number of single family owner occupied households with income below $25,000) within ULH&P's service area may qualify for services under the RCEE program. The program has provided weatherization services to 258 homes from July 2003 to June 2004. This is the highest level of service over the last four years of program operations.

In 2003 the program was redesigned for cost-effectiveness utilizing a "Tiered" benefit structure. Customers with the least potential for improvements due to their low energy use per square foot of the home (energy intensity) receive a minimum level of services that concentrate on tuning the operation of existing equipment. Customers with higher energy use per square foot could receive higher levels in weatherization including insulation. The average amount spent and maximum amount allowed are listed below for each tier.

TIER 1 Spending = Average $561, including administration, not to exceed $600

TIER 2 Spending = Average $1,813, including administration, not to exceed $4,000

. The services provided within each tier are described below.

The tier structure is defined as follows:

	Therm / square foot	kWh use/ square foot	Investment Allowed
Tier 1	0 < 1 therm / ft2	0 < 7 kWh / ft2	Up to $600
Tier 2	1 + therms / ft2	7 + kWh / ft2	All SIR ≥ 1.5 up to $4K

SIR = Savings - Investment Ratio

Tier 1 Services

Tier 1 services are provided to customers by ULH&P, through its subcontractor. Customers are considered Tier 1, if they use less than 1 therm per square foot per year and less than 7 kWh per square foot per year based on the last year of usage (weather adjusted) of Company-supplied fuels. Square footage of the dwelling is based on conditioned space only, whether occupied or unoccupied. The square footage does not include unconditioned or semi-conditioned space (non-heated basements). The total program dollars allowed per home for Tier 1 services is $600.00 per home.

Tier 1 services are as follows:

- Furnace Tune-up & Cleaning
- Furnace replacement if investment in repair over $500 (through Gas WX program)
- Venting check & repair
- Water Heater Wrap
- Pipe Wrap
- Waterbed mattress covers
- Cleaning of refrigerator coils
- Cleaning of dryer vents

- Compact Fluorescent Light (CFL) Bulbs
- Low-flow shower heads and aerators
- Weather-stripping doors & windows
- Limited structural corrections that affect health, safety, and energy up to $100
- Energy Education

Tier 2 Services

ULH&P will provide Tier 2 services to a customer, if they use at least 1 therm and/or 7 kWh per square foot per year based on the last year of usage of ULH&P supplied fuels.

Tier 2 services are as follows:

- Tier 1 services plus:
- Additional cost-effective measures (with SIR $\geq$ 1.5) based upon the results of the National Energy Audit Tool (NEAT) audit. Through the NEAT audit, the utility can determine if the cost of energy saving measures pay for themselves over the life of the measure as determined by a standard heat loss/economic calculation (NEAT audit) utilizing the avoided cost of gas and electric service as provided by ULH&P. Such items can include but are not limited to attic insulation, wall insulation, crawl space insulation, floor insulation and sill box insulation. Safety measures applying to the installed technologies can be included within the scope of work considered in the NEAT audit as long as the SIR is greater than 1.5 including the safety changes.

Regardless of placement in a specific tier, ULH&P provides in-home energy education to all customers in the program.

Refrigerators

To increase the cost-effectiveness of this program and to provide more savings and bill control for the customer, the Collaborative and ULH&P proposed in the September 27, 2002 filing in Case No. 2002-358 and subsequently received approval to expand this program to include refrigerators as a qualified measure in owner-occupied homes. Refrigerators consume a very large amount of electricity within the home. Through replacement of poor-performing units, customers can save an average of $96 per year. To determine replacement, the program weatherization provider performs a two-hour meter test of the existing refrigerator unit. If it is a high-energy consuming unit as determined by this test, the unit is replaced. From July 2003 to June 2004, the program replaced 65 refrigerators after the two-hour test. The average unit replaced consumes 1,620 kWh per year. Replacing with a new Energy Star qualified refrigerator, which uses approximately 400 kWh, results in an overall savings to the average customer of 1,200 kWh per year. The program replaces 22% of the units tested. Due to the higher proportion of rental properties in Kentucky, this replacement rate is less than expected based on Cinergy's experience with this program in Ohio. Old refrigerators removed from the home are destroyed in an environmentally appropriate manner to assure that the units are not used as a second refrigerator in the home or do not end up in the secondary appliance market. Including this measure in the low-income weatherization program helps to raise overall effectiveness of the RCEE program. ULH&P, with the cooperation of the service provider, has worked very hard to make this program cost effective.

Program 2: Residential Home Energy House Call

Prior to 2003, Home Energy House Call (HEHC) program consisted of three major components:

- Home Energy Survey
- Comprehensive Energy Audit & Review
- Measure Installation Opportunity

When a customer requested a HEHC service, a qualified home energy specialist visited the home to gather information about household energy usage. A questionnaire about the energy usage, including appliance efficiencies, was completed. The specialist performed a walk-through audit and checked the home for air infiltration, inspected the HVAC filter, and surveyed the insulation levels in different areas of the home. A detailed report was generated on site that explained how energy is used each month and a list of prioritized action items was compiled based on energy savings and costs.

In January 2003, ULH&P signed a two-year contract with Enertouch Inc. (dba GoodCents Solutions) to implement the HEHC program. By doing so, ULH&P was able to provide a more comprehensive program to customers for less than it cost in prior years under the previous contractor. The audit process itself, remains much the same. Enhancements to the program include a more comprehensive audit report with a stronger focus on the building envelope, and the installation of several energy saving measures at no cost to the customer. The measures include a low-flow showerhead, two aerators, outlet gaskets, two compact fluorescent bulbs, and a motion sensor night-light. Customers can begin realizing an immediate savings on their electric bill by participating in the program. The program has also taken on a more professional look. Auditors are

equipped with uniforms, marked trucks, and better equipment necessary to facilitate the audits.

Between July 1, 2003 and June 30, 2004, a total of 654 audits were completed in Kentucky. In September and October 2003, HEHC piggybacked on the work of approximately 500 students participating in the Kentucky National Energy Education Development (NEED) program. As part of the curriculum on energy conservation in the Kentucky NEED program, HEHC program audits were offered on a first-come, first-serve basis. By mid August 2004, 393 audits had been completed. Only one mailing has been sent to ULH&P customers in 2004, representing one-half of the customers in the city of Florence. The next mailing will be sent in the fall, to the remaining Florence customers. ULH&P expects to exceed the goal of 500 for 2004. ULH&P attributes part of the increase in response to the promotion of HEHC through the NEED program.

Customer satisfaction ratings continue to be very positive - a rating of 4.8 on a five- point scale for the program. Since the beginning of the program in 1996, over 3,450 customers have participated.

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Program 3: Residential Comprehensive Energy Education (NEED)

This energy education program was developed by the DSM Collaborative and implemented in late 1997. The contract for implementation of this program was awarded to Kentucky NEED. NEED was launched in 1980 to promote student understanding of the scientific, economic, and environmental impacts of energy. The program is currently available in 46 states, the U.S. Virgin Islands, and Guam.

The program has provided unbiased educational information on all energy

sources, with an emphasis on the efficient use of energy. Energy education materials, emphasizing cooperative learning, are provided to teachers. Leadership Training Workshops are structured to educate teachers and students to return to their schools, communities, and families to conduct similar training and to implement behavioral changes that reduce energy consumption. Educational materials and Leadership Training workshops are designed to address students of all aptitudes and have been provided for students and teachers in grades K through 12.

The Kentucky NEED program follows national guidelines for materials used in teaching, but also offers additional services such as: hosting teacher/student workshops, sponsoring teacher attendance at summer training conferences, sponsoring attendance at a National Youth Awards Conference for award-winning teachers and students, and providing curricula, free of charge, to teachers.

Since October 1999, 545 teachers enrolled in the program, 296 teachers attended teacher workshops and over 2,300 students attended workshops. Overall, the program has reached teachers and students in 71 schools in the six counties served by ULH&P. There are currently 131 teachers enrolled in the program. These teachers impact approximately 3,500 students per year. In addition, many of the teachers have multiple classes, so the number is potentially higher. Students who attend workshops are encouraged to mentor other students in their schools – further spreading the message of energy conservation. Teams of high school students serve as facilitators at workshops. Through this approach, all grade levels are either directly or indirectly presented the energy efficiency and conservation message. Several of the student teams have made presentations to community groups, sharing their knowledge of energy, promoting energy

conservation and demonstrating that the actions of each person impact energy efficiency. It is intended that these students will also share this information with their families and reduce consumption in their homes.

Due to efforts of the Kentucky NEED program, the Kentucky Division of Energy has been awarded a Special Projects grant from the U.S. Department of Energy. This Rebuild Kentucky project, which began in January 2002, established a new partnership to implement an EnergySmart Schools program in six Northern Kentucky counties. Kentucky NEED is a cost share partner in this project. The program addresses: 1) building energy efficiency improvements through retrofits, financed by use of energy saving performance contracts (ESPC) and improved new construction; 2) school transportation practices; 3) educational programs; 4) procurement practices; and 5) linkages between school facilities and activities within the surrounding community. Successful EnergySmart schools program elements will be marketed to other schools statewide. (These schools would also be targeted if the Commercial and Industrial program is expanded as requested in this filing.)

As noted in ULH&P's last evaluation study on this program, the cost-effectiveness of this program is difficult to quantify. To get a better understanding of the impacts of this program, the evaluation recommended that a better data collection instrument be employed. This data instrument has been developed and is being used in the classroom. This data will be analyzed as part of the evaluation due to be included in the 2005 DSM application to the Kentucky Public Service Commission concerning, in part, the continuation of this program.

An additional improvement recommended by the evaluation is the addition of

energy savings "kits" as a teaching tool. These kits include actual weatherization and conservation measures for the students to install in their homes to get their families directly involved in application of conservation concepts. The students track the measures utilized in the homes and the results are collected by ULH&P to track impacts and results of the education. The actual installation of measures helps increase the directly measurable savings from this program and should increase cost-effectiveness. The Residential Collaborative recommended and received approval to include 500 kits for inclusion in the energy curriculum of selected classrooms to increase savings and to improve tracking. These kits were tested in the spring of 2003 and full implementation started in the fall of 2003, when the science curriculum deals with these issues. Fourteen teachers and 309 students in Kenton County participated in the fall 2003 Pilot Project utilizing the kits. Feedback received was very favorable, with teachers finding great value in the lessons presented and the energy efficiency kits. The program is being expanded to cover Boone County Schools as well as Kenton County Schools. Kentucky NEED is currently meeting with the 2004 participants and will facilitate implementation of the 2004 project this fall.

Program 4: Program Administration, Development & Evaluation Funds

This program captures costs for the administration and support of the Residential Collaborative and ULH&P's overall DSM effort. In addition these funds are used for program development and evaluation. Program development funds are utilized for the redesign of programs and for the development of new programs or program enhancements such as the refrigerator replacement portion of the RCEE program. Funds

are also utilized for impact evaluation and cost-effectiveness tests. Impacts will be updated, and new cost-effectiveness tests will be reported for both required filings and program management improvements. While spending for July 2003 to June 2004 is less than half the funds over the two-year period, it is expected that expenditures will increase as more evaluation activity will occur in the 2004-2005 time period when programs are being considered for renewal and for review by the Commission.

Program 5: Pilot Program: Energy Education and Bill Assistance (Payment Plus)

From January to April 2002, ULH&P and the Northern Kentucky Community Action, Inc. (NKCAC) implemented a pilot home energy assistance program, Home Energy Assistance Plus. This pilot program was structured to test and evaluate the process and design of a home energy assistance program. The pilot program was designed to impact participants' behavior (*e.g.* encourage meeting utility bill payments as well as eliminate arrearages) and to generate energy conservation impacts. As reported in the previous filing, in Case 2002-00358, a process evaluation completed for the pilot revealed that it was very labor intensive with limited results.

To address these findings, the DSM Collaborative recommended and received approval for another test program (renamed Payment Plus) that had a less labor-intensive form of energy education, budget counseling, and bill assistance. Two pilot programs were completed during the approved program period 2003-2004. The evaluation results are attached to this filing (Attachments A-1 is the report and A-2 is a summary presentation). The pilot program had three parts:

1. Energy & Budget Workshops – to help customers understand how to control their

energy usage and how to manage their household bills, two workshops were held for each round of pilot participants.

2. Weatherization – participants in this program have their homes weatherized as part of the normal Residential Conservation and Energy Education (low-income weatherization) program unless weatherized in past program years or permission could not be acquired from the property owner in rental situations.
3. Bill Assistance – to provide an incentive for these customers to participate in the education and weatherization, and to help them get control of their bills, payment assistance credits are provided to each customer as they complete the other aspects of the program. The credits are: $200 for participating in the energy efficiency workshop, $150 for participating in the budgeting workshop, and $150 to participate in the RCEE (Weatherization) program. If all of the requirements are completed, a household could receive up to a total of $500 but never over the total arrearage accumulated. This allows for approximately 100 homes to participate per year.

Two pilot programs were run in this period with slight modification and improvement to some of the operations aspects of the program during that time based on evaluation feedback. Program participation in each of the pilot programs was as follows:

	Dropouts				
		Full Participants	**Partial Participants**		
Definition:	Total Participants	Attended both training sessions and received	Attended energy training session only	Attended energy and financial management training sessions	Attended energy training session and received weatherization

		weatherization services			services
Pilot II	78	33	12	27	6
Pilot III	90	43	18	27	2
Credits Provided		$500	$200	$350	$350

The results of the evaluation show that the program is providing one of the highest energy savings in the country at 22% therm savings and 14% kWh savings. This, however, is only part of the picture. The evaluation looked at the bill paying, arrearage levels, disconnections and days to bill payment. These areas showed some improvements between the program participants and the control group, but not significant differences over an extended period of time. Consequently ULH&P and the Collaborative are proposing, in this Application, to continue implementing this program as a pilot for another two-year period at the same funding and participation levels as the current pilot. This will allow for current participants to be tracked for energy use and bill payments over a longer time horizon and to monitor the impact of ongoing program activity. CG&E will also be analyzing the weatherization program in Ohio and ULH&P will also analyze other non-Payment Plus weatherization customers in Kentucky to see what the energy savings are for customers weatherized under the same program, but without the education workshops. More detailed analysis can be found in the attached evaluation report (Attachments A-1 and A-2).

Program 6: Power Manager

The purpose of the Power Manager program is to reduce demand by controlling residential air conditioning usage during peak demand conditions in the summer months. The program is offered to residential customers with central air conditioning. ULH&P

attaches a load control device to the customer's compressor to enable ULH&P to cycle the customer's air conditioner off and on when the load on ULH&P's system reaches peak levels. Customers receive financial incentives for participating in this program based upon the cycling option selected. If a customer selects Option A, their air conditioner is cycled to achieve a 1 kW reduction in load. If a customer selects Option B, the air conditioner is cycled to achieve a 1.5 kW load reduction. Incentives are provided at the time of installation: $25 for Option A and $35 for Option B. In addition, when a cycling event occurs, a Variable Daily Event Incentive based upon marginal costs is also provided.

The cycling of the customer's air-conditioning system will have minimal impact on the operation of the air-conditioning system or on the customer's comfort level. The load control device has built-in safe guards to prevent the "short cycling" of the air-conditioning system. The air-conditioning system will always run the minimum amount of time required by the manufacturer. The cycling simply causes the air-conditioning system to run less which is no different than what it does on milder days. Research from other programs including previous CG&E and ULH&P programs has shown that the indoor temperature should rise less than one to two degrees for control Option A and less than two to three degrees for control Option B. Additionally, the indoor fan will continue to run and circulate air during the cycling event.

The initial design of Power Manager has been structured on the same basic principles as ULH&P's innovative PowerShare® program. Power Manager will couple direct load control with a flavor of "real time pricing" through the Variable Daily Event Incentive structure as described above. By implementing the Variable Daily Event

Incentive structure, ULH&P can educate customers on the real time cost of electricity. ULH&P will continue to explore opportunities to cross-market the Power Manager program with ULH&P's other DSM programs thus tying both conservation and peak load management together as one package.

Since approval of the ULH&P Power Manager program by the Commission in November 2003, ULH&P has focused on finalizing contracts with the switch manufacturer and installation vendor. These were completed at the end of May, 2004. ULH&P's marketing materials were finalized and printed in early June, 2004. This is why program expenditures have been low for the first six months of 2004.

Marketing campaigns are now being executed on a monthly basis to targeted customers. The first ULH&P marketing campaign was initiated mid-June 2004, to 9,000 customers. As of the end of June, ULH&P already had a total of 98 customers enrolled. Installation of the load management switches in the ULH&P territory began the third week of July, 2004. As of the end of August 2004, Power Manager enrollments are at 334 customers, of which 332 load management switches have been installed. ULH&P expects to meet the program goals of 2,500 switch installations by the end of 2004.

III. COST-EFFECTIVENESS SCREENING

A. General

ULH&P believes it is in the best interest of its customers to provide incentives that promote the installation and implementation of energy efficiency measures and technologies in a cost effective manner. Over time, new technologies are designed that warrant attention within the context of utility provided DSM programs.

In addition to the economic and technological reasons for offering more DSM programs in ULH&P's territory, there are also market reasons for expanded utility involvement. The energy efficiency market has many existing barriers to the adoption of efficient technology. These vary by technology and market but include: higher incremental costs for high efficiency equipment, lack of consumer education, lack of contractor/trade ally training, lack of equipment supply at time of replacement, fear of change, and societal costs not reflected in prices. While it was hoped that during the general advance of deregulation, more free market players would move the market for efficiency, this is only happening for the largest customers. Consequently, ULH&P believes that the utility needs to continue to play a role in promoting and encouraging energy efficiency. The utility has an existing relationship with the customer and is viewed by most customers as their main source of energy information. Contractors, retailers, trade allies, and other players in the market also interact with the utility and their customers. As such, the utility is in a unique position to integrate customer and trade ally needs for information, education, services, market stimulation, and financial assistance through technology incentives to help remove market barriers and speed the adoption of more efficient technologies.

ULH&P recognizes that implementation of energy efficiency measures within DSM programs can reduce the long-run supply costs of power for consumers. As a result, the Company believes it is important to continue the work of cost-effectively increasing consumers' energy efficiency.

In addition, the cost of energy is expected to increase due to the cost of additional capacity required to meet a growing consumer demand and due to the cost of environmental compliance associated with the reduction of sulfur dioxide (SO_2), nitrogen

oxide (NO_x), and mercury (Hg) emissions. This argues for an even more aggressive DSM program that targets not just reductions in kW summer peak demand (peak reduction programs), but also reductions in kWhs throughout the year (conservation programs).

B. Methodology

ULH&P evaluates the cost-effectiveness of DSM measures when making decisions about inclusion in DSM programs. The net present value of the financial stream of costs vs. benefits is assessed, *i.e.*, the costs to implement the measures are valued against the savings or avoided costs. The resultant benefit/cost ratios, or tests, provide a summary of the measure's cost-effectiveness relative to the benefits of its projected load impacts.

The main criteria used for screening DSM measures for ULH&P is the Utility Cost Test (UCT) which compares utility benefits to utility costs and does not consider other benefits such as participant savings or societal impacts. This test compares the cost (to the utility) to implement the measures with the savings or avoided costs (to the utility) resulting from the change in magnitude and/or the pattern of electricity consumption caused by implementation of the program. Avoided costs are considered in the evaluation of cost-effectiveness through the use of the projected market price of power including the projected cost of environmental compliance. With the expected increase in the cost of compliance for limitation of SO_2, NO_x, and Hg emissions, the benefits from conservation have increased. The cost-effectiveness analyses also incorporate avoided transmission and distribution costs, load (line) losses, and avoided ancillary services.

In addition, ULH&P conducted additional cost-effectiveness studies that incorporate a more complete analysis of the range of expected values across alternate load and weather impacts. The cost-effectiveness that could occur under these alternate weather

and market price conditions provides a more robust view of the cost-effectiveness of a measure or program. ULH&P performed simulation analyses of the value of the energy impacts using over thirty years of historical weather data. Under extreme weather conditions (and hence extreme market price and avoided cost conditions), the expected value of test results can rise. Under these conditions, DSM programs yield more value (*i.e.*, option value), since the value of the energy saved is also rising. While the probability of such events may be small, the value of such events can be significant. The option valuation method provides insights regarding the extent to which a particular DSM program provides a hedge against potential increases in market prices and/or market price volatility.

The costs associated with implementing new measures in DSM programs include incentives offered to customers to encourage participation and vendor delivery and installation costs (if applicable). The costs to market the program (including direct mail and/or channel fees) and the expenses for program administration are not directly included in the calculation of the UCT due to the difficulty of allocating them to the individual measures. Rather, measures are considered cost-effective as long as the UCT is more than 30% above 1.0 in order to allow for the additional program costs.

Previously, DSM program screenings used EPRI's DSManager program for assessing DSM program cost-effectiveness; however, ULH&P now uses a more comprehensive and convenient Excel-based analysis to replace DSManager because: 1) EPRI no longer supports DSManager; 2) computing power has increased to the point where PCs can now handle DSM evaluations more easily; 3) spreadsheet analyses allow for a more transparent review of input assumptions and key sensitivities, which serves to enhance the overall quality of the evaluation and subsequent decisions; and 4) ULH&P's

current approach allows for the assessment of weather normal load impacts, option valuation, and the future possibility of valuing avoided locational commodity costs on the electrical system (*e.g.,* constrained interconnections, highly loaded feeders).

C. Program/Measure Screening

ULH&P is proposing that the following additional DSM programs be implemented.

- Residential Programs
    - Energy Star Products Program
    - Energy Efficient Website

- Commercial and Industrial Programs
    - High-Efficiency Incentive
        - Lighting
        - HVAC
        - Motors
        - Other process applications

Detailed descriptions and information on each of these are provided in the following two sections. The UCT results for each new measure and program in this DSM filing are provided on page 1 of Attachment B for the residential programs and pages 1a and 1b of Attachment C for the commercial and industrial programs. These results utilize the projected market cost of power including the projected cost of environmental compliance. All the programs pass the UCT cost-effectiveness test. ULH&P also evaluated a photovoltaic incentive program. This program provided for the installation of a demonstration photovoltaic system at a home and a school. This program was not cost effective and the Residential and C&I Collaboratives did not approve its implementation,

IV. NEW RESIDENTIAL PROGRAMS

This application seeks approval for implementation and associated cost recovery for the following two new residential programs:

Program 7: Energy Star Products

Program 8: Energy Efficiency Website

Program 7: Energy Star Products

Description: The Energy Star Products program provides market incentives and market support through retailers to build market share and usage of Energy Star products. Special incentives to buyers and in-store support stimulate demand for the products and make it easier for store participation.

Target Market: Residential customers purchase of specified technologies through retail stores.

Technology Categories: The first year of the program will focus on compact fluorescent lamps (bulbs) and torchiere lamps. An additional measure, clothes washers, was also evaluated. While the clothes washer passed the UCT, it was considered non-economic due to the cost to participants. The Residential Collaborative chose to not implement this measure as part of the program. Technologies may change over the future years of program operation based on new technologies and market responses.

Market Barriers: There are several barriers addressed through the program. The first is price. Purchase rewards are provided for customers to lower first cost of the item and stimulate interest. The second barrier is retailer participation. Through retail education, in-

field sales support (signs, ads, *etc.*), and stimulated market demand retailers stock more product, provide special promotions and plan sales strategies around these Energy Star products. Additional support is provided through manufacturer relationships that often can reduce prices through special large-scale purchases. Coordination will occur with the national Energy Star initiatives such as "Change a Light, Change the World" promotion.

Components of Delivery

Incentives: Incentives or "customer rewards" will be available in two ways, through mail-in forms available from the retailer and through special in-store "Instant Reward" events that occur in stores at the time of purchase. Incentives will also be provided for the sales staff for clothes washers. Technology incentives are proposed to start at the following levels:

- Lighting = $2 per bulb — Savings per unit = 66 kWh
- Torchiere Lamps = $20 — Savings per unit = 388 kWh

Education/Training: Training will be provided to sales staff of the retailers and sales aids provided.

Marketing: Marketing support will include point of purchase displays and materials, co-operative advertising, coupons, and special "instant sales events." Public relations materials will also be used.

Market Support: The key to this program that is different from past utility rebate programs is market support. "Circuit Riders" will visit each store at least every six weeks to provide materials, training, and label product. This in-field support eliminates many of the barriers that retailers have to promoting this program. Another portion of the market support is coordination with manufacturers on a national level. Working with the

national and regional Energy Star efforts, ULH&P will be able to leverage quantities and reduce prices in the marketplace.

Delivery Organizations: ULH&P proposes to use the Wisconsin Energy Conservation Corporation ("WECC") to provide this service. Recognized as the national leader in this program and located in the region, ULH&P can take advantage of WECC's current activity to control costs and leverage other activity.

Quality Control/Monitoring: Monitoring occurs through reward verification tracking and in-store assessments by the Circuit Riders.

Other Standards for Participation: Technologies must be listed as complying with Energy Star standards as posted on the Energy Star web site.

BUDGET BREAKDOWN			
Energy Star Products Total Cost	UCT	$	243,000
CFL's (Compact Fluorescent Lights) Incentives	8.06	$	80,000
Torchieres (Floor lamps) Incentives	5.33	$	10,000
Administration by subcontractor		$	88,000
Marketing		$	65,000

Program 8: Energy Efficiency Website

Description: Energy Zone™ is ULH&P's enhanced energy efficiency web site. It provides ULH&P customers the most advanced programs, tools, and measures available to manage their energy and achieve load impacts. The website features a multi-tiered design providing the consumer the opportunity to receive quick customized energy tips and, if they choose, the ability to complete an online audit and receive ten (10) self-install energy efficiency measures. The marketing of the Energy Efficiency Website is an initiative

meant to diversify and increase the reach of ULH&P's DSM programs.

Target Market: With over 70% of ULH&P customers having access to the Internet in either their homes or at work, the target market is comprised of those individuals who do not have the time or logistically cannot be available for the HEHC audit program.

Technology Categories: The Energy Efficiency Starter Kit provides the customer with the following measures:

(1) 15w CFL Bulb
(1) 20w CFL Bulb
(1) 2.0 GPM Earth Showerhead
(1) Dual Setting Touch Flow Kitchen Aerator with Swivel
(1) 1.5 GPM Standard Faucet Aerator
(1) LimeLite Nite Light
(1) Pkg. Toilet Dye Tablets
(2) Switch/Outlet Draft Stoppers
(1) Energy Star Efficiency Guide

The average cost per kit is $17 with the expectation of distributing 1,050 kits in 2005.

Market Barriers: The largest barrier to success of the program is making the customer aware of the website. For those customers interested in how they use energy and lowering their energy bill, the website contains an audit tool, an appliance efficiency calculator, efficient products e-catalog and a library of energy information. The challenge is to get them to visit the website, which ULH&P recommended to occur primarily through direct marketing to the end user and promotion through the Call Center Customer Service Representative. Unfortunately, the Residential Collaborative did approve of the funds for the direct marketing of the web site. This may change in the future.

Components of Delivery:

Incentives: The Energy Efficiency Starter Kit is the incentive for the website program. The kit will be sent to every customer who completes the Quick-e-Audit.

Education/Training: Customer Service Representatives in the Call Center will receive training on the program.

Marketing: Marketing will be conducted through Call Center Representatives.

Market Support: No additional support is needed.

Delivery Organizations: The ULH&P DSM department will have oversight for the delivery of the program.

Quality Control/Monitoring: The tracking of customer usage before and after completion of the Quick-e-Audit is important to determine the installation of measures.

BUDGET BREAKDOWN			
Energy Efficiency Website	UCT	$	17,850
Measures	3.10	$	17,850
Marketing		$	0

The projected load impacts of these two programs as well as the existing DSM programs can be found on page 4 of Attachment B in this filing.

V. NEW COMMERCIAL & INDUSTRIAL PROGRAMS

This application seeks approval for implementation and associated cost recovery for the following two new business DSM programs:

Program 9: High Efficiency Incentive

Program 9: High Efficiency Incentive

Brief Description: Cinergy/PSI in Indiana has successfully provided incentives to small

commercial and industrial customers to install high efficiency equipment in applications involving new construction, retrofit, and replacement of failed equipment. These incentives were for limited motor, lighting and cooling equipment types. This program is expanding to include additional technologies to cover more applications and end uses. ULH&P would like to provide the expanded program to its customers enabling leveraging of the administration of the program while providing savings to this customer group.

Target Market: ULH&P commercial or industrial customers (excluding those receiving service at transmission voltage).

Technology Categories: The list of technologies includes refrigeration, variable frequency drives, pumps, controls, motors, lighting, and HVAC equipment. A full listing of the technologies is provided on page 1 of Attachment C.

Market Barriers: Small and medium sized commercial and industrial customers can have significant energy consumption, yet are not frequently served by the Energy Services Market. These customers lack the knowledge and/or do not understand the benefits of high efficiency alternatives. They tend to be driven by rapid return on their investments, rather than the longer pay-back periods associated with investments in higher efficiency equipment. ULH&P's program provides financial incentives to help reduce this cost differential and improve their return on investment. It also provides a market demand such that dealers and distributors or "market providers" will stock and provide higher efficiency alternatives as the demand for the products increases. ULH&P provides these distributors with additional information and support so that they better understand the best applications

of these technologies.

Components of Delivery:

Incentives: Incentives are provided through the market providers based on ULH&P's cost-effectiveness modeling but with a high-end limit of 50% of measure cost. Using the ULH&P cost-effectiveness model assures cost-effectiveness over the life of the measure.

Education/Training: ULH&P provides education and training to its market providers to understand the program and the appropriate applications for the technologies.

Marketing: Marketing to customers and market providers is through mailings and bill stuffers.

Market Support: Market support varies by technology. Most technologies included within the program are proven and available in the marketplace, though not widely applied. ULH&P will provide to market providers additional support and education on newer technologies that may have lower acceptance rates.

Delivery Organizations: Primary delivery of the program is through the existing market channels, equipment providers and contractors. ULH&P will use its current DSM team to manage and support the program. Additional outside technical assistance will be retained to analyze technical applications and provide customer/market provider assistance as necessary.

Quality Control/Monitoring: To assure appropriate installation of equipment, applications for incentives will be reviewed and checked for accuracy and whether measures meet appropriate standards. Random field inspections will help to assure effective installation.

Other Standards for Participation: Varies by technology.

BUDGET	
High Efficiency Incentive	$ 225,943
Incentives	
Lighting	$ 38,800
HVAC	$ 26,437
Motors	$ 18,644
Other	$ 83,484
Total	$ 167,365
Administration & Marketing	$ 58,578

The projected load impacts of this program can be found on page 4 of Attachment C.

VI. CALCULATION OF PROGRAM COSTS, LOST REVENUES, AND SHARED SAVINGS

A. Program Costs

The total cost of program measures and implementation for the new programs is projected to be approximately $3.3 million over the next five years. These new programs are intended to incrementally reduce energy consumption by over 100 million kWh and peak demand by 5.7 MW. The total set of programs is expected to reduce energy consumption by over 105 million kWh and peak demand by 11.5.6 MW. The projected costs are provided on page 2 of Attachment B for the residential programs and page 2 of Attachment C for the commercial and industrial programs. The projected energy savings are shown on page 4 of Attachments B and C.

ULH&P proposes that the set of new programs be approved for a five-year period, beginning January 1, 2005 and ending December 31, 2009. Currently, all of the other programs are scheduled to end at the end of 2005, with the exception of the direct load control program, which has been approved through the end of 2007 and the Energy Education and Bill Assistance program which has just ended, but approval for a two-year

extension is being sought as part of this filing. ULH&P believes that approval for at least a five-year period is important for the success of these programs to allow for the dissemination of the programs into the market as well as to provide negotiation leverage for contracts with vendors.

While ULH&P is asking for approval of this set of programs for five years, ULH&P continues to examine other new technologies that may be employed to reduce energy usage and/or peak demands. As new technologies become viable for implementation, ULH&P intends to request approval from the Commission for such technologies to be added to the then existing set of programs.

B. Lost Revenues and Shared Savings

ULH&P is committed to finding the right set of DSM programs that can cost-effectively reduce energy consumption. However, implementing more aggressive DSM programs raises significant risk to the Company. For the current set of DSM programs, there was no allowance for recovery of lost revenues or any incentive to do more, such as a shared savings incentive. The lost revenue burden is currently absorbed by the Company.

For DSM programs, there are many beneficiaries, primarily participants and customers. Participants in the programs save in the near term through lower bills, while customers save over the longer term since the DSM program helps to reduce the need for more expensive purchased power from the market or building new power plants. Two other groups are also impacted by the DSM programs, the utility and its shareholders. From the utility's perspective, implementing DSM programs reduces both the near-term and long-term amount of kWh sold. In the near-term, the reduction in kWh sold reduces the utility's recovery of the fixed costs of its operations. Recovery of lost revenues helps

to fill that gap in cost recovery. From the shareholder perspective, implementing DSM programs defers the need for investment in new facilities. Utility shareholders receive a return on their investment based upon the utility's investment in generation, transmission, and distribution equipment. DSM programs reduce the amount of these investments over time, reducing the return to shareholders and thus creating a disincentive for shareholders to pursue DSM. By providing a return to the shareholders through the "shared savings" mechanism, shareholders are provided an incentive to invest in DSM.

For the Company to expand the level of its DSM programs to achieve greater reductions in energy usage and to aggressively pursue new opportunities, as it has proposed, a process for compensation and incentive should be incorporated into the regulatory process. The Commission's regulations regarding DSM contemplate recovery of lost revenues and incentives. The original Collaborative agreement in 1995 also allowed for recovery of lost revenues and shared savings as a way to offset regulatory or financial bias against DSM. A reference to the definition of Shared Savings is provided in section I.B.6 on page 4 at the beginning of this current application. ULH&P proposes that the DSM rider once again be utilized to include recovery of lost revenues for the next five years once a DSM measure is installed (unless a rate case occurs) and to incorporate recovery of a shared savings DSM program incentive. These changes to the DSM rider will compensate the utility for the impacts of reducing consumption, while providing a structured incentive to pursue DSM.

The Company is proposing, in this proceeding, that a set of DSM programs be implemented that are expected to reduce energy usage by more than 100 million kWh over the next five years. This is a substantial increase in customer energy efficiency. Without

the recovery of lost revenues and a mechanism to allow a sharing of the efficiency savings generated by the programs, the Company could only advocate a continuation of the current set of DSM programs. ULH&P is also limiting the proposed recovery of lost revenues on implementation of DSM measures to three years from the date of measure installation.

The "lost revenues" referred to above are revenues the Company would have received, absent the implementation of DSM programs. For instance, when a customer participates in one of the DSM programs, a set of energy reducing measures are installed in the customer's home or business. We can calculate, through impact evaluation studies and engineering estimates, what energy and demand savings those measures will produce. We can determine the amount of the contribution to fixed costs that ULH&P would lose because of the installation of those measures. ULH&P is seeking recovery of this lost contribution to fixed costs (*i.e.*, the "lost revenues"). Obviously, the lost revenue impact of one customer will be small; however, over five years and assuming full participation, ULH&P projects over 100 million kWh will be saved by implementation of these DSM programs, producing significant lost revenues to the company. Of course, if a retail base rate case is processed and new rates are approved, this lost revenue problem would be alleviated since the rate case will true-up revenues based on actual experience in the test year. Therefore, ULH&P's request for lost revenues is for the five-year life of the program, except when new rates are initiated as a result of a retail base rate case. At that point, lost revenues stop accumulating on DSM measures implemented prior to the rate case, but accrue only as new measures are installed. ULH&P, in the absence of a rate case, is also limiting the recovery of lost revenues on implementation of DSM measures to three years from the date of measure installation.

Lost revenues are computed using the applicable marginal block rate net of fuel costs and other variable costs times the estimated kWh savings. Page 5 of Attachments B and C provide the estimated lost revenues associated with the proposed DSM programs. Over the five years, this would amount to over $4.5 million. The lost revenues are cumulative in nature, because the revenue lost in one year, is also lost each year thereafter. The values provided in the Attachments are estimates based upon a projected level of participation by customers. With implementation of the proposed DSM programs, lost revenues would be calculated using the projected energy savings and actual customer participation. Additionally, ULH&P will update its load impacts based on the results of impact evaluation studies, engineering impact assessment studies, and benchmarking against similar programs in other states. The results of these review and evaluation activities will be used to project future energy savings.

In order to put DSM on par with alternatives such as building or buying additional generating capacity, ULH&P believes that a shared savings incentive is appropriate. ULH&P's proposal is a significant expansion of DSM programs, and ULH&P is responsible for implementing the programs in a cost effective manner. ULH&P believes that a shared incentive of 10% is appropriate to incentivize the Company to propose and fully implement the DSM programs. Again, the Commission's regulations contemplate shared savings recognizing that DSM programs should be compared with other capacity alternatives.

Total savings are computed using the total value created by the program as provided on page 6 of Attachments b and C. This value is net of the costs of measures, incentives to customers, marketing, impact evaluation, and administration. The savings are

estimated by multiplying the number of participants expected for each measure times the UCT value and then subtracting the program costs. Page 7 of Attachments B and C summarize the calculation of the projected value or savings to residential and commercial and industrial customers, respectively. ULH&P proposes to recover ten percent of the savings, a sharing of the value created, as an incentive to aggressively pursue implementation of DSM programs.

C. Cost Recovery

Since 1995, ULH&P has used the Demand Side Management Cost Recovery Rider to recover the direct costs as well as lost revenues and shared savings associated with its regulated DSM programs. ULH&P proposes to continue using this Rider, updated to remove the revenue decoupler mechanism, to track actual recovery of DSM costs and once again the recovery of lost revenues and shared savings. The rider is based on ULH&P's forecasted (budget) program costs, lost revenues, and shared savings. ULH&P annually reconciles the rider and flows back any differences between the budget and actual. In this way, ULH&P's customers are only charged for the actual DSM program costs, lost revenues, and shared savings.

ULH&P proposes that program costs, lost revenues, and the shared savings incentive will be allocated and recovered based on customer class, *i.e.,* residential customers (Rate RS) will be responsible for residential program costs; and applicable commercial and industrial customers (Rates DM, DS, and DP) will be responsible for the commercial and industrial program costs.

ULH&P is also including a provision in the DSM Rider for C&I customers to obtain a reduction in their billing demand for calculation of demand charges upon a

showing that one or more of the DSM measures included in this Application were implemented. This removes a disincentive to C&I customers to implement DSM measures that could reduce kWh energy use and kW demand.

VII. CALCULATION OF THE 2005 DSM COST RECOVERY MECHANISM

A. Outline of DSM Activity

ULH&P is planning to offer the following DSM programs in ULH&P's service territory in 2005:

Program 1: Residential Conservation and Energy Education (Low-Income Weatherization)

Program 2: Residential Home Energy House Call

Program 3: Residential Comprehensive Energy Education Program (NEED)

Program 4: Program Management, Development and Evaluation Funds

Program 5: Pilot Program Energy Education & Bill Assistance Program (Payment Plus)

Program 6: Power Manager

Program 7 Energy Star Products

Program 8 Energy Efficiency Website

Program 9 C&I High Efficiency Incentive

B. 2004 DSM Riders

In accordance with the Commission's Order in Case No. 95-312, the Joint Applicants submit the proposed DSM Riders (Attachments E and F) and an updated Demand Side Management Cost Recovery Rider (Attachment G). The riders are intended to recover 2005 program costs, to reconcile the actual DSM revenue requirement as

previously defined to the revenue recovered under the DSM Riders for the period July 1, 2003 through June 30, 2004, and to recover associated lost revenues and shared savings. Attachment D, page 1 of 5, tabulates the reconciliation of the DSM Revenue Requirement associated with the prior reconciliation, ULH&P's program costs between July 1, 2003 and June 30, 2004, and the revenues collected through the DSM Riders over the same period. The true-up adjustment is based upon the difference between the actual DSM revenue requirement and the revenues collected during the period July 1, 2003 through June 30, 2004.

The actual DSM revenue requirement for the period July 1, 2003 through June 30, 2004, consists of: 1) program expenditures and 2) amounts approved for recovery in the previous reconciliation filing. The actual program costs incurred are reflected in column (2) labeled "Program Exp 7-03 thru 6-04."

Attachment D, page 5 of 5 contains the calculation of the 2004 Residential DSM Riders. The calculation includes the reconciliation adjustments calculated in Attachment D, page 1 of 5 and the DSM revenue requirement for 2005. The residential DSM revenue requirement for 2005 includes the costs associated with the Residential DSM programs, the program development funds, the pilot Energy Education and Bill Assistance Program (Payment Plus), the Power Manager program, the Energy Star Products program, the Energy Efficiency Website program, and the associated net lost revenues and shared savings (Attachment D, pages 2 and 3 of 5). Total revenue requirements are incorporated along with the projected electric and gas volumes (Attachment D, page 4 of 5) in the calculation of the Residential DSM Rider.

Attachment D, page 5 of 5 also contains the calculation of the 2004 Commercial

and Industrial DSM Rider. The calculation includes the reconciliation adjustments calculated in Attachment D, page 1 of 5 and the DSM revenue requirement for 2005. The Commercial & Industrial DSM revenue requirement for 2005 includes the costs associated with the commercial and industrial DSM program (C&I High Efficiency Incentive) and the associated net lost revenues and shared savings (Attachment D, pages 2 and 3 of 5). Total revenue requirements are incorporated along with the projected electric and gas volumes (Attachment D, page 4 of 5) in the calculation of the Residential DSM Rider.

The Company's proposed 2005 DSM Riders, shown as Attachments E and F, replace the current DSM Riders, which were implemented in the first billing cycle of January, 2004. The electric DSM rider, proposed to be effective with the first billing cycle in January 2005, is applicable to service provided under ULH&P's electric service tariffs as follows:

Residential Electric Service provided under:

Rate RS, Residential Service, Sheet No. 30

Non-Residential Electric Service provided under:

Rate DS, Service at Secondary Distribution Voltage, Sheet No. 40

Rate DT, Time-of-Day Rate for Service at Distribution Voltage, Sheet No. 41

Rate EH, Optional Rate for Electric Space Heating, Sheet No. 42

Rate SP, Seasonal Sports, Sheet No. 43

Rate GS-FL, Optional Unmetered General Service Rate for Small Fixed Loads, Sheet No. 44

Rate DP, Service at Primary Distribution Voltage, Sheet No. 45

Rate RTP-M, Real Time Pricing – Market-Based Pricing, Sheet No. 59

Rate RTP, Experimental Real Time Pricing Program, Sheet No. 99

The gas DSM rider is applicable to service provided under the following residential gas service tariff:

Rate RS, Residential Service, Sheet No. 30

ULH&P respectfully requests that, if the Commission cannot issue an Order within the time-frame sought in this filing, the Company be permitted to continue the current set of DSM programs and to collect revenues under the existing DSM Riders until the effective date of new tariffs issued under the Commission's Order in this filing.

Calculation of the Residential Charge

The proposed residential charge per kWh for 2005 was calculated by dividing the sum of: 1) the reconciliation amount calculated in Attachment D, page 1 of 5, and 2) the DSM Revenue Requirement associated with the DSM programs projected for calendar year 2005, by the projected sales for calendar year 2005. DSM Program Costs for 2005 include the total implementation costs plus program rebates, lost revenues, and shared savings. The calculations in support of the residential recovery mechanism are provided in Attachment D, page 5 of 5.

Calculation of the Non-Residential Charge

The proposed non-residential charge per kWh for 2005 was calculated by dividing the sum of: 1) the reconciliation amount calculated in Attachment D, page 1 of 5, and 2) the DSM Revenue Requirement associated with the DSM program projected for calendar year 2005, by the projected sales for calendar year 2005. DSM Program Cost for 2005 includes the total implementation costs plus program rebates, lost revenues and shared savings.

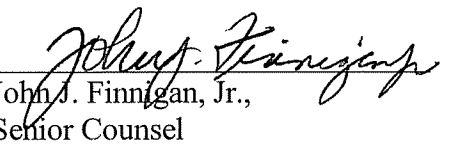
Allocation of the DSM Revenue Requirement

As required by KRS 278.285 (3), the DSM Cost Recovery Mechanism attributes the costs to be recovered to the respective class that benefits from the programs. The amounts associated with the reconciliation of the Rider are similarly allocated as demonstrated in Attachment D, page 2 of 5. The costs for the Power Manager program are fully allocated to the residential electric class, since this is the class benefiting from the implementation of the program. As required, qualifying industrial customers are permitted to "opt-out" of participation in, and payment for, the DSM programs. In fact, all of ULH&P's Rate TT customers met the "opt-out" requirements prior to the implementation of the DSM Riders in May 1996, and are not subject to the DSM Cost Recovery Mechanism.

WHEREFORE, the Joint Applicants respectfully request that the Commission review and approve this Application.

Respectfully submitted,

THE UNION LIGHT, HEAT AND POWER COMPANY

By: 

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CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing filing was served on the following via ordinary United States mail, postage prepaid, this 29th day of September, 2004:

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ATTACHMENT A-1

Final Report

An Evaluation of the Payment Plus Program

Results of a Process, Energy Consumption and Arrearage Effects Evaluation

August 2004

Prepared for

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6. 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. Less than a third of the participants receiving weatherization services indicate that Cinergy funded the measures. Most participants thought NKCAC or PWC funded the measures.

8. 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.

9. Participants report that they have increased their knowledge of how to save energy. Ninety percent of the participants reported an increase in their knowledge of how to save energy – with most reporting several actions they have taken since attending the Energy Education Session.

10. Participants report lower utility bills. 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 them reduce their consumption. This opinion is supported by the findings in this report indicating that energy consumption for the participant group has significantly decreased.

participant training services. PWC provides the weatherization services once the participants complete the training component(s).

Pilot Program III was designed to build on the experience of Pilot Program I and II and continue the testing of the program. The Pilot Program III effort was planned to serve 100 participants who had high levels of debt (arrearage) to Cinergy.

The participants attended one or two training sessions (energy education and budgeting) and 60 of the 90 participants participated in the weatherization program. Attendance at the budgeting session and participation in the weatherization program were optional. Full participants took advantage of all three components of the program and received $500 dollars in arrearage credits, free weatherization of their homes, and training that provides them with the skills they need to conserve energy and better manage their household budgets. Other participants enrolled in the program, attended the first training session (energy) and did not attend the second session but went on to obtain weatherization services, or attended the second session but did not go on to obtain weatherization services. These "partial" participants received partial credits depending on which components of the program they completed.

Program Theory and Operations

The program theory is simple and easily understood. The primary theory is founded on the belief that many low-income customers with high arrears can gain control over their bills and begin to pay down their debt if they are provided with the skills and support services needed to assist them through this effort. The program is grounded in the theory that providing participants with a significant reduction to their current arrears will place them in a better position to gain control over their utility bill. The credits provided by the program provide a financial helping-hand to the participants. However, the program is also designed from the theory that participants need more than financial assistance to be able to effectively manage their account. As a result, the program provides training on how to reduce consumption by implementing effective energy management strategies. In addition to the energy training, the program also weatherizes their home so that it is technically more energy efficient. Combined, the training and the weatherization measures provide a foundation for reducing consumption to be more consistent with participant's ability to pay for that consumption. Finally, the program theory indicates that the participant's ability to manage their energy bill is, to some degree, a function of their financial management skills. To improve participant's financial management skills the program provides educational efforts aimed at helping participants establish household budgets and live within their budget. The program theory is based on the belief that these three program services, linked with substantial bill credits to start them on an improved payment path, provides a platform from which participants can begin to gain control over their accounts.

The Pilot Program III services were implemented through a series of efforts that were coordinated across the contractor teams. The implementation tasks are described below:

1. NKCAC agreed to manage and administer the program for Cinergy through a contractual agreement between the two organizations.
2. Cinergy identified approximately 758 low-income customers who had high arrears and who might need help in gaining control over their bills. (High arrears are undefined by Cinergy, but typically mean that the customer had an arrearage above the credit levels provided by the program.)
3. The individuals on the Cinergy list were contacted by NKCAC via a program introduction letter explaining the program and requesting that interested customers contact NKCAC to enroll in the program. The goal of the outreach effort was to enroll 100 participants. NKCAC supplemented this effort with a limited set of phone calls to improve the enrollment response from the letter.
4. Program participants were required to successfully complete one task. The other two tasks were optional. These were:
    a. Required Task: Attend one of the Energy Efficiency Training Sessions held January 8 and March 11 of 2004. These workshops discussed and demonstrated methods to reduce energy consumption and gain control over their energy bill. In return, participants received a credit of $200 applied to their arrearage.
    b. Optional Task 1: Attend a Financial Management Session held on January 22 and March 25, 2004, which discussed and demonstrated household budgeting and management techniques to help participants understand their income levels and be able to live at or below their income level. In return for attending this second training session, the participants received a $150 credit applied to their arrearage.
    c. Optional Task 2: Receive an energy audit (NEAT audit) of their home to identify measures needed to lower energy costs, and receive weatherization services consistent with the audit results and approved measures. Both homeowners and renters could receive weatherization services. However, if the participant rented, they needed to obtain the permissions of the owner to conduct the audit and install the weatherization measures. After weatherization is complete, the customer received a credit of $150 to their arrearage.

Evaluation Methodology

The study methodology consisted of four parts. These are:

1. A process evaluation of Pilot Program III in which TecMarket Works interviewed key program managers and staff. The interviews were designed to review program operations and experiences and to identify and discuss any implementation issues associated with the program's design or operations;
2. A weather-normalized energy usage analysis to determine if participation in the Pilot Programs resulted in energy-related behavioral changes; and
3. An arrearage analysis in which TecMarket Works examined Pilot I and II participant's billing and payment streams to determine if the program had an effect on how bills are paid and how arrearages are managed.
4. A survey of Pilot II enrollees and program drop-outs was conducted to measure satisfaction levels, to identify implementation issues, and to identify barriers to program participation.

Process Evaluation

The process evaluation included onsite interviews with key Cinergy, NKCAC, and PWC program delivery staff. These interviews focused on the design, planning, and implementation of the program and a review of the goals and objectives associated with the program. Interviews were conducted with the following individuals.

1. Brian Angus, NKCAC Director
2. Darla Griffin, NKCAC Program Implementation Manager
3. Linda Huff, NKCAC Educational Director and Workshop Instructor
4. Nina Creech, PWC Weatherization Program Manager
5. Rachelle Villanueva, PWC Program Operations Staff
6. Al Lovin, PWC Weatherization Program Supervisor
7. Kathy Schroder, Cinergy Program Manager
8. Rick Morgan, Cinergy Program Design Consultant

The interviews were conducted in July 2004, and followed a formal evaluation interview protocol. This protocol is provided in Appendix A of this report and allows the reader to see the range and scope of the questions addressed during the process interviews.

Energy Savings Analysis

Energy savings for Pilot Program I and II participants were determined by looking at the change in energy usage of the participants compared to the change in usage of a control group of eligible customers who did not participate in the program. The Princeton Scorekeeping Method (PRISM™) ™ software was utilized in this analysis. PRISM™ is capable of providing weather-normalized data analysis of energy use. Analysis was done on three groups of participants for both kWh and therm consumption. The groups are: Pilot I weatherized participants, Pilot II weatherized participants, and Pilot II participants who were not weatherized. (Data were available for only two Pilot I participants that were not weatherized, and as a result were excluded from this analysis.)

The analysis used a matched control group of 177 low-income customers who had not been weatherized, had two or three years of billing data, and had arrearage levels of $500 or more at some point in the study period. The control group was analyzed to be sure that the mix of customer's energy needs were similar. Table 2 below indicates that the groups are similar in their end-use of energy, for example, 61.2% of the Pilot II participants used AC (Air Conditioning) while 64.4% of the Control Group did.

Table 2 Energy Needs of Control Group versus Pilot I and II Participants

KWh	Participants		Control	
	n	Percent of Group	n	Percent of Group
NORM*	17	25.4%	70	27.7%
AC	41	61.2%	163	64.4%
HTAC	9	13.4%	20	7.9%
Therms				
NORM	2	3.6%	9	3.9%
HEAT	54	96.4%	222	96.1%

*KWh:
NORM = Non-electric heating
AC = Electric air conditioning
HTAC = Electric heating and air conditioning

Therms:
NORM = Non-gas heating
HEAT = Natural gas heating

After this control group was selected, further cleaning was conducted to eliminate those customers that did not have sufficient data for the study or included accounts in which there was a tenant change. This left 177 customers out of the original 3,270 customers that could be used for the matched control group. These customers were randomly assigned false participation dates to establish the pre- and post-program analysis periods for the control group.

Participants' data was also separated into pre and post periods. Participants who were weatherized at some point after the program workshops had their pre data begin before

the workshops and their post data begins after the weatherization measures were completed on their home. Data between these two dates was not included in the analysis. Participants who were not weatherized, or who were weatherized before the pre data started had their post data start one month after participating in the workshops.

The data that was used for this analysis was provided from Cinergy's monthly-metered account database. The data was provided in therms and kWh per month per customer for up to three years before the program and for up to twenty-four months after the program.

This report presents the savings in kilowatt-hours of electricity and therms of natural gas. Mean and median summaries are provided for each of the three groups of participants, and PRISM™ graphic summaries are provided in Appendix B. A description of the PRSIM™ software is below.

PRISM™ Analysis

Program impacts were examined using PRISM™ Advanced Version 1.0 software for Windows developed at Princeton University's Center for Energy and Environmental Studies.

PRISM™ is a commercially available analysis software package designed to estimate energy savings for heating and/or cooling loads in residential and small commercial buildings. The current Advanced Version permits users to enter and edit data from a variety of sources, to carry out sophisticated reliability checks, to eliminate cases that do not meet standards, and to display results in graphical and textual forms.

PRISM™ allows the user to estimate the change in energy consumption per heating or cooling degree-day for the periods before and after measures are installed in homes by combining energy consumption and weather data. By subtracting the estimate of energy use per degree-day after the measures are installed from the value before the measures are installed and multiplying by an appropriate annual degree-day value, total annual normalized energy savings can be estimated.

Degree-days vary from year to year, which potentially presents a problem for deciding on a value for annual degree-days. This is especially problematic if one is trying to determine paybacks. For example, one could normalize the savings to the period preceding the installation of measures or the period after. If one selects a warm period, then savings may be too low and paybacks too long. If one selects a cool period for normalization, then the estimate of paybacks may be too high.

PRISM™ mitigates this problem by effectively averaging temperatures over a twelve-year period and providing an estimate of degree-days that is typical for the region of the study, although not one that necessarily matches the specific weather conditions in any given year. The advantage of normalizing to the PRISM™ recommended period is that the results will be consistent from study to study over a period of time. The same end can be achieved by consistently using the same user selected time frame. For this study we chose the period from January 1, 1992 through December 31, 2002, recommended by PRISM™ support.

A major feature of PRISM™ is the ability to evaluate cases against reliability criteria. The first criterion is the R^2 value (explained variance), a measure of the fit of the degree-day and energy consumption data, or in statistical lingo, the amount of variance in energy consumption explained by changes in degree-days. Energy consumption is assumed to be a linear function of degree-day. R^2 varies from 0 to 1. If R^2 is close to zero, it means that factors other than outdoor temperature are driving energy consumption. If the R^2 is close to 1 it means that outdoor temperature is almost entirely responsible for energy consumption. Outdoor temperature is usually the overriding factor in both heating and air conditioning fuel use and the goal of the weatherization program is to improve the thermal characteristics of the building shell and the fuel use rate of the heating and air conditioning systems to reduce fuel use related to outdoor temperature. The PRISM™ default for R^2 is at .7. This means that at least seventy percent of energy use is temperature dependant. If less than 70 percent of the energy used in a building is temperature related, then it becomes difficult to understand the effects of the weatherization measures and the case is dropped from the analysis. We used .7 in this study although most of the R^2 values in this study were .85 or higher. In other words, 85 percent or more of heating fuel use in this study is temperature driven. PRISM™ has a second measure of reliability which is the coefficient of variation for the normalized annual consumption (CV(NAC)). Normalized annual consumption is the amount of fuel consumed by a unit for a typical weather year. When estimating normalized annual consumption some estimates may have a very tight error band while others may have a band that is quite wide. In estimating the average consumption we want estimates of unit consumption that are very close to the actual and we want to eliminate values that may not be very close because they may cause the estimates of the average consumption for all units to vary significantly from the actual. Because the variation in the estimates of normalized annual consumption generally will be higher in homes with higher consumption, the estimate of the variation in normalized annual consumption is divided by the estimate of normalized consumption to obtain CV(NAC). This provides a standardized measure of the variability of the normalized consumption that is comparable across homes. The PRISM™ default for CV(NAC) is 7 percent and that is the value used in this study.

Arrearage Analysis

The arrearage analysis was approached by analyzing changes in monthly arrearage levels for the Pilot I and II participants and control group and comparing changes across these groups over time. Arrearage amounts were established by examining each customer's monthly past due debt.

Payment Effects Analysis

Payment effects analysis assessments include the average percent of the bill paid each month for the participant and control group over time, the average number of disconnect orders issued and filled for the participant and test group following program participation (pre-program data unavailable for Pilot I), the percent of customers in Pilot II and the control group that made a payment of any amount in each billing cycle, and the average number of days it took customers to pay their bill for the participant and control group for Pilot II.

Percent of bill paid was established by calculating the total payments made by the customer and the percent of bill the total payments covered for each customer for each month and calculating an overall average for each group across the pre- and post-program analysis months.

The frequency of disconnects was a simple averaging of the disconnect codes placed in the account record for the participant and control group over the pre- and post-program period for Pilot II participants (pre-program records for Pilot I participants did not contain this information).

We also analyzed the *number of days between a billing and a payment* for Pilot II participants before and after the program. The estimated number of days uses the bill issue date, (not the date the bill may have been received and/or opened) and the date that the first payment made in that month was recorded, in combination with the percent of the customers making a payment each month. Before analysis of the number of days between the billing and the customer payment, all payments or credits from sources other than the customer (NKCAC, corrections, etc.) were eliminated. As a result the number of days to make a payment toward a bill is based solely on the customer's payments.

Customer Interviews

TecMarket Works' staff conducted interviews with sixty customers who enrolled in the Payment Plus Pilot II Program. The program enrolled 103 participants in May and June of 2003, of which seventy-eight completed one or more program activities. Twenty-five of these individuals became program dropouts after they enrolled, having not participated in any aspect of the program. Of the 103 participants who were enrolled before the first workshop, thirty-three finished the program and received all their credits. The remaining forty-five participants were Partial Participants, and fit into one of three groups depending on what aspects of the program they completed. Please see Table 3 for a summary of the ending status of all 103 enrollees, and for the nomenclature that will be used in this report when references are made to these customers. This report provides information on the differences and similarities between non-participants and participants and comparisons across the different types of participants (full participants and partial participants).

Table 3 Summary of Participation Status of Pilot II Enrollees

	Dropouts	**Participants n = 78**			
		Full Participants	**Partial Participants n = 45**		
Definition:	Enrolled, but did not participate.	Attended both training sessions and received weatherization services	Attended energy training session only	Attended energy and financial management training sessions	Attended energy training session and received weatherization services
Enrollees	25	33	12	27[a]	6
Credits Provided	$0	$500	$200	$350	$350

[a] A small portion of this group may still be eligible to receive weatherization services.

There were two participant interview protocols used for this survey. Appendix D provides the Participant Survey, and Appendix E provides the Dropout Survey.

Section I: Pilot Program III Process Interview Results

This section of the report provides the results of the process evaluation. The results are presented for each of the primary researchable issues identified for investigation during the process evaluation planning efforts.

Outreach and Enrollment Process Needs Improvement

The program participation goal for Pilot III was set at 100 customers. This amount was considered to be a reasonable number that could be handled by the program contractors during the third round of the test program and also was considered a reasonable number of participants to support the evaluation. The program enrolled 90 customers who participated in Pilot III, allowing the program to reach 90% of their participation goal. These individuals were enrolled using two enrollment approaches. The first approach enrolled 37 customers who became participants as a result of a letter sent to customers offering the program. The letter was sent to 758 individuals, indicating that about 5% of eligible customers elected to participate as a result of the letter. This participation rate is lower than the rate for Pilot II in which 16% of customers receiving the enrollment letter elected to participate. In addition to the 37 who participated as a result of the letter, the program enrolled an additional 53 participants (the majority of participants) through the Crisis Program offered by the NKCAC.

During the NKCAC in-office interactions with customers enrolling into the Crisis Program, NKCAC managers explained the Pilot Program to the Crisis enrollees and asked if they were interested in joining. According to NKCAC managers all Crisis participants hearing about the program from the Crisis enrollment managers said that they would like to enroll in the Pilot Program. However, these customers may or may not have passed Cinergy's enrollment criteria for the Pilot Program. As a result, Cinergy needed to determine if these Crisis enrollees met the Pilot III enrollment criteria. To accomplish this test NKCAC presented Cinergy with the customer's name, address and account number of the potential enrollee. Cinergy then ran the screening tests. Cinergy examined the Crisis Program participant's account information to test for an account history of at least six months, which included winter consumption, and to see if they had an arrearage of at least $500 (some exceptions were made to increase participation, in which the arrearage threshold level was reduced down to $400). These criteria were set to enroll customers that could be studied to determine if the program produced the ended effects described in the program theory. If the customer passed both these tests Cinergy notified NKCAC that they could enroll the customer in the Pilot Program. Likewise, if they did not meet the criteria Cinergy notified NKCAC and NKCAC informed them that Cinergy had indicated that they were ineligible to participate in the Pilot Program.

During the evaluation process interviews NKCAC managers indicated that all Crisis Program eligible customers with high arrears should be allowed to enter the Pilot III program and suggested that the enrollment process needs to be modified to allow Crisis approved customers to directly enter the Pilot III program without the Cinergy screening. However, this is not recommended as long as the program is a pilot program. The

primary purpose of a pilot program is to test a program theory and identify if and how a program impacts the participants. In order to determine if the Pilot Program has an intended effect and should be considered for a full-scale program, the participants must have a history with Cinergy that can be examined. This means that all enrollees into the Pilot Program must have an account history of about 12 months and have a level of arrearage that is significant enough that a change in arrearage amounts caused by the program can be assessed over time. NKCAC deviated from this structured enrollment process when enrolling participants in Pilot I, significantly limiting the ability of the evaluation effort to determine if Pilot I had an effect on participants. NKCAC needs to understand that enrolling customers into the Pilot Program who do not have a satisfactory account history with Cinergy defeats the purpose of conducting the pilot program and disables the ability of the evaluation to detect program effects.

The above described enrollment events and results suggest that two key improvements are needed to this process, these are: a) the enrollment process needs to be improved to increase the enrollment rate of targeted customers, and b) the process for enrolling Crisis participants into the Pilot Program needs to be changed so that the process does not cause damage to Cinergy's customer relationships.

Changes to the Enrollment Outreach Effort

We recommend that the customer enrollment letter should not be relied upon as the primary method of motivating arreared customers to join the Program. A 5% to 16% enrollment rate for a program that provides up to $500 to each participant and improves the condition of the participant's home via weatherization is low and is capable of significant improvements. According to NKCAC managers the Pilot Program is well received when verbally presented to Crisis customers. This response rate indicates that the enrollment letter should be examined to see if it could be improved as an outreach tool. However, this response rate also indicates that the program may need to rely on supplemental outreach approaches to obtain participants from interested and eligible customers. Program design managers may want to test different methods of contacting eligible customers and verbally presenting the program or test other enrollment approaches, such as the use of colorful program brochures and promotional materials specifically designed for low-income customers. The nature of the low-income, high-arreared, payment-challenged customer is that they may not be in a position, or possess the skills needed to make financially wise decisions. In addition, there are a number of significant market barriers that stand in the way of program participation when an enrollment letter is delivered to a low-income customer as the primary marketing approach. These barriers include:

- Reaching a customer who is a decision maker and who will open the letter before discarding it,
- Lack of ability or desire to examine and read the letter,
- Lack of ability or desire to comprehend the general intent of the letter's offering,
- Discounting belief by the customer that the offer is not legitimate,
- A misunderstanding of the specific service(s) that is being offered, and the customers obligations within the offer,

- Difficulty in stimulating a desired reaction to the printed offering,
- A poor reputation of the service provider(s) in the eyes of the customer, and
- The inability to move from print material, to scheduling and conducting the activities that are needed to enroll and participate within the program's timeline.

Each of these barriers act to lower the success rate of an enrollment letter. For this reason Cinergy may want to consider supplementing the enrollment letter with an easily understood, multi-color pictorial and graphical brochure describing the program, followed with a telephone call from Cinergy or a trusted social service agency reinforcing the mailing and verbally describing the program offering. The brochure should present the program in pictures and short phrases and to a lesser degree use graphical presentations that can sometimes be confusing to low-income customers. The low-income market is often challenged by written material, but can respond well to pictorial presentations and short descriptive phrases if they are specifically designed for the low-income customer. The letter, brochure and telephone contact can be structured to follow a phone call to the customer which makes them aware of the program and asks them to watch for a letter and brochure that will be mailed to them. This will put the customer in the mode of expecting the mailing and peak their interest in the program before the enrollment package arrives at their door. Cinergy should also consider using testimonials in the outreach efforts so that potential enrollees can see the benefits that other previous participants have experienced.

Change the Crisis Program Enrollment Interface

The current enrollment process that presents the Pilot Program to all Crisis enrollees, including enrollees who are ineligible to the program, places Cinergy in a position of denying participation to ineligible Crisis enrollees when the program should not have been offered to them in the first place. NKCAC managers indicated that their Crisis participants were not happy that Cinergy would not allow them to participate while allowing others like themselves to participate. In the eyes of the Crisis participant who was not eligible for the Pilot Program, Cinergy became a service provider who had elected to not provide the Pilot Program's help just when they needed it the most. As a result, Cinergy became the "bad guy" in the eyes of the customer because of the way in which the Pilot Program was presented to the Crisis participant. This placed Cinergy in a position of developing the Pilot Program to help customers, but then being seen by some customers as a providing a service denial.

The program enrollment process should be structured so that Cinergy is not placed in the position of appearing to be an organization denying services to their low-income customers. This process can result in alienating Cinergy's low-income customers during the same period of time in which Cinergy is providing valuable services to these customers and is seeking to improve these relationships. The current process sends mixed messages into the low-income markets that Cinergy is helping them and at the same time harming them by denying services that are provided to others. While we think that the use of the Crisis program to reinforce the program outreach effort is a positive step in the enrollment process, the program should not be presented to the Crisis customer until after the customer is approved for Pilot participation. It makes little sense

to present a program service to a customer only to turn around and tell them that they are not eligible for the service that was just described. Cinergy should consider having NKCAC forward the customer account information for all Crisis enrollees to be screened by Cinergy for participation in the Pilot Program. Then after a customer has been approved for participation, NKCAC can contact the customer and offer the program as an added service, building on the enrollment into the Crisis Program. NKCAC would then not be put in the position of offering the program to an ineligible customer. However, one of the purposes of the screening criteria is to be able to assess the effects of the program. Once this objective is completed the use of the screening criteria should be reexamined.

Program Offers to Non-Crisis Customers

One of the goals of the process evaluation was to identify the approximate percent of non-crisis program clients to whom NKCAC offered the program but who did not elect to enroll. NKCAC reports that they only offered the program to Crisis clients who were entering or who were already in the Crisis Program. No participation offers were made to non-Crisis Program clients other than the original enrollment letter to the Cinergy-targeted customers.

NKCAC Wants to Rely on Face-to-Face Enrollments

Regardless of the success of the outreach efforts, NKCAC reports that they want to use face-to-face discussions with their clients to determine if a client should be enrolled in the Pilot Program. Program managers report that they are in the best position to determine when a client is in need of the Pilot Program as a result of the ability to discuss their specific needs during the face-to-face encounters. They report that direct enrollments into the program should be allowed in order to enroll customers who are in need of the program services. NKCAC managers report that people with $400 to $500 or less in arrearages can often help themselves out of the arrearage condition, but customers who have more than $500 in arrears need the help of the Pilot Program to dig out from under the enormous debt in which they find themselves. NKCAC suggests that the only program screening criteria should be the level of arrearage confronting the potential participant and that enrollments should be offered if the customer indicates a desire to obtain help via the Pilot Program. However, NKCAC also thinks that there are cases in which the customer has a lower arrearage than the threshold level, but still needs help, depending on their individual circumstances. NKCAC reports that they are in a position to decide if a customer should be enrolled in the program even if they are below that level. While we understand that there are customers who may have a $250 (or less) arrearage that is beyond their ability to pay without help, Cinergy, with the Collaborative Advisory Group, should determine if the program design structures need to be uniform and consistent so that the program's operational procedures set the threshold for participation, or decide if case-by-case assessments should be conducted, or both.

We agree with NKCAC's assessment for a single arrearage threshold level once the evaluation of the Pilot Program is complete and when these studies have successfully documented the degree of program effects. Once Cinergy, the Collaborative and the Commission are satisfied that the program has been successfully evaluated, the

enrollment criteria can focus more on the customer's arrearage levels than on the need for customer account history to feed the evaluation. In these cases if may be possible for NKCAC to enroll customers once the arrearage cutoff amount is confirmed and a system has been implemented to allow rapid customer in-office identification of those that meet the arrearage cutoff criteria. We question if NKCAC should be allowed to enroll customers without a minimal arrearage amount or have flexibility to enroll customers that have arrearage levels less than the threshold. We realize that this means that there will be some customers that need the help but will not be eligible due to having arrears below the threshold. We also realize that once the program becomes a full-scale effort some customers may "game the system" by increasing their arrearage until their enrollment application is approved. There will always be customers who will game the eligibility system in order to obtain the help they need or to obtain desired services. If the Pilot Program becomes a full-scale program, it may mean that savvy customers will learn that they can withhold payment until they are over the threshold and then apply for enrollment to get the help they seek. However, it may also mean an increase in disconnect notices as these customers increase their arrearage levels to gain program entry. If these customers are disconnected, they may find that they have gamed the system too far and became disconnected, thereby jeopardizing their eligibility by no longer being an active customer.

Reasons for Non Participation in the Pilot Program

We asked all interviewees why they thought high arreared customers who have trouble paying their bills would not want to participate in the Pilot Program. We received a number of responses to this question. These include:

1. The customer is not sure if the offer is real, unsure about the real purpose of the program, don't believe it,
2. Their personal image, they don't want to be seen as poor money managers or as a low-income person who can't make it on their own,
3. They feel that they may be able to handle their debt if they get more time,
4. They are not interested in a free service, handouts, and want to take care of their debt on their own,
5. There is no child care during the workshop,
6. They have no means of transportation to the workshops,
7. They have to work at the time of the workshops and can't take time off
8. Timing of the workshops does not fit their personal schedule,
9. They are handicapped, or have trouble getting around,
10. Renters know their landlord will not go along or cannot be reached,
11. They is confusion about what is actually being provided,
12. They feel they are going to be disconnected anyway, even if they participate (they were told participation would not stop a disconnect),
13. There is too much effort needed to participate, feel it is not worth the effort,
14. They are ambivalent, or may not know what to do when offered with a choice,
15. They are Apathetic, they are so far behind and have so little income they think they are beyond help,
16. They have not seen anything in the program that motivates them, they need to be motivated,

17. They may have account inconsistencies with regard to who is actually living in the home vs. the official name and contact information on the account, and
18. The arrearage is at a different address than where they live and they don't want to bring up this inconsistency.

Reasons for Dropping Out after Enrolling

We also asked interviewees to speculate on why customers would enroll in the program and then not take part in the program. We received many of the same answers to the questions on why customers do not participate when offered the program. The reasons provided by interviewees include the following:

1. The large incentive is provided first, then the incentive drops off so that participants get the main dollar benefit after the energy workshop, then get less incentives even though the budget workshop is longer. Restructure the incentives so that they get more as their participation increases, not less.
2. They thought that enrollment was required under LIHEAP and lost interest when they learned that participation was optional,
3. They had no child care during the workshop,
4. There was no convenient transportation to the workshops,
5. They could not take off work at the time of the workshops,
6. The timing of the workshops does not fit their personal schedule,
7. They are handicapped, or have trouble getting around,
8. Renters could not obtain landlord approval,
9. They were told that participation would not stop their disconnection, and
10. Reconsidered after seeing what they had to do.

Reasons for Non Participation in Weatherization

We also asked interviewees about the reasons participants might have for not wanting the weatherization service provided with the Pilot Program. We received only a few answers to this question, however one interviewee indicated that all participants in Pilot III that were eligible for weatherization did receive or were receiving this service, indicating that participants who are eligible for weatherization and meet the documentation requirements will receive weatherization services. Reasons for not getting weatherization services that were provided by interviewees include:

1. Landlords do not want anyone seeing the condition of the home because of code or housing violations, unsafe or non-working equipment or structures, etc,
2. They do not want strangers in their homes, they are wary of trusting strangers,
3. They do not want people to see how they live or the condition of their home,
4. They want a more complete or higher-quality weatherization service than what the program provides,
5. They are not sure about what kind of weatherization they will actually get, may not be worth it, would be better to wait and get on the state weatherization list that has more completed service,
6. The weatherization component of the program was not presented or promoted well during the workshops,

7. They are not interested in free service or handouts, want to do it on their own,
8. They are not sure about effects and benefits, think it may not be worth it.

Low Weatherization Participation Solved but Screening Process Needs Revisions

Previous evaluations have indicated that there is a need to increase the number of participants who have their homes weatherized. Interviewees report that this is no longer an issue and that improved workshop presentations of the weatherization component coupled with collection of the weatherization application during the workshops has increased the percent of customers having their homes weatherized. Interviewees indicate that when, a) the Energy Workshop presents the weatherization component in a favorable light[1], b) the applications are distributed and collected during the workshop, and c) participants are helped with their weatherization applications, the program achieves high homeowner completion rates for the weatherization component. Interviewees noted that all eligible participants who own their own home and have provided needed documentation have had their homes weatherized. Program managers report that in Pilot III there were 30 individuals (out of 90) who did not have their homes weatherized. Of these 30 individuals, 16 were renters who were unable to obtain their landlord's permission for the service, 10 did not or could not provide proof of home ownership, and 4 have not provided proof of income for program eligibility. It appears that when the weatherization service is presented at the energy efficiency workshop by PWC and when on-site help is provided to assist participants through the application process, most participants have their homes weatherized unless they are unable to obtain landlord's permission or do not provide the required paper work. Repeated contacts of the 30 individuals who have not received weatherization have not been successful at moving these customers into the process. It appears that homeowners who want to have their homes weatherized and who are income qualified are receiving those services. However, renters are underserved by the program's weatherization component as a result of the need to acquire the permission of the homeowner before weatherization work can be provided (a wise requirement). However, we are uncertain if there needs to be two rounds of eligibility screening for program participation; one for enrollment in the program, and a second eligibility for receipt of weatherization services. We question why financial eligibility documents are required for the weatherization service when the participants have already been screened for eligibility during the enrollment process and advised of the three components of the program that are available to them. If a program participant meets Cinergy's participation eligibility requirements and are advised that they are eligible during the outreach and enrollment process, additional documentation should not be needed for participation in the individual components of the program. According to program managers, income documentation is required in order for the weatherization service to be provided. However, income eligibility is also required for program targeting and enrollment. It appears the enrollment process does not confirm financial eligibility that is acceptable for the weatherization service. We would suggest that program participation be provided to income eligible customers and that the program enrollment screening process also be used to certify eligibility for weatherization so that

[1] This interviewee indicated that the weatherization component of the program may not be presented in a favorable way or is presented as an inferior product compared to other weatherization services.

the program needs only one screening process that is acceptable for workshop participation and for weatherization service. Once a customer is screened for program participation that screening should cover all three service components.

Slow Weatherization Service Improved

In previous evaluations we have indicated that participants expect weatherization services to be provided shortly after the participant has earned the service. The evaluation noted that delays in receipt of the weatherization service were a cause for dissatisfaction with the program. During Pilot III, the weatherization services were provided in a timelier manner than in previous pilots. One of the primary reasons for this improvement is that the weatherization enrollment and application process is included in the energy education workshop so that participants complete and turn in the weatherization application forms during the first workshop. When the applications are collected and provided to PWC during the weatherization workshop the energy audit is scheduled within a few days of the workshop. The energy audit is completed within about one week from the scheduling of the audit, and the weatherization services are initiated within one to two weeks after the audit. If the weatherization service does not include shell insulation or the installation of a new furnace, the weatherization measures are completed within a few days of audit. If the weatherization includes shell insulation or a new furnace the weatherization can take up to three weeks to complete depending on the time of year and the work load of the subcontractors providing these two services. If there is an emergency condition in which the customer has no heat, the furnace instillation or repair can be expedited to provide heating.

However, there remains some communication and coordination problems between NKCAC and PWC that influence the weatherization service. When PWC does not present the weatherization service during the energy education workshop and help move the application process along, there can be unnecessary delays in NKCAC collecting and forwarding the completed applications to PWC for processing. According to PWC, it took over two weeks for NKCAC to provide PWC with the collected applications when PWC could not attend one of the energy education sessions because of late notice of the workshop schedule. This problem is a recurring problem for this program and needs attention by program managers.

Communication and Coordination Issues Remain Between NKCAC and PWC

There continues to be a strained relationship between NKCAC and PWC that impacts these two organization's ability to work cooperatively in a way that collectively benefits the program and Cinergy's customers. NKCAC remains uncomplimentary of PWC and their program services and openly expresses a desire to not work, communicate, or coordinate with PWC. PWC management does not share that opinion and reports unsuccessful attempts to work cooperatively with NKCAC. It is our opinion that this issue is embedded in the management of NKCAC and that progress toward improving relationships between these organizations will be unsuccessful until there is a significant change in the management structure or function of NKCAC or in their approach in dealing with PWC. NKCAC management reports that they do not want to be responsible for coordinating or communicating program services with PWC and report that these

responsibilities should rest with Cinergy rather than the program administrator. NKCAC suggests that coordination with PWC about when workshops are to be scheduled or when interaction with participants needs to be conducted to support the weatherization component, that communication should go from NKCAC to Cinergy to PWC rather that directly from NKCAC to PWC. This suggestion would essentially add a layer of management communications that harms the program's efficiency. Yet it appears to be needed because of the position of NKCAC regarding program coordination and the strained working relationship between the two contracted agencies. It appears that NKCAC would prefer to add a layer of communication through Cinergy rather than cooperatively work with PWC to improve communication and provide coordinated program services. The Pilot III implementation efforts were handicapped in a way similar to those that occurred during Pilot II, where NKCAC scheduled program workshops with participants without informing Cinergy or PWC until a few days before the events, even though NKCAC indicated that they planned the workshops with participants two to three weeks in advance. PWC reports that when they were informed of the workshops they were given "only a couple of days" to change their schedule and attend the workshops. Of those workshops that PWC could not attend because of a scheduling conflict, PWC reported that it took NKCAC about two weeks to forward the completed applications creating an unnecessary delay in the delivery of Cinergy's program services. NKCAC reported that they scheduled the workshops with participants "two to three weeks in advance" to allow the participants time to schedule attendance, arrange transportation, schedule child care and other things. This indicates that while NKCAC coordinated and communicated with the program participants, that same information was not being transmitted to Cinergy or PWC for coordination and scheduling. NKCAC's response to questions pertaining to these communication and coordination problems (see Attachment A) was that Cinergy should put in their contract what it is they want NKCAC to do, so that these items do not change from day to day, and so that NKCAC understands what Cinergy wants from them.

Increase Renter's Ability to Obtain Landlord's Approval

PWC managers indicated that the program should consider helping renters obtain landlord permission for weatherization services by attempting to contact the landlord when the participant extends contact permission. However, there is some degree of uncertainty about the success the program staff will have contacting the landlord if the participant is unsuccessful at these attempts. Cinergy may want to experiment with one or two rounds of attempts to help gain landlord approval to test if the program can improve the weatherization participation rate from renters.

Cinergy Still Not Seen as Program Sponsor

During the interviews we informed the interviewees that Cinergy was still not being recognized as the sponsor of the program when we surveyed Pilot II participants and asked them who sponsored the program. This was the same conclusion as a finding reported in the Pilot I evaluation. In response to the Pilot I evaluation finding the program presented Cinergy as the program sponsor in the outreach mailing, during the enrollment interaction and during both program workshops. As a result of these changes more participants reported Cinergy as the program sponsor, but still a majority of

participants reported others as the program sponsor (NKCAC, PWC, State of Kentucky) and did not report that Cinergy was the sponsor of the program. As a result we asked program managers what should be done to improve Cinergy's recognition as the program sponsor. We received only four responses to this question. These include:

1. *"Cinergy would have to actually deliver at least part of the program services so that the participant could see Cinergy providing the service. It is hard to credit Cinergy as the program sponsor because the main program services are provided by NKCAC and PWC even though we told them over and over that Cinergy was the program sponsor and that the program services were provided at the request of Cinergy. The words do not overcome what they see."*

2. *"We would need to have Cinergy be present at the two workshops and present a part of the workshop. If we have them do the introduction and present some of the components or introduce the components that would help. They would have to take a more active role in the delivery to be seen as a sponsor or provider of the program service."* Note: Cinergy now takes an active part in the workshops providing an introduction to the program and addressing key program components and operational issues with attendees.)

3. *"We told them in the letter for enrollment, in posters about the program, in the materials we present and in our workshop discussions. We really stressed this point. I think if that does not work then Cinergy would have to present about one-half of the class materials and have Cinergy introduce the classes and discuss why Cinergy is providing the program. Right now Cinergy is behind the scene and not out front. The organization out front is going to be seen as the sponsor and provider. We would need to have more Cinergy 'show –and –tell' type things, have them give out CFLs and talk about them. But you need to understand these customers have had a lot of unsuccessful attempts in trying to work with Cinergy on their bill."*

4. *"Cinergy would have to use Cinergy letterhead on all contacts, provide more reinforcement up front and at workshops, and partner with NKCAC and PWC in some of the delivery aspects."*

We agree with these statements. The program now tells all participants that Cinergy is the program sponsor and is the key organization responsible for providing the program. If this does not convey the message, then Cinergy would need to provide a significant part of the delivered components including the workshop presentations. This issue may be a significant issue for the program's success. If most participants believe that NKCAC or PWC or another organization is sponsoring or providing the program, we question if the level of appreciation for the help provided will be directed at Cinergy via improved bill paying performance or reduced arrears. The design of the program is grounded in the belief that energy and financial management education will have an effect on arrearage levels and potentially payment patterns. And that by providing these skills participants will begin to take control over their energy use and will be able to

manage their financial affairs a bit better than they have in the past. However, we wonder if the benefits of the education might be enhanced if participants saw the program as a Cinergy service and specifically credited Cinergy for the help they are receiving.

Distributed or Centrally Located Workshops

We asked interviewees about their opinions regarding the benefits and determents between distributed workshops in which the workshops are provided locally within the communities where the participants live versus central workshops provided in one location in which clients must travel to attend. Responses were mixed in that interviewees do not think this is a question that has a standard or best answer, but depends on the locations of participants. In general interviewees indicated that workshops need to be located so that they are convenient to the participant. But managers also noted that the program should not provide a workshop in every community in which one or two people enroll. One manager indicated that they would like to have at least 5 participants in each workshop in order for the workshop to be cost effective. Another manager indicated that in order for the workshop to acquire the interactive effects of the participants that make the workshop interesting for all there must be more than one or two attendees. One manager indicated that the program can do as many workshops, at as many locations that are incorporated into the contract and the contract's supporting budget. It was also noted in these discussions that one-on-one training can be very effective, indicating that, from an educational perspective, training sessions with only one or two participants can work well and can be structured into the delivery process if the program is funded to do so.

One key manager indicated that the program needs to match participation with the ability of the participant to easily attend the workshop, and then budget the workshops so that they can be designed to match the distribution and needs of the participants. Interviewees noted that this is not something that can be structured up front before participants are enrolled, but instead must be structured and budgeted after the enrollments are confirmed and the participants are mapped to identify the best locations for workshops.

The comments we received from this set of questions indicate that managers are fully aware that travel to workshops has a negative effect on enrollment, participation and the dropout rate. As the program moves forward, careful attention to the workshop locations will need to be coordinated as the geographic enrollment pattern is established. Workshop locations will need to be planned to consider costs, ability to effectively educate, and the need to reduce participation barriers as much as possible. Managers agree that education can be effective regardless of the class size.

Complaints Received From Participants

Interviewees were asked if they had received complaints from participants during the Pilot III program and if so, how they were handled.

Managers reported that they had very few complaints from participants during the third pilot program, and that these complaints were minor. However, managers did note that complaints associated with past Pilot Programs were significantly reduced during the

Pilot III program. The issues discussed by interviewed managers and the complaints expressed on behalf of participants are discussed below.

1. One manager indicated that they have in the past received several complaints from participants regarding the speed at which credits were applied to participant's accounts. This manager reported that they did not receive these complaints in Pilot III. However another manager indicated that they received one complaint of a late posting. However, none of the managers identified this as an issue that needs significant attention and most managers noted the improvements that have been made over the last two pilot programs. This issue seems to have been resolved by faster application of credits to the customer's accounts. One manager indicated that they now forward a notice to Cinergy to credit an account for weatherization services within a day after the service is provided, rather than waiting until the end of the billing cycle to report the need to apply credit, as was the practice in the previous pilot. Cinergy managers indicated that they have established a credit application system with the Company's IT staff that posts credits soon after they are earned. However, the Cinergy manager expressed a need to continue to monitor the speed at which the credits are applied to assure that these application improvements are maintained.

2. One manager reported receiving a complaint about a weatherization job taking too much time to complete. However, managers noted that the speed of this service was faster in Pilot III than in previous pilots because of the expedited scheduling process in which audits and weatherization services were scheduled shortly after the energy workshop as a result of improved coordination between the workshops and the weatherization service.

3. Two managers reported that as a result of improved coordination between NKCAC and PWC at the energy workshops and placing a stronger focus on the speed of weatherization services, the timeliness of weatherization services were improved. However one manager reported that there was one set of workshop participants that received slower weatherization service as a result of delays in obtaining weatherization applications during a workshop in which the PWC managers could not attend due to scheduling issues caused by late notice of the timing of the workshop. PWC reports that this group of participants took longer to service because of the workshop scheduling issues.

4. One manager reported that there was some dissatisfaction with the dropping of the CFLs that were previously distributed to the attendees of the energy education workshop. This manager noted that the lack of "freebies" was noticed and suggested these should be added in future workshops as they also improve the ability of the workshop to convey energy saving ideas, (Note: discussions with Cinergy staff indicate that the dropping of giveaway CFLs was a NKCAC decision, and that the program administrator was offered CFLs, as in the past, but the administrator did not request or collect them for the PP-III workshops.)

8. Piggyback the Pilot Program on other social services so that it can be integrated into a wider range of low-income services and coordinated with other social service agencies. (Note: A provision suggesting that leveraged services be provided was and is already incorporated into the NKCAC implementation contract. During the process evaluation TecMarket Works found no restriction prohibiting NKCAC or PWC from providing services that could be leveraged with the Pilot Program.)

We also asked what changes would need to be made to the program operating structure to offer the program in a wider service area should the program be continued or expanded. Managers at NKCAC indicated that the program can be offered in any of the counties that they serve under the current configuration. However, they would need to locate facilities for the workshops that provide the right environment. This manager noted that the workshops have to be in rooms designed for training and are set up to be free from interruptions or distractions. He noted that this is difficult and must be carefully considered. He also indicated that the program design, budget, and contract would need to be formed with this purpose in mind. Cinergy managers indicated that they need to take a look at the potential within the Kentucky counties they serve and plan the program at the county level. This manager noted that it is easier to provide a local program and service providers are reluctant to move into counties beyond their primary markets. However this manager also indicated that the program can be designed to operate in a wider area and that services providers can be found that will support a wider program offering.

Tracking System Adequate for Current Program Structure

Managers indicated that the new spreadsheets established for Pilot III by Cinergy work well for keeping track of program participants and for the administration of the program. However, one manager noted that if the program was to move into a full-scale program with additional funds and higher participation goals the program should consider moving to a database design that serves the different stakeholders and can be used to feed information into other databases at the organizational level.

Overall Benefits to the Participants

Interviewed managers were asked to describe what the primary program benefits are to participants. We received a number of responses to this question, including:

- **Knowledge**: Participants gained a great deal of knowledge that will help them manage their bills, control their energy and improve their lives. They learn to save energy, to reduce their bills, to finance and budget their lives.

- **Account Management Foundation**: The budgeting training provides participants with the skills they need to know to manage their financial situation.

- **Arrearage Assistance**: The program provided a helping hand to give them a bit of a start down the road of improved financial management. It is not everything and will take some time, but it is a start.

- **Corporate Caring**: The utility is showing customers it cares about them and is willing to help these customers. Satisfaction that Cinergy is more than just a company.

- **Lifestyle Changes**: If the program is successful it will change lifestyles and behaviors that have kept these customers down. It may not change a lot, but it is a start, and provides skills that can change lives.

What Ratepayers Are Receiving

Managers were also asked what benefits ratepayers receive from programs like the Pilot Program. These responses are presented below:

- **Satisfaction**: Ratepayers can be satisfied that their utility and our society is providing help to these customers. We are all doing something to help by covering the program costs in the price of energy.

- **Lower Bad Debt**: If the program lowers debt levels then it helps all customers by controlling utility costs that must recover debt in the rates.

- **Not Another Welfare Program**: If the program helps these customers help themselves then it is not just another welfare program, but provides lasting value and improves lives.

- **Social Responsibility**: The program is a method of filling a social responsibility that people have to improve lives. In this case, the help is related to the energy needs of the low-income customer.

What the Program Needs to Accomplish to be Called a Success

Interviewees were also asked what the program needed to accomplish to be called a success. The following responses were provided that indicated managers consider there to be to key areas of accomplishments. These are direct program impacts in both the level of energy consumption, but also in account performance. However, managers also reported that the program needs to accomplish social, behavioral or lifestyle changes to be called a success. However, managers could only speculate on the success of these issues. While managers reported that they think the education and weatherization services help, they are unsure of the degree of help or the actual results of the help provided by the program. The responses provided to this question are provided below:

1. Provide documented energy savings.
2. Provide documented debt reduction.

3. Have at least a part of participants move out of debt or lower their debt.
4. Help participants manage their money so that they have a higher quality of life.
5. Help participants use less energy and be able to spend that money on other things they need.
6. Lower participant arrearage levels to some degree.
7. Teach things participants can use to improve their lives.

One manager reported that he would like to see program performance metrics in a number of key classifications. This manager reported that they would like to see…

1. A proportion of the participants go home and do something to help save energy,
2. A proportion go home and do something to change their financial management approach,
3. A proportion lower their utility bills over the longer-term,
4. A proportion is able to lower their bills over the short-term, and
5. A proportion is able to lower their utility debt.

Section II: Energy Use Analysis and Findings

One of the goals of the Payment Plus Program is for the participants to learn ways to be more energy efficient. In this analysis, we examined and compared energy usage of Pilot Program I and II participants, and a control group of non-participants, over the years before and after the program.

Energy Use Evaluation - Pilots I and II

Sample Size

Many of the customers in both the participant and the control group did not have a history of account information prior to program enrollment, or they had moved shortly after the program, making their consumption data unavailable or not relevant for the analysis. As a result, many accounts from both groups had to be eliminated from this study. The Pilot I results presented in this section are based on seven (therm analysis) or eight (kWh analysis) participants that were previous customers long enough to have an account history and who stayed with Cinergy long enough to look at trends in usage after the program. The Pilot II results are based on thirty-one weatherized participants and eighteen non-weatherized participants (49 total). The control group consists of 177 low-income customers with payment histories that are similar to the participants. This group is also used for both Pilot I and II PRISM™ analysis.

Despite the size of the groups, the sample's precision levels are sufficient enough to draw conclusions.

Statistical Precision

All of the analytical runs done in PRISM™ provide a R^2 and CV(NAC) value that indicates the strength of the results provided. These values are provided in the table below. The higher the R^2 value (maximum value is 1.000), and the lower the CV value, the better the data. For more information on PRISM™ and these statistics, please see the section on methodology.

Table 4 R^2 and CV (NAC) Associated with PRISM™ Energy Usage Analysis

Group	Statistic	Control	Participants
Pilot I kWh Analysis – Weatherized (n=8)			
	R^2 – PRE	.748 (+/- .032)	.532 (+/- .216)
	R^2 – POST	.689 (+/- .037)	.685 (+/- .063)
	CV (NAC) % – PRE	5.9 (+/- .4)	6.6 (+/- 1.7)
	CV (NAC) % – POST	6.1 (+/- .5)	4.4 (+/- 5.1)
Pilot I Therm Analysis – Weatherized (n=7)			
	R^2 – PRE	.987 (+/- .002)	.967 (+/- .060)
	R^2 – POST	.981 (+/- .004)	.950 (+/- .068)
	CV (NAC) % – PRE	3.2 (+/- .3)	3.9 (+/- 2.6)
	CV (NAC) % – POST	4.0 (+/- .4)	6.1 (+/- 3.5)
Pilot II kWh Analysis – Weatherized (n=17)			
	R^2 – PRE	.748 (+/- .032)	.802 (+/- .068)
	R^2 – POST	.689 (+/- .037)	.631 (+/- .140)
	CV (NAC) % – PRE	5.9 (+/- .4)	5.6 (+/- 1.1)
	CV (NAC) % – POST	6.1 (+/- .5)	13.2 (+/- 3.5)
Pilot II Therm Analysis – Weatherized (n=18)			
	R^2 – PRE	.987 (+/- .002)	.991 (+/- .010)
	R^2 – POST	.981 (+/- .004)	.988 (+/- .009)
	CV (NAC) % – PRE	3.2 (+/- .3)	3.6 (+/- 1.5)
	CV (NAC) % – POST	4.0 (+/- .4)	8.2 (+/- 1.5)
Pilot II kWh Analysis – Not Weatherized (n=30)			
	R^2 – PRE	.748 (+/- .032)	.862 (+/- .034)
	R^2 – POST	.689 (+/- .037)	.696 (+/- .076)
	CV (NAC) % – PRE	5.9 (+/- .4)	5.7 (+/- .5)
	CV (NAC) % – POST	6.1 (+/- .5)	6.7 (+/- 1.3)
Pilot II Therm Analysis – Not Weatherized (n=24)			
	R^2 – PRE	.987 (+/- .002)	.993 (+/- .003)
	R^2 – POST	.981 (+/- .004)	.986 (+/- .005)
	CV (NAC) % – PRE	3.2 (+/- .3)	3.0 (+/- .4)
	CV (NAC) % – POST	4.0 (+/- .4)	4.3 (+/- 1.0)
Pilot I and II kWh Analysis – Weatherized (n=25)			
	R^2 – PRE	.748 (+/- .032)	.721 (+/- .067)
	R^2 – POST	.689 (+/- .037)	.671 (+/- .106)
	CV (NAC) % – PRE	5.9 (+/- .4)	5.9 (+/- .9)
	CV (NAC) % – POST	6.1 (+/- .5)	8.6 (+/- 2.9)
Pilot I and II kWh Analysis – Not Weatherized (n=30)			
	R^2 – PRE	.748 (+/- .032)	.862 (+/- .034)
	R^2 – POST	.689 (+/- .037)	.696 (+/- .076)
	CV (NAC) % – PRE	5.9 (+/- .4)	5.7 (+/- .5)
	CV (NAC) % – POST	6.1 (+/- .5)	6.7 (+/- 1.3)

Group	Statistic	Control	Participants
Pilot I and II Therm Analysis – Weatherized (n=25)			
	R^2 – PRE	.987 (+/- .002)	.983 (+/- .016)
	R^2 – POST	.981 (+/- .004)	.987 (+/- .012)
	CV (NAC) % – PRE	3.23 (+/- .3)	3.8 (+/- 1.2)
	CV (NAC) % – POST	4.0 (+/- .4)	8.0 (+/- 1.3)
Pilot I and II Therm Analysis – Not Weatherized (n=25)			
	R^2 – PRE	.987 (+/- .002)	.983 (+/- .016)
	R^2 – POST	.981 (+/- .004)	.987 (+/- .012)
	CV (NAC) % – PRE	3.2 (+/- .3)	3.8 (+/- 1.2)
	CV (NAC) % – POST	4.0 (+/- .4)	8.0 (+/- 1.3)

Changes in Electricity Consumption Between Participants and Control Group

Pilots I and II were successful at assisting customers with reducing their electrical consumption. Figure 1 shows the three groups analyzed in PRISM™ and their electrical savings per year (There was not enough data to assess the fourth group of participants consisting of Pilot I participants who were not weatherized).

Pilot II participants who were not weatherized reduced their consumption by 1,375 kWhs per year, while the control group increased their consumption by 571 kWhs per year, yielding an impressive control-adjusted savings of 1,946 kWhs/year for the Pilot II participants that were not weatherized.

Weatherization in this case doesn't have the intended gross effect on electric consumption for the Pilot II participants. These participants increased their consumption by an average of 169 kWhs per year. However, the control group also increased their consumption, but at a much larger rate, indicating that the program participants increased their consumption significantly less than the control group. Because the control group increased their consumption by 571 kWh, the Pilot II weatherized participants obtained a net annual energy savings of 402 kWhs per year. That is, both weatherized and non-weatherized Pilot II participants saved energy on their electric accounts.

Note: the following graphics present the energy savings impacts in kWh and natural gas for Pilot Program I and II separately. Following this presentation we present the energy impacts of both groups combined. This allows the reader to see the impacts of the individual pilot programs as well as the combined results across both Pilots I and II. Pilot III participants did not have enough billing history following program participation to include in this assessment. Pilot III participants will be included in the analysis during the summer of 2005.

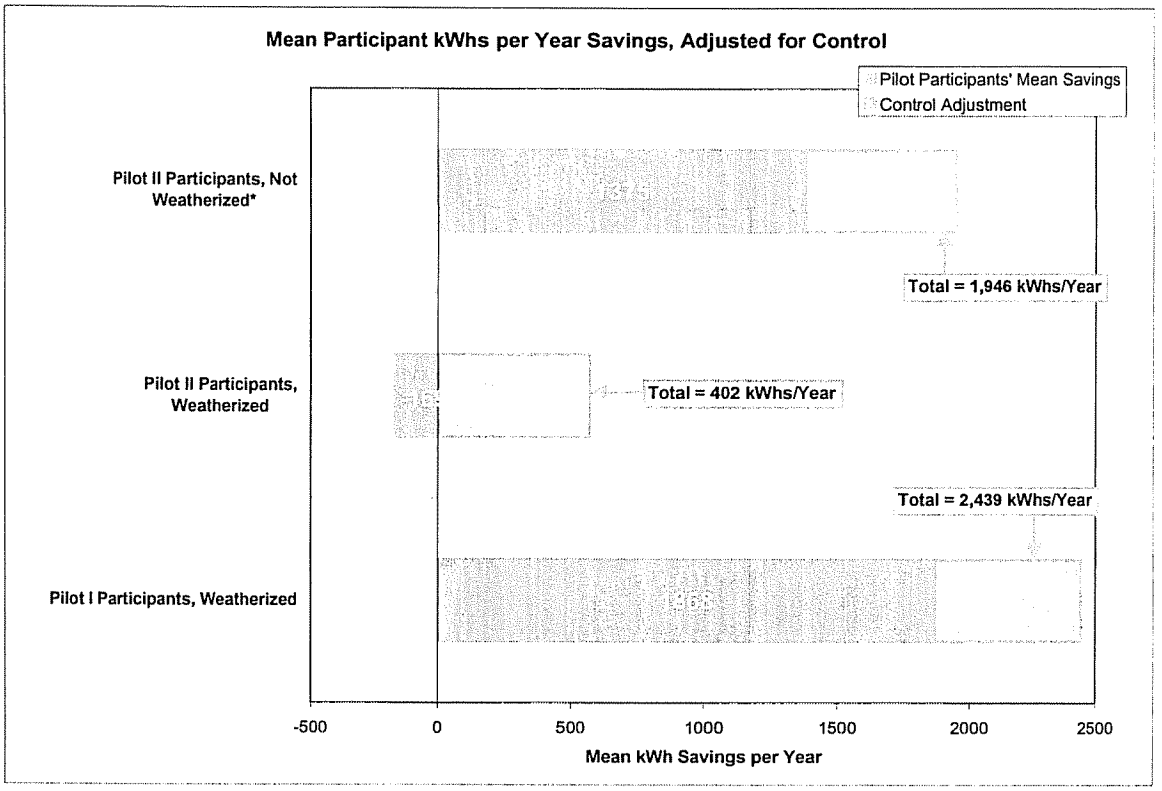

Figure 1 Mean kWh Savings of Pilots I & II Participants, Adjusted for Control Group Changes

However, the greatest savings were achieved by Pilot I participants who were weatherized. These customers had the greatest mean annual kWh savings, with an adjusted net result of 2,439 kWhs saved per year.

PRISM™ also calculates the net percent change in electrical consumption, which is presented in Figure 2. The control group increased their electrical consumption by 8.1%, while Pilot participants, on average, decreased their consumption. Weatherized Pilot I participants had the greatest decrease in consumption with an average 19.5% control-adjusted net reduction. Pilot II participants have also achieved impressive net energy-related behavioral changes by decreasing their consumption by 13.1% without weatherization, and by 12.4% if their homes were weatherized.

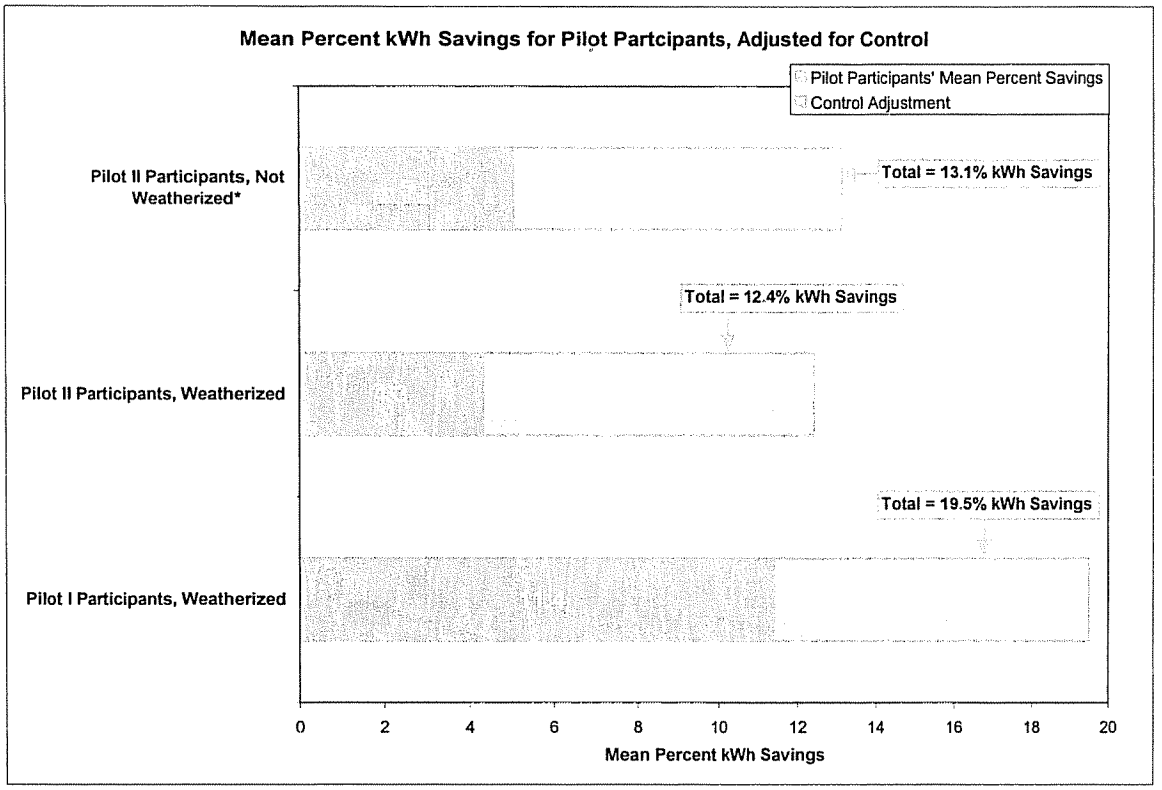

Figure 2 Mean Percent kWh Savings of Pilots I & II Participants, Adjusted for Control Group Changes

Figure 1 and Figure 2 examined the mean net program savings. However, an examination of the median savings is also informative. The median kWh savings provides an alternate perspective on the energy savings associated with participation in the Pilot programs. Pilot II participants who were not weatherized had a net median savings of 1,690 kWhs/year, compared to a mean savings of 1,946 kWhs/year (see Figure 1), indicating that there is a number of participants who experienced very high savings in electrical consumption that acted to push the mean savings upward for the group as a whole. Pilot II participants who were weatherized have a similar result, with a median savings of 2,398 kWhs/year compared to a mean increase of 169 kWhs/year, indicating that over half of them decreased their consumption by about 2,000 kWh/year or more, while some of them greatly increased their usage, bringing the mean to an average increase across the entire group. This indicates that the program was very effective at reducing gross savings for the weatherized participants, but a couple of participants increased their consumption so much to drive the savings for the group as a whole down by a considerable amount (2400 kWh savings to a 169 kWh increase).

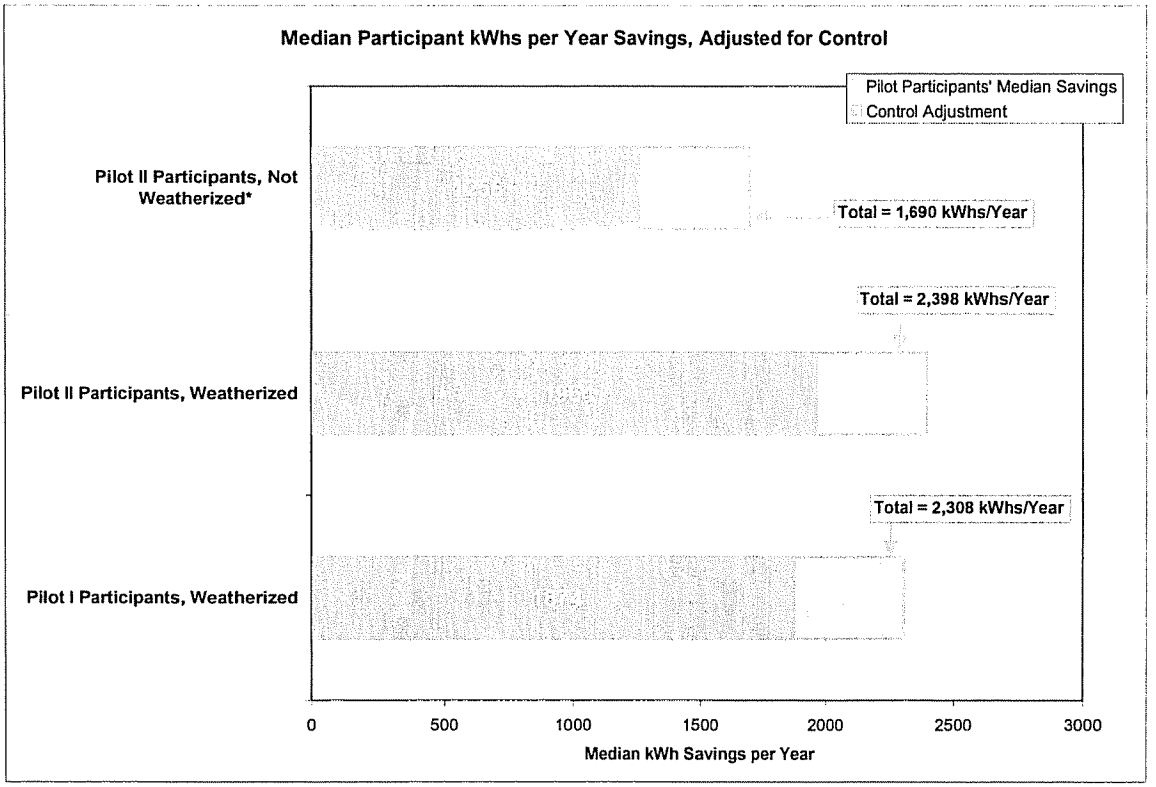

Figure 3 Median kWh Savings of Pilots I & II Participants, Adjusted for Control Group Changes

Figure 4 shows the median percent change in consumption. All participant groups analyzed decreased their electrical use by a median value of 9% to 14.5%.

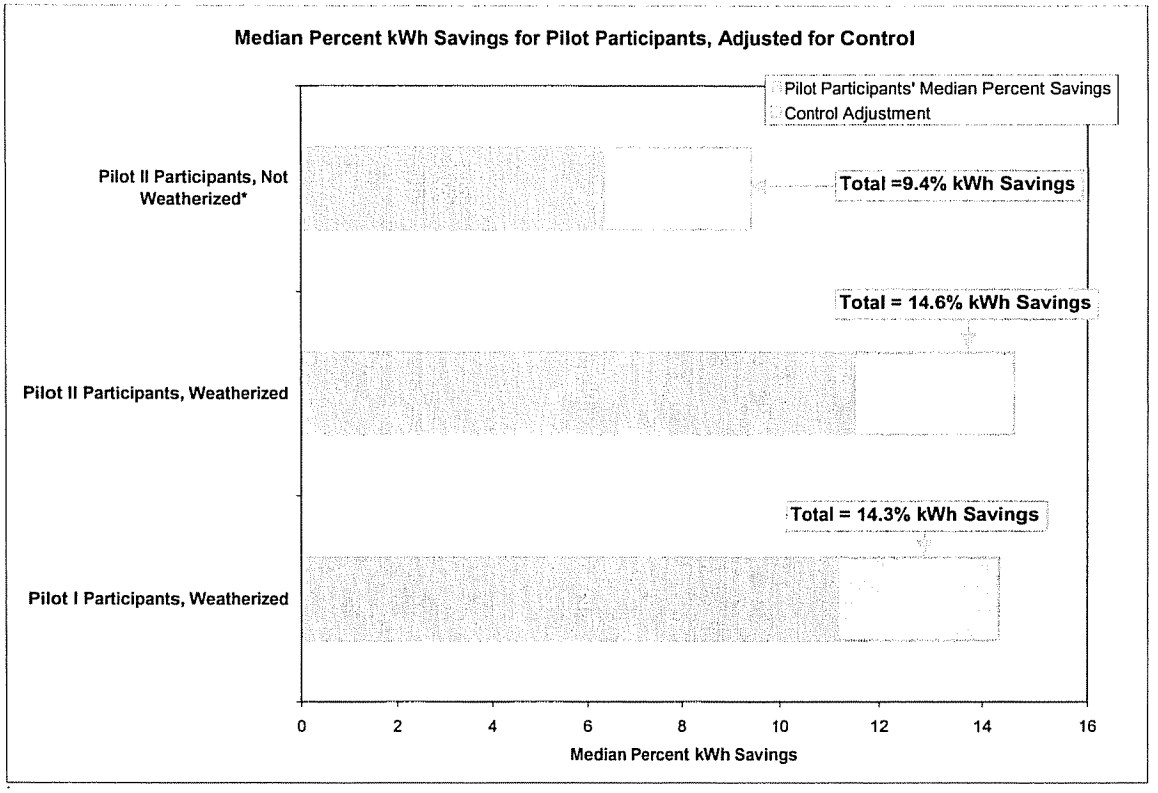

Figure 4 Median Percent kWh Savings of Pilots I & II Participants, Adjusted for Control Group Changes

Changes in Natural Gas Consumption Between Participants and Control Group

Participants also decreased the amount of natural gas they consumed after participating in the program. The control group used in this analysis is the same group that was used in the electrical analysis, however, in the therm consumption analysis, the control group slightly decreased their consumption, by 15 therms/year.

Figure 5 shows that weatherized participants have a great advantage when it comes to reducing natural gas consumption. Weatherized Pilot I participants reduced their consumption by 291 therms per year, while Pilot II participants reduced their consumption by 231 therms per year. Those participants that were not weatherized were only able to save an average of 40 control-adjusted therms/year, indicating that weatherization saves about 221 therms more than non-weatherized participants [(291-40) + (231-40)/2 =221)].

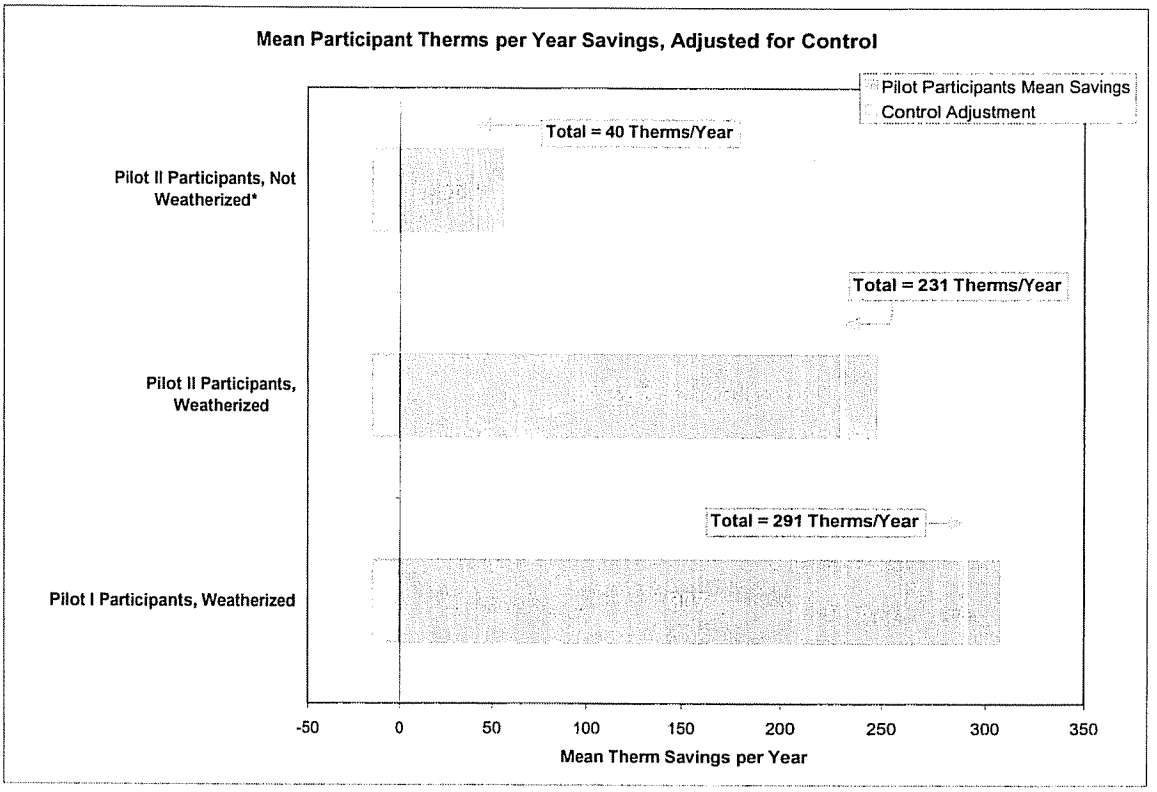

Figure 5 Mean Therm Savings for Pilots I & II Participants, Adjusted for Control Group Changes

The average percent change in therm consumption shows a similar result, as seen in Figure 6 below. The Participants who were not weatherized were able to decrease their consumption somewhat, by 6.7%, while weatherization allowed the participants to decrease their consumption by 18.2 to 23.1%.

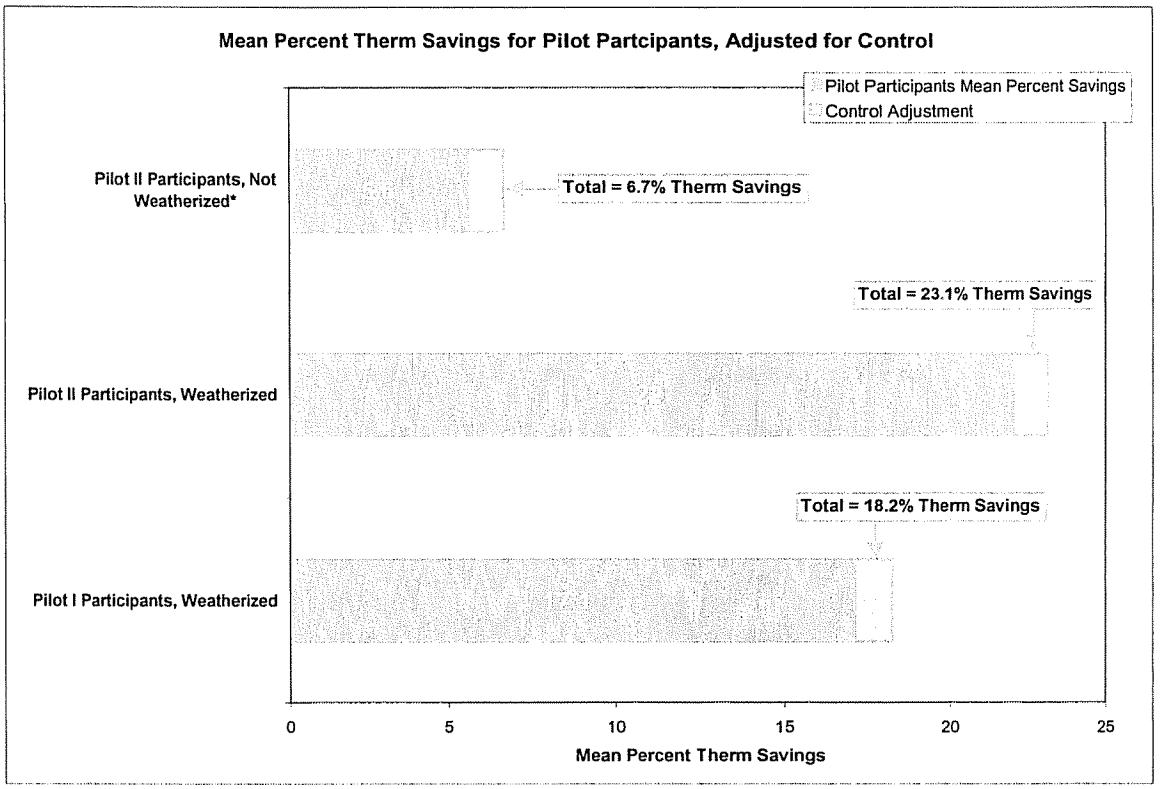

Figure 6 Mean Percent Therm Savings for Pilot I & II Participants, Adjusted for Control Group Changes

Median savings again aid the understanding of the results. In Figure 7, Pilot I Participants, despite being weatherized, did not reduce their consumption as much as Pilot II participants were able to. The mean savings is high for this group at 18.2% reduction that is equal to a 291 therms/year, but the median savings is 69 therms/year, indicating that there is substantial sub-group that has experienced a high level of reduction in therm consumption.

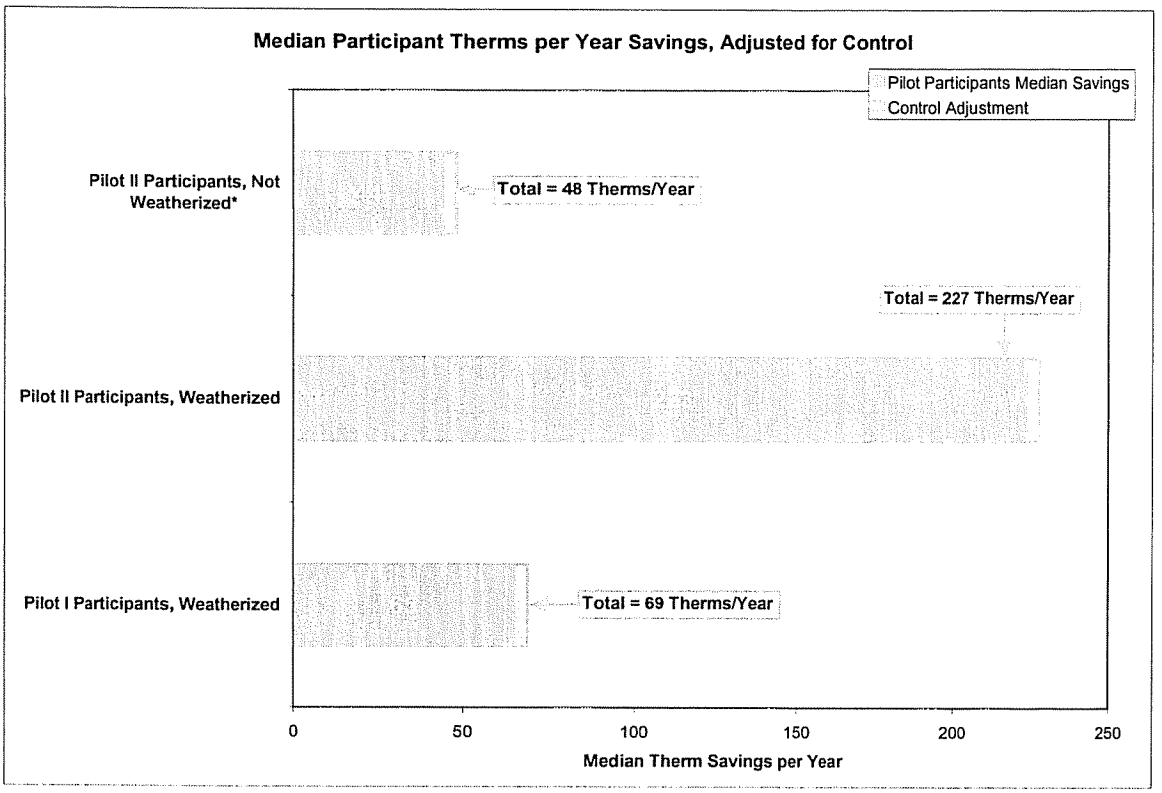

Figure 7 Median Therm Savings of Pilot I & II Participants, Adjusted for Control Group Changes

Figure 8 shows the median percent savings, which also indicates that the Pilot II participants that were weatherized have the greatest amount of savings, with a median 24.1% reduction in therm consumption.

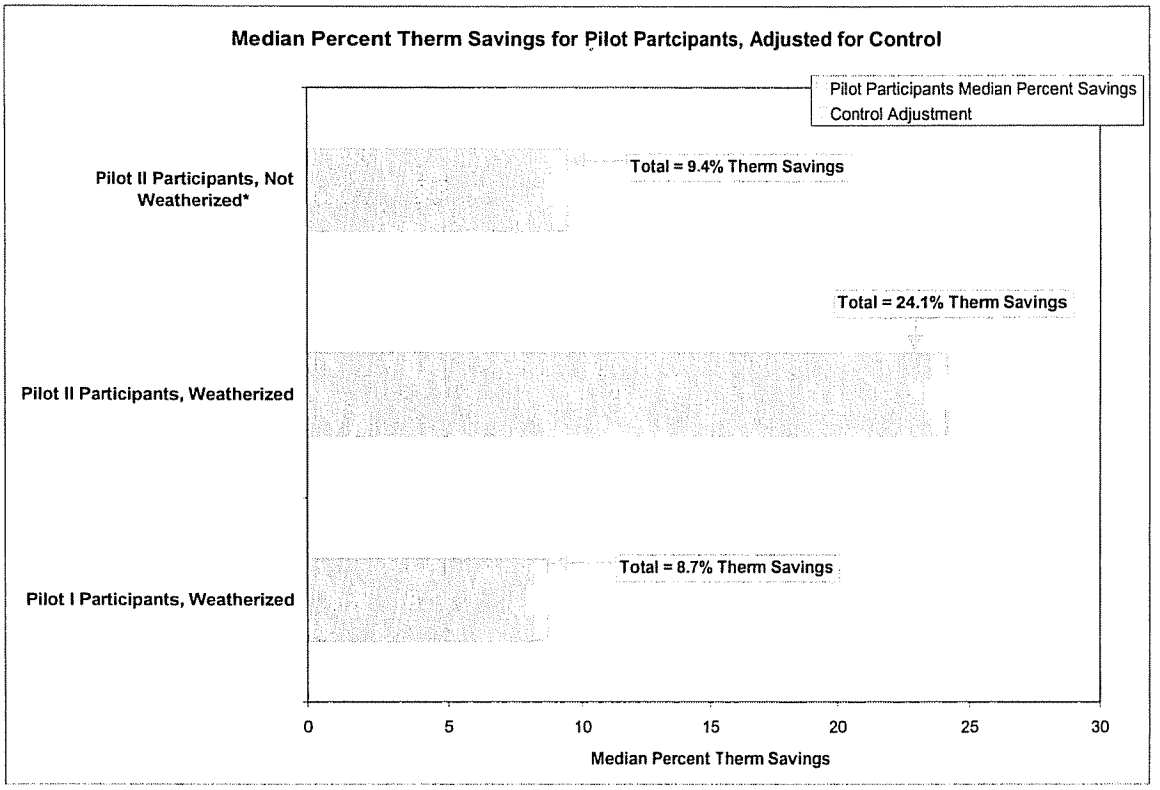

Figure 8 Median Percent Therm Savings of Pilot I & II Participants, Adjusted for Control Group Changes

Energy Savings of Pilot I and II Participants Combined

With the weather-normalized results provided by PRISM™ it is possible to combine the Pilot I and II participants together as a single group and assess the energy impacts across both groups. This assessment provides the most reliable indication of program energy impacts because it treats participants as a single group.

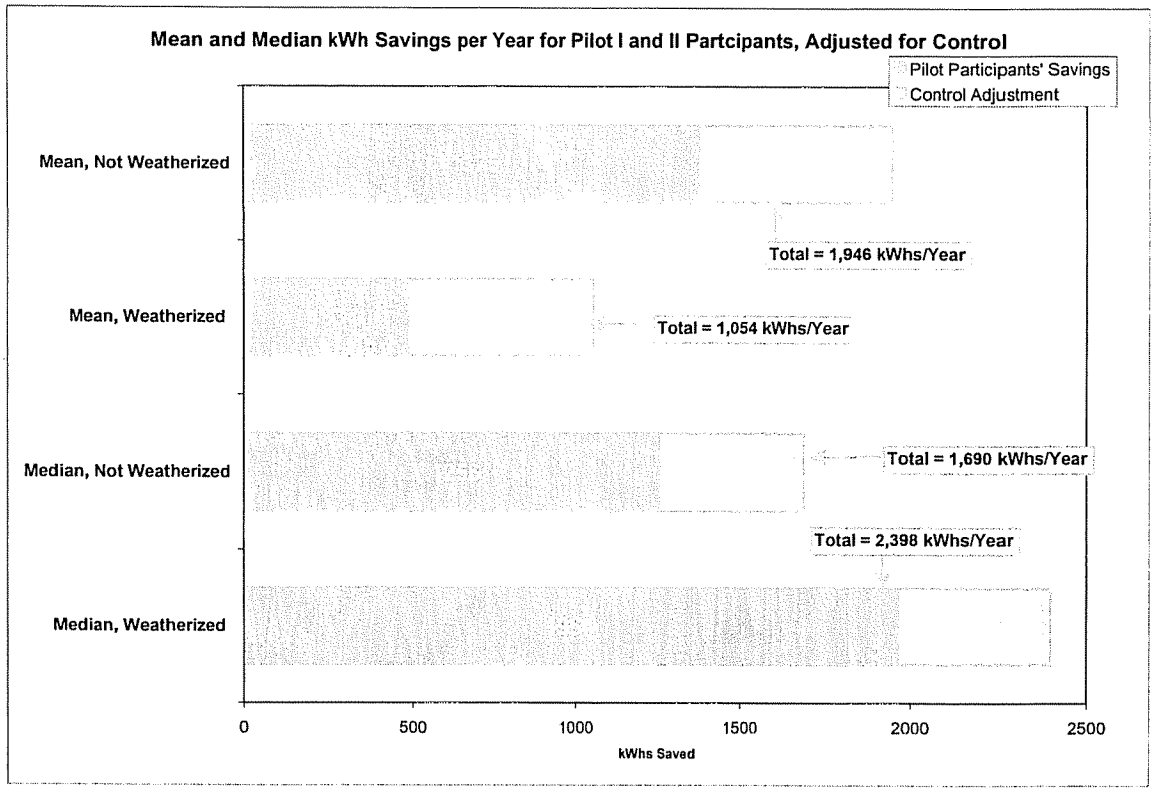

Figure 9 Mean and Median Savings per Year of Pilot I & II Participants Combined, Adjusted for Control Group Changes

Figure 9 above shows that the mean kWh savings per year is higher for those participants that were not weatherized, with a mean savings of 1,946 kWhs/year, compared to 1,054 kWhs/year for those that were weatherized. This figure also includes the median savings for the combined Pilot I and II participants, and indicates that the weatherized participants have a much higher median savings than those that were not weatherized. This data indicates that there are a few non-weatherized participants that were able to save larger amounts electricity than the weatherized group as a whole. These variations are normal and expected within the energy impact evaluation field.

Figure 10 below provides the percent savings with comparisons between the weatherized and not weatherized groups. The mean savings between the weatherized and non-weatherized groups are very close, with weatherized participants able to cut electricity use by 14.6%, while those that were not weatherized were able to reduce their use by 13.1%.

Both weatherized and non-weatherized participants were able to achieve a higher median savings. All participants were able to reduce their kWh consumption by a control-adjusted median of 14.6%.

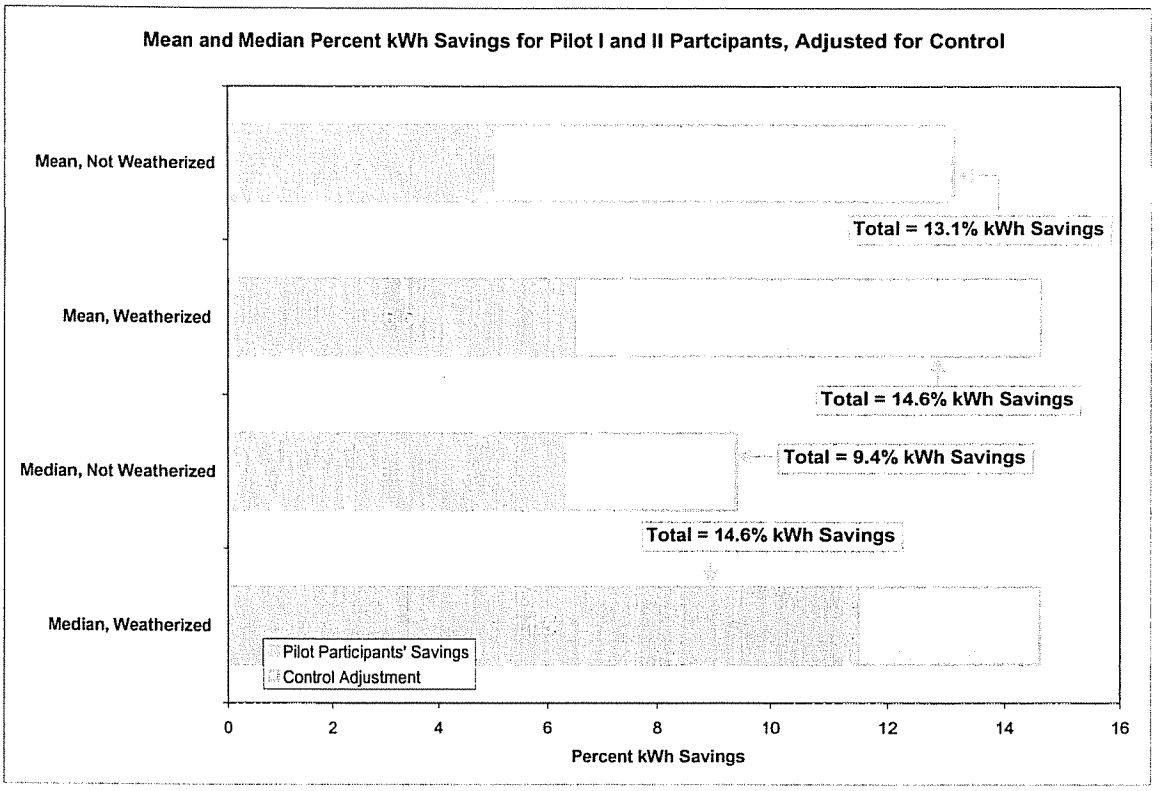

Figure 10 Mean and Median Percent Savings for Pilot I & II Participants Combined, Adjusted for Control Group Changes

Figure 11 and Figure 12 below are similar to the two electric graphs presented above, but instead report therm savings. Figure 11 indicates that weatherized participants save a significantly higher amount of therms/year. Weatherized participants were able to cut their use of natural gas by 279 therms per year. However, those that were not weatherized were able to cut their use by 85 therms. These effects can be attributed to the educational component of the Payment Plus Pilot.

Median savings shows a similar trend. Weatherized participants experienced a median savings of 215 therms/year. Those that did not receive weatherization services were able to reduce therm consumption by a median value of 48 therms per year.

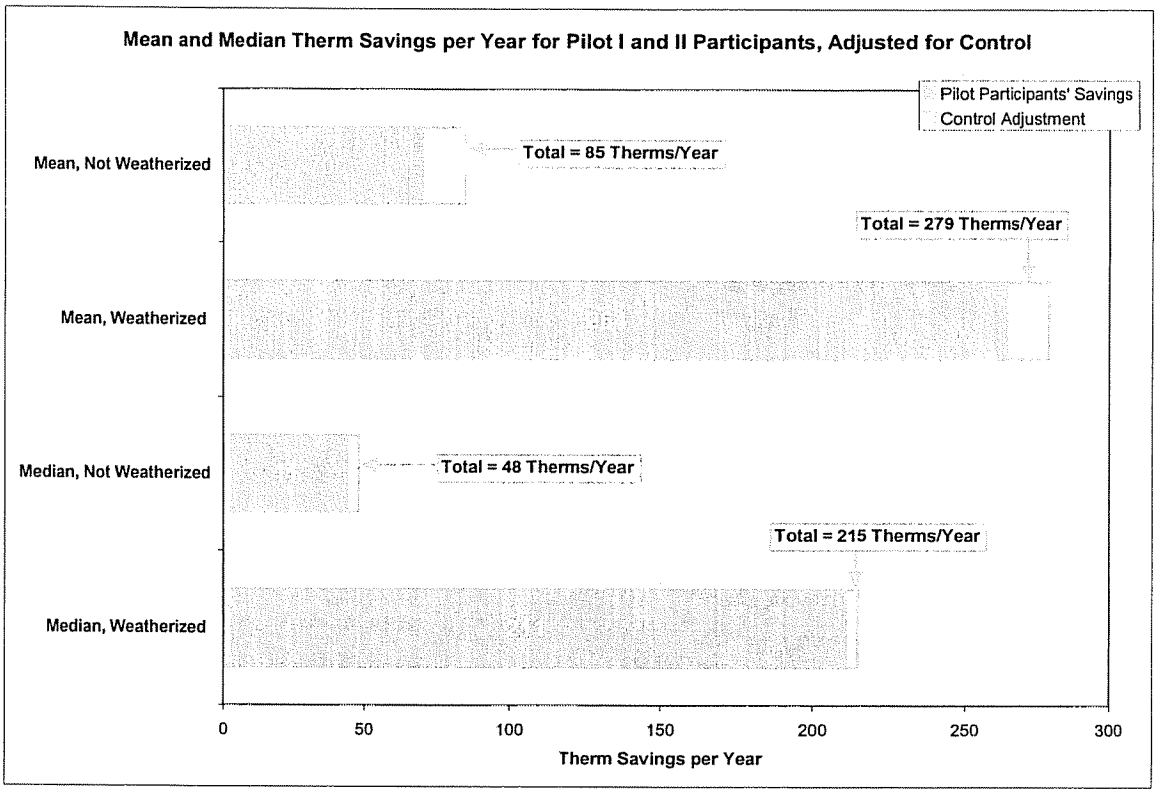

Figure 11 Mean and Median Therm Savings per Year for Pilot I & II Participants Combined, Adjusted for Control Group Changes

Figure 12 below provides the percent savings realized after participation in the program. Weatherized participants receiving the educational services were able to reduce their natural gas use by 21.7%. The median percent savings for this group is 23.3%. Half of the weatherized participants were able to cut their natural gas demand by almost 25% or more.

A few participants who were not weatherized reduced their consumption by 7.9%, with a median reduction of 10.2%. This indicates that there were a few participants who did not experience as high a savings because the mean savings is slightly lower than the median. However, half of the participants were able to reduce their consumption by 10% or more as a result of what they learned at the energy education sessions.

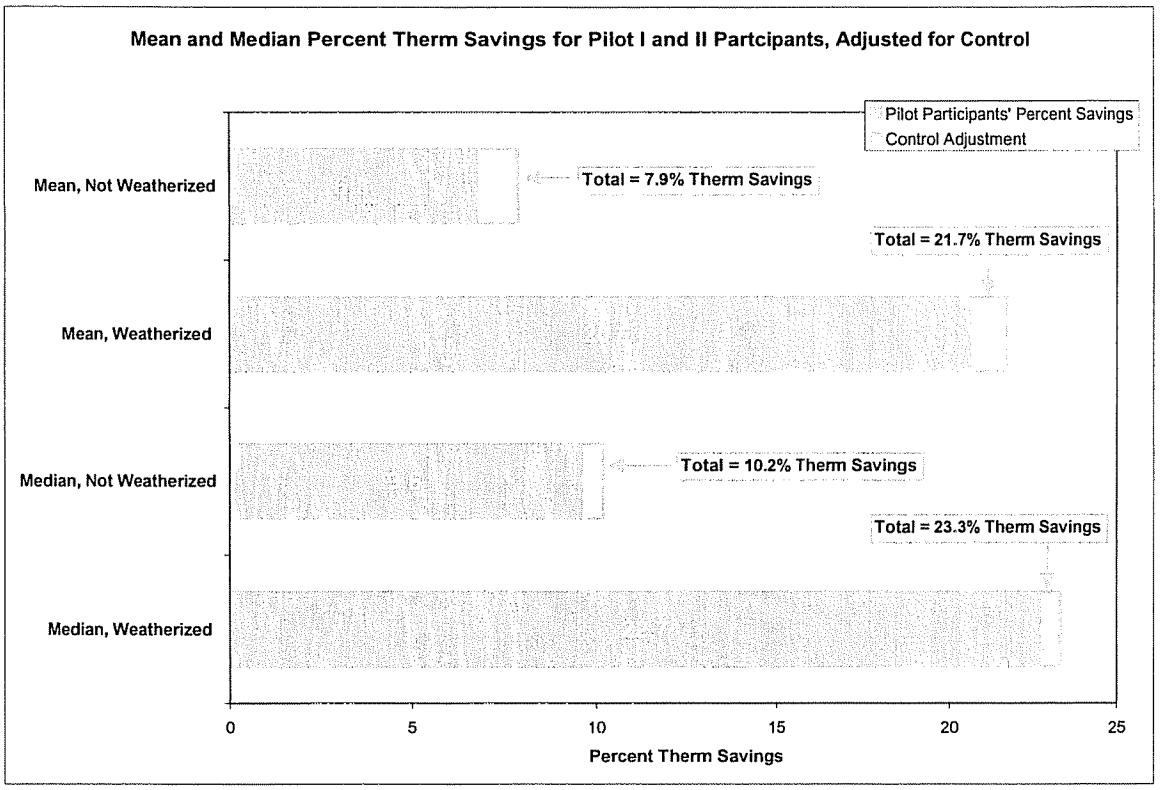

Figure 12 Mean and Median Percent Therm Savings for Pilot I & II Participants Combined, Adjusted for Control Group Changes

Comparison of Pilot Program Savings With Other Programs

One of the most important considerations in assessing both the quality of the services provided and the ability of the program to save energy is to compare the results of the Pilot program with other weatherization programs. Cinergy's Pilot Program compares favorably to other, better-funded weatherization programs, including the USDOE's weatherization programs offered across the United States. The following diagram provides a comparison of the results of the Pilot Program's energy impact evaluation to other federally and utility funded weatherization programs offered in the United States. It is interesting to note that of all the weatherization programs examined, only one (Ohio) provides savings slightly greater than Cinergy's Pilot Program. The Ohio program spends, on average, $3,250 per participant, compared to the Pilot Program budget of $2,699 per participant. Using a dollars-per-percent-saved metric, the Pilot Program is achieving each percent of savings by spending, on average, $124.38 for the weatherization component compared to Ohio's program that spends $120.37 cents to achieve each percent of savings. When this same assessment is made for the Pilot II participants as a single group, the Pilot Program is achieving each percent of savings for $116.84.

Prior to 1999 Cinergy's Ohio weatherization program did not employ a tiered implementation structure or have an educational component to the program. During this period Cinergy spent $181.00 per percent of natural gas saved.

This comparison looks only at the amount of energy saved and the cost of providing weatherization services and therefore excludes the cost for the educational services. We do not know the cost for the educational services for any of the programs included in this comparison. Additionally, we are unaware of the extent of the educational services provided by the programs used in this comparison, if any. While we know that the Ohio program includes some levels of educational services, we do not know the cost or the extent of these services. Likewise, while we know the cost to administer, manage, market, enroll and provided the educational services for the Pilot II Program ($75,000) we do not know the amount of these costs that are associated with the educational efforts alone. As a result we are unable to compare the effectiveness of the educational efforts associated with the Pilot program with other programs. However, we note that educational program natural gas savings of 7.9% and electric savings of 13.1% is significant, and reflects well on the education provided by NKCAC. Nationally, the effects of energy education programs included in the evaluation literature range from zero percent savings to 10% savings. However, many of these savings are estimated savings rather than the measured savings provided in this study. As a result, we expect that the savings from the educational activities associated with this program are also among the highest in the United States.

These figures indicate that the Pilot Program is as effective or more effective than the Ohio State Weatherization program, the highest savings weatherization program that we could identify through a review of the evaluation literature, and a nationally recognized USDOE exemplary program. Likewise the Pilot program is saving more energy than the state weatherization programs in New York, Kansas, Colorado, Texas, Wisconsin, Vermont, Iowa, and all other programs in USDOE's moderate states regions. Cinergy's program is also saving more energy than other utility programs that we were able to located in the evaluation literature, including Ameren's weatherization program and Missouri Gas's Kansas City program. In addition, Cinergy's Pilot Program is providing results almost identical to the savings of the 10 best programs that the USDOE has identified as exemplary weatherization programs. It is clear from these comparisons that the Pilot Program is providing an exceptionally effective program, essentially out-performing many of the United State's most effective weatherization programs.

Figure 13 presents a comparison of the energy savings from the Pilot Program with other weatherization programs found in the publicly available evaluation literature. This graphic presents the savings from 12 studies of individual programs and the accumulated savings from programs in both USDOE-identified moderate climate zones (includes Kentucky, Ohio, Indiana) and in USDOE's cold climate zones (include such Main, Wisconsin, and North Dakota) where energy savings are typically higher than those in moderate climate zones.

In our opinion, the primary reason for this exceptionally effective program is the two-tier approach to weatherization in which dollars are allocated to the weatherization effort consistent with the need for each home and the influence of the program's educational efforts.

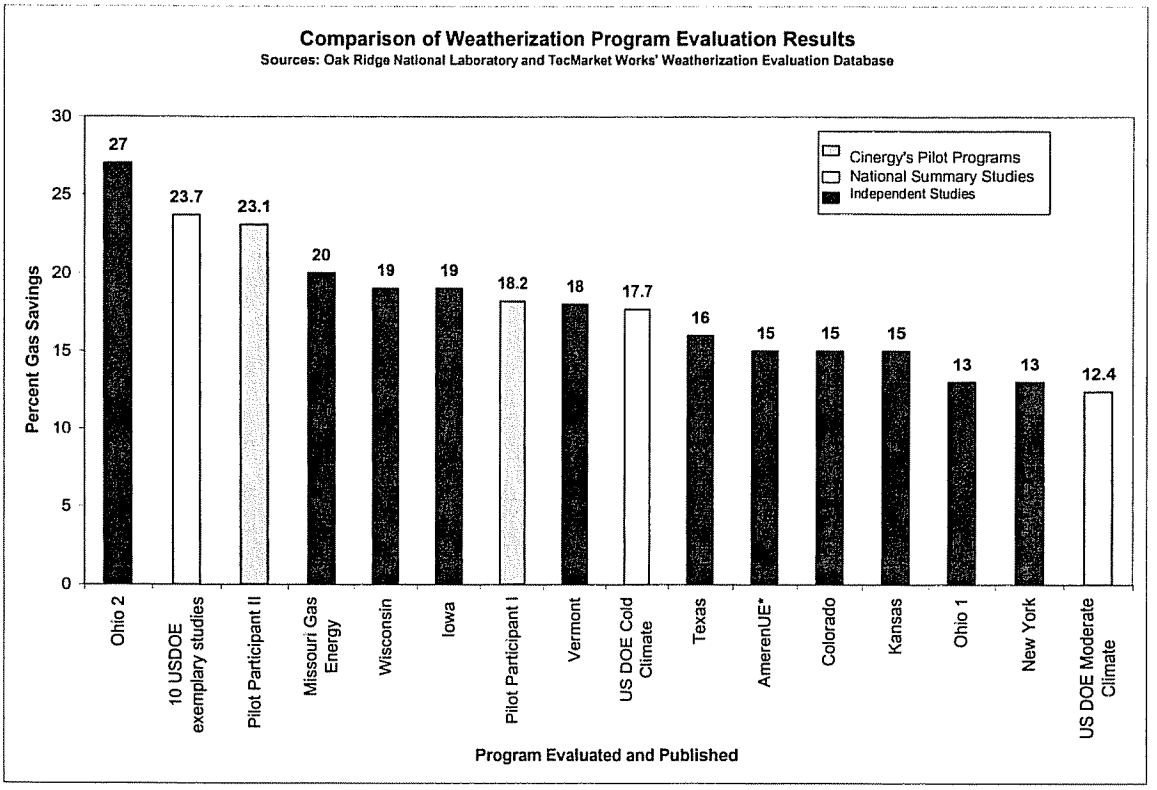

Figure 13 Comparisons of Energy Savings With Other Programs

Section III: Arrearage Evaluation Results

Pilot I

Enough time has passed following Pilot Program I to permit a long-term assessment of the effects of the program on arrearage levels. In a previous evaluation report we analyzed the arrearage patterns before, during, and the short-term post period of Pilot I. In this study we will examine the post-program arrearage data for two years following the end of the program for changes in arrearage patterns due to participation in the Payment Plus Pilot Program I.

Analysis Sample Size

The primary weakness of this arrearage and payment patterns analysis is the small sample size of Pilot Program I participants for which payment data was available. Many of the customers in both the participant and control groups have moved or dropped their service, causing accounts to be eliminated from this analysis. The results presented in this section are based on fourteen participants that have enough data to examine trends in usage. The control group changes each of the three years, the first year of data has a control group of 58 customers that were used in a previous evaluation, the second year has 825, the third, 1,399. The size of the control changes from the second to the third due to the effort in which the control group was selected, in which low-income customers with high arrears were chosen so that the arrearage levels match the participant's arrearage levels.

Arrearage Levels

Arrearage levels for the 14 Pilot I participants who had enough data to analyze have increased from a mean monthly arrearage of $200 to $464. The control group's monthly average arrearage for this same period of time has increased at about the same rate, from $188 to $453.

The arrearage levels presented in Figure 14 represent the average monthly arrearage for the participant group and the control group over the year before the program compared to the year after the program (1-12 months post), and then the following year (13-24 months post). The year before the program ends immediately before the classes, and runs back 12 months (January 2001 through December 2001). The period after the program starts immediately following the program, and runs for 12 months (June 2002 through May 2003),[2] and the last period reflects mean monthly arrearage data for the period June 2003 through May 2004. This analysis allows us to examine the data for two full years after the program compared to a full year prior to the program, taking into account the effects of high winter and summer energy costs across all three periods of time.

Essentially this graphic shows that arrearages have increased 132% in the two years since and despite the intervention of the Payment Plus Program. The control group's arrearage

[2] June 2002 data was not requested for the analysis as it would reflect May's consumption and would not reflect post-program data.

has increased 140%, giving the Pilot I participants a slight advantage, thought not in any statistically significant way.

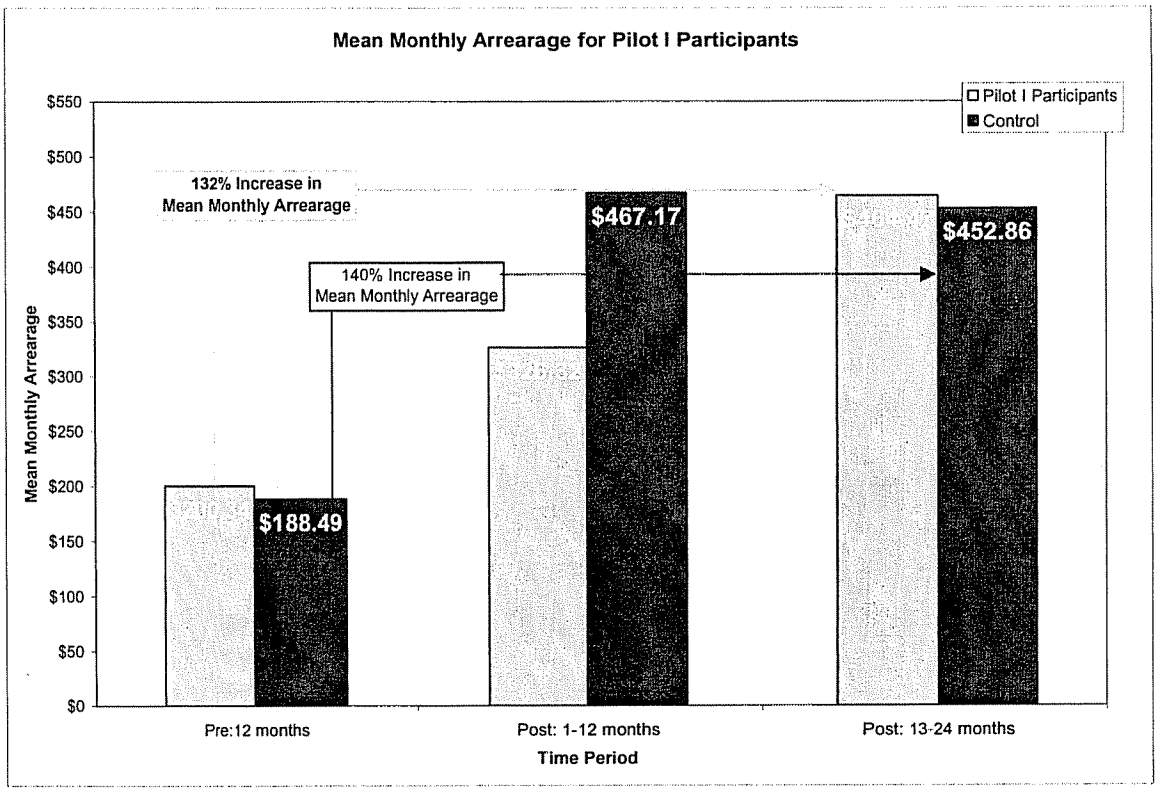

Figure 14 Mean Monthly Arrearage Levels for Pilot I Participants

While Figure 14 presents an accurate picture of the pre- and post-program arrearage changes by year, it does not fully present an accurate picture of what may be going on with the participant group from month to month.

Figure 15 shows the actual mean monthly data and the trends associated with the data for the participants and the control group over the pre- and post-program periods. This graphic shows that the participant and control groups maintained similar pre-program arrearages up to the month prior to enrollment in the Pilot Program. Then just prior to the program the participant group's arrearage climbs to over $500.00 in arrearage levels. This climb is an artifact of the program targeting efforts that sorted LIHEAP participants into two groups, those with less than $500 in arrearage levels and those with arrearage levels greater than $500. The program was then offered only to those with $500 or more in arrearage at the time of the data sort. As a result of this sorting process, the participant group consisted of those with a high February 2002 arrearage. However, following the program this group's arrearage levels were reduced to about $200 less than the control group. The participant group managed to maintain that arrearage lower arrearage for a five-month period, until September of 2002. At that time their arrearage level became essentially equal to the control groups debt. However, instead of following the winter

increase in arrearage that is typical for low-income customers, the participant group decreased their arrearage levels back to being about $200 less than the control group's debt for a seven-month period, until June of 2003. After June of 2003 the participant group maintained higher arrearages until about January of 2004 when the winter bills were beginning to mount. At this time the participant group again lowered their arrearage to about $150 to $200 less than the control group. This data seems to reflect a trend by the participant group to maintain a winter peak arrearage that is less than the participant group by about $200, but this peak arrearage is offset by an increase in average arrearage in the non-winter months when bills are lower. While the Pilot I participants do not appear to be effected, on average, over the longer term, the data reflects a reduction in winter peak arrearage levels. Again, the weakness of this analysis is the small number of Pilot I participants with enough data to examine (n=14). A better examination may be the examination of the Pilot II participants discussed immediately after Figure 15.

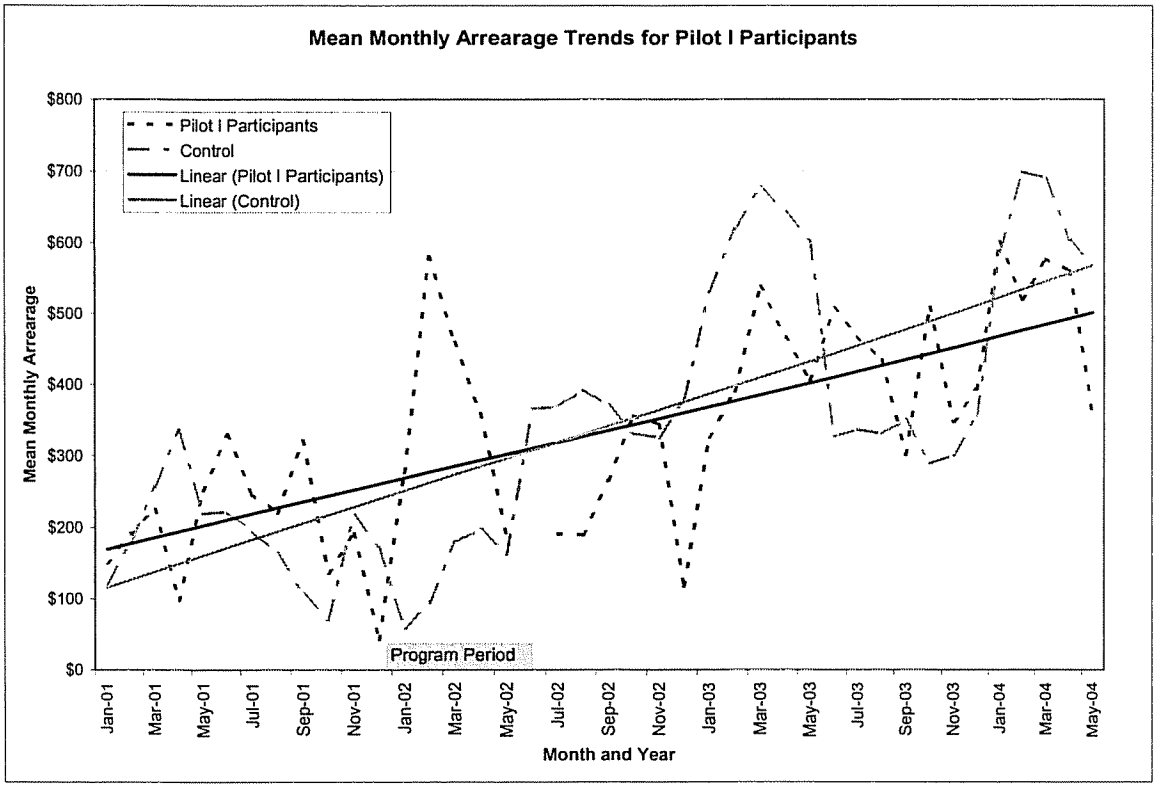

Figure 15 Mean Monthly Arrearage Trends for Pilot I Participants, Long-Term

Pilot II

The analysis of the Pilot II participants is based on the billing and arrearage data of 64 customers that had data to analyze and who did not move during the study period.

Pilot II participants were able to bring their arrearage down about 11% and maintain a lower arrearage over the ten months following their participation in the Payment Plus

Program. This compares with the control group lowering their arrearage by about 2% during that same period. This provides an average net decrease in post-program arrearage levels of 9% for the participant group over the post-program period.

For Pilot II, there was one year of pre-program data available (June 2002 through May 2003), but only ten months post (August 2003 through May 2004). To keep the pre- and post periods balanced in both the number of months and the months of the year, June and July of 2002 are not included in the pre-program period. This leaves August 2002 through May 2003 as the pre-program period, and August 2003 through May 2004 as the post-program period for the time periods represented in Figure 16.

Figure 16 below, shows that Pilot II participants were able to decrease their arrearage from a mean monthly arrearage of $504 to $446, accounting for the 11% drop. The control group (with the same 1,399 customers used in Pilot I post second year analysis) decreased their arrearage from $487.17 to $477.09 accounting for the 2% drop during the same time.

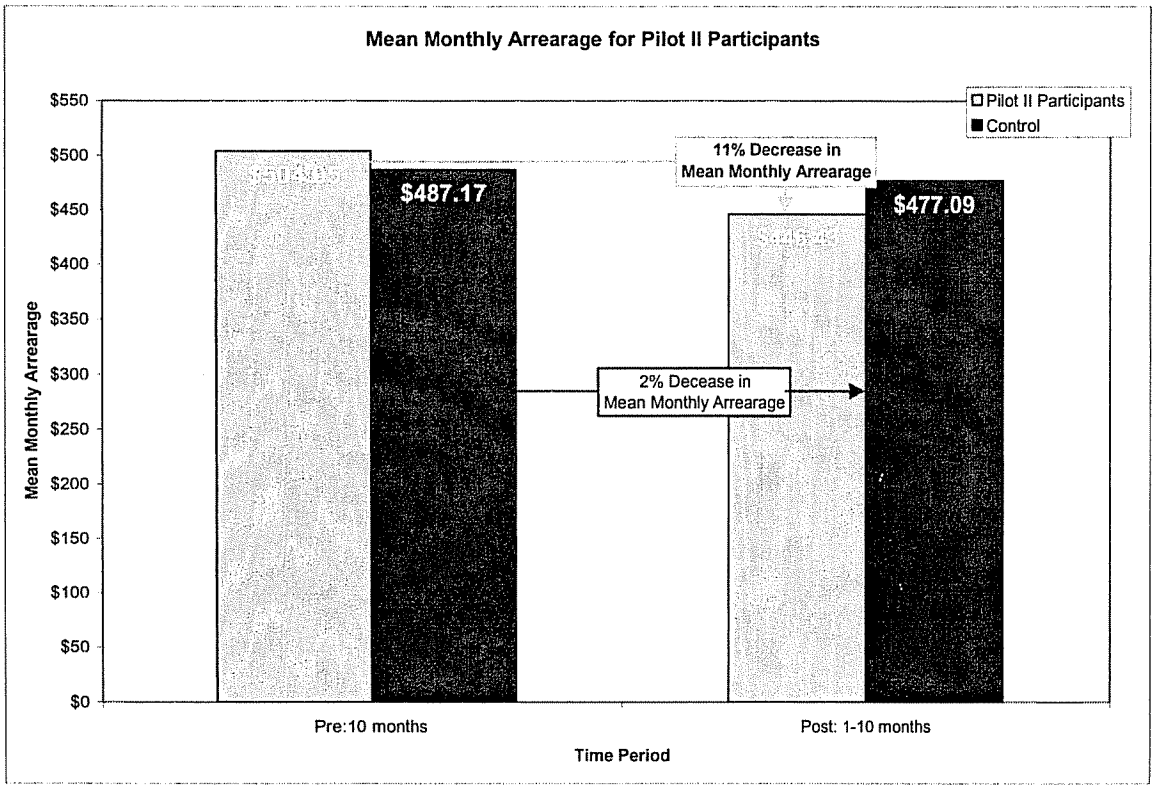

Figure 16 Mean Monthly Arrearage for Pilot II Participants

Figure 17 below, shows the actual mean monthly arrearage levels and the trend lines associated with all the data that was available (June and July 2002 are included). Pilot II participants, despite the credits they received that ranged from $150 to $500, were unable to keep their arrearage down by the amount of arrearage credit provided by the program even during months immediately after participation. However, during the following

month the participant group was able to maintain a lower arrearage throughout the rest of the post-program period by about $50 per month. This longer-term reduction in arrearage is what is responsible for the 9% net reduction between the participant and control group. At this time, we do not know if this level of arrearage reduction will be maintained by Pilot II participants over the longer-term, however we note that the results from the small group of Pilot I participants indicate that the second year peak arrearage levels are about $100 below the control group's level of debt. These studies provide examples of three arrearage peaks (2 for Pilot I and 1 for Pilot II participants) following program participation in which the maximum debt associated with the winter heating system was lower from $50 to $100 per month, while arrearage levels returned to be closer to the control group's level of debt during the non-peak debt months. While this aspect cannot be examined until the summer of 2005, these early results are encouraging.

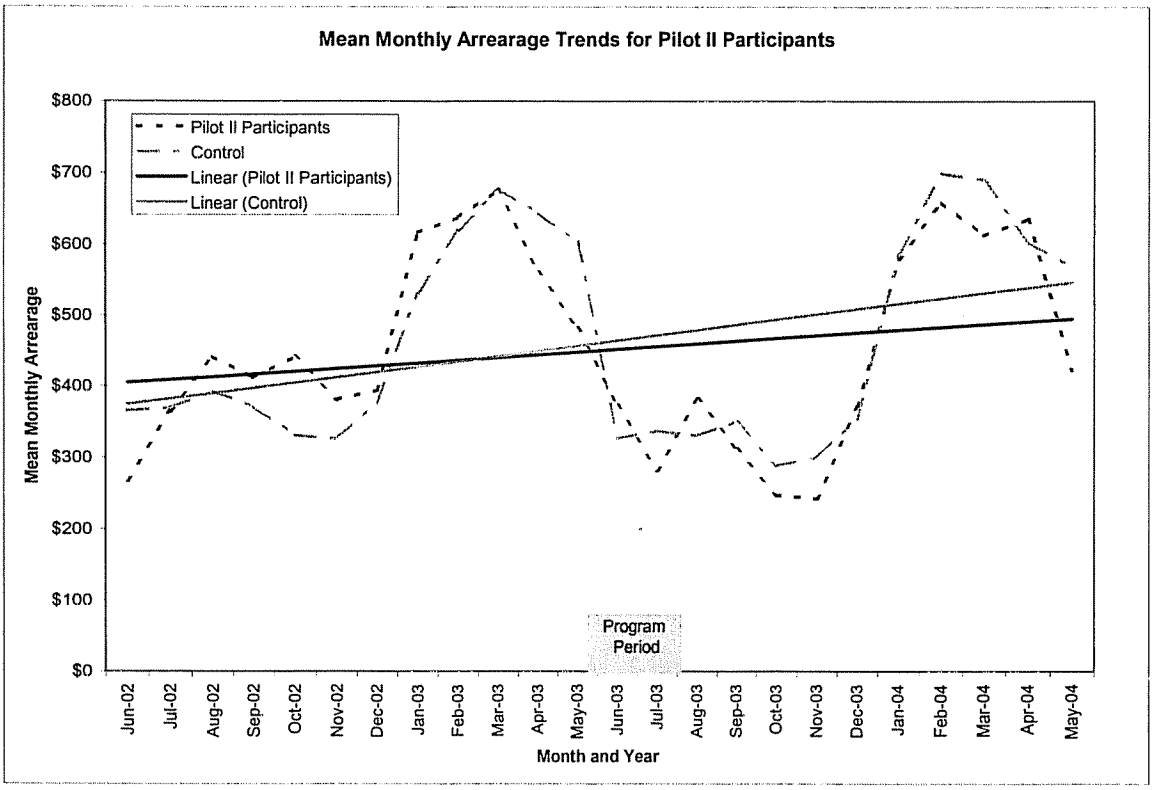

Figure 17 Mean Monthly Arrearage Trends for Pilot II Participants

Section IV: Payment Effects

Percent of the Bill Paid - Pilot I

This section looks at the payments made each month by the Pilot I participants and the control group in comparison to the amount due on their bill. (Please see the introduction of the previous section on Pilot I arrearage for information on sample sizes of both the participant and control groups.)

During the examination of the payment data we noticed that in many cases multiple payments were made during a single month as people struggled to make weekly or bi-monthly payments. When these instances occurred we summed the payments made by the customer and then compared the sum to the amount due on the bill for that month. If there was no payment made in a month, a value of zero was included in the calculation for that month. Therefore, Figure 18 shows the percent of the bill paid, out of all the bills sent to the two groups over the three years. As a hypothetical example of this calculation, if Cinergy sent out bills to the participants totaling $100,000 over the ten month period, and the customers collectively made $17,300 in payments during those ten months they would have paid 17.3% of the bills.

The first year after participation, the percent of the bill paid stayed fairly low at 19.7% of the bills sent out, while the control group was able to pay a higher percent of their bills. However, the second year after the program, the Pilot I participants are, on average, paying close to 30% of their bill, slightly more than the control group is able to pay. This represents a 72% increase in payments toward the bill after the program than the amount paid before the program. The control group increased their payments by only 25%, from 20.7 to 25.8% of the amount due on the bill. Figure 18 presents this data in graphical form allowing the reader to see the change in the percent of the bill being paid before and after program participation by both the participants and the control group. The net percent of increase in bills paid between the participant and the control group indicates that the participant group increased the amount of their payments relative to the bills they received by a net change of 47%. This data also indicates that for Pilot I participants, the percent of the bill being paid increased each of the two post-program periods. However, it should be remembered that the number of participants is small (n=14) leading to significant reliability issues with these findings.

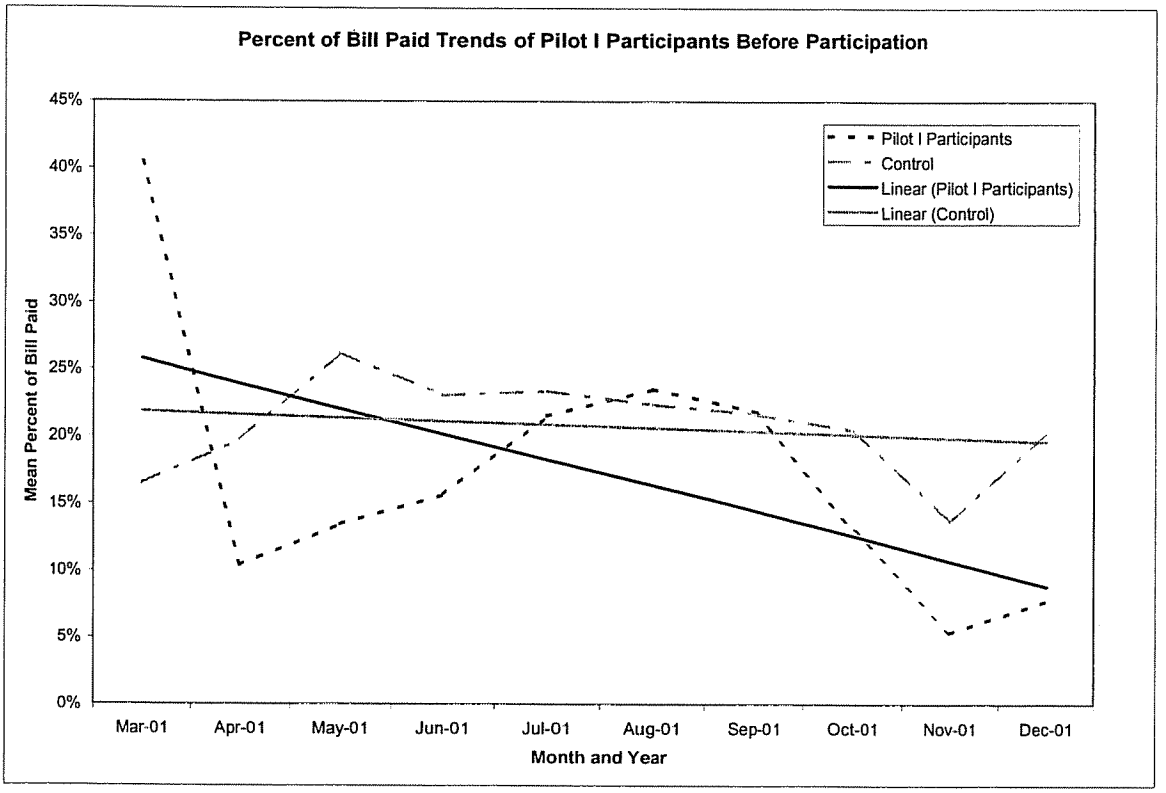

Figure 19 Mean Percent of Bill Paid Trends by Pilot I Participants Before Participation

Figure 20 below shows the same information for the two years following their participation in the Pilot I program. After the program, the participants have been able to slightly increase the percent of the bill that they are able to pay, and the control group has taken a turn down and they are able to pay less of their bill each month.

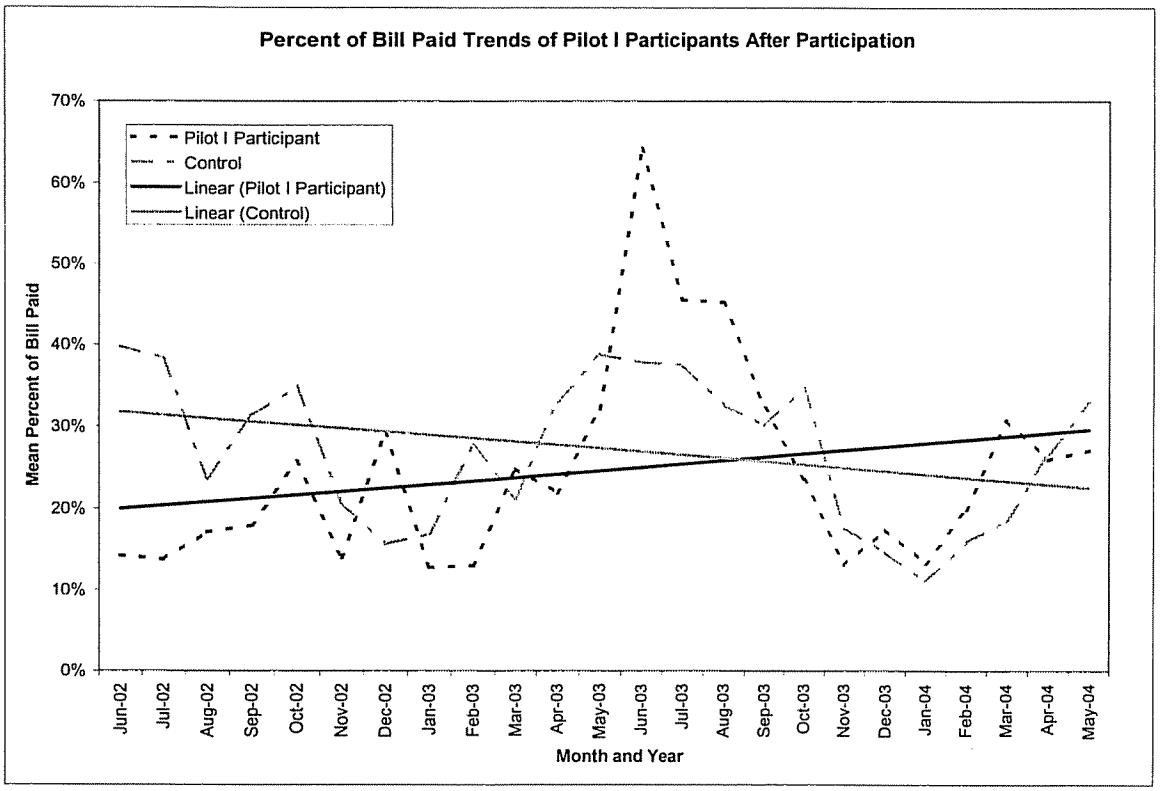

Figure 20 Mean Percent of the Bill Paid Trends of Pilot I Participants After Participation

Percent of the Bill Paid - Pilot II

This section looks at the payments made each month by the Pilot II participants and the control group in comparison to the amount due on their bill. (Please see the introduction of the previous section on Pilot II arrearage for information on sample sizes of both the participant and control groups.) Again, multiple monthly payments are summed and treated as a single monthly payment against the monthly amount due. If there was no payment made in the month, the amount paid is set to zero and included in the calculation.

Pilot II participants were able to slightly increase the percent paid on their bill over the ten months following program participation by 17%, moving from 19.5% of the bill being paid to 21.3% paid after the program. The control group decreased the percent paid by 6% over the same period, dropping from 25% to 23.4%. However, even though their percent of payment went down during the post-program period they were still able to make more of a payment than the participant group during the same post-program period. However, the data also suggest that some impact may be occurring in the long run. Prior to the program the participants had a decreasing slop to the percent of the bill that they could pay, indicating the participant was in a state of increasing arrearage levels bringing them to a condition in which they were targeted by the program (high arrearage levels). Following participation their percent of payment performance moved to an increasing slop in which participants paid a higher percent of the bill compared to the

control group, especially during the months of May to September 2003. This performance should be monitored to identify any lasting long-term effects and reported in the Summer of 2005.

Figure 21 presents the change in payment for Pilot II participants relative to the control group and indicates that the net change in payments between the participant and control group increased by about 23%. Yet they were still not able to reach the same post-program payment level of the control group who paid, on average 23.4% of the monthly bill during the post-program period.

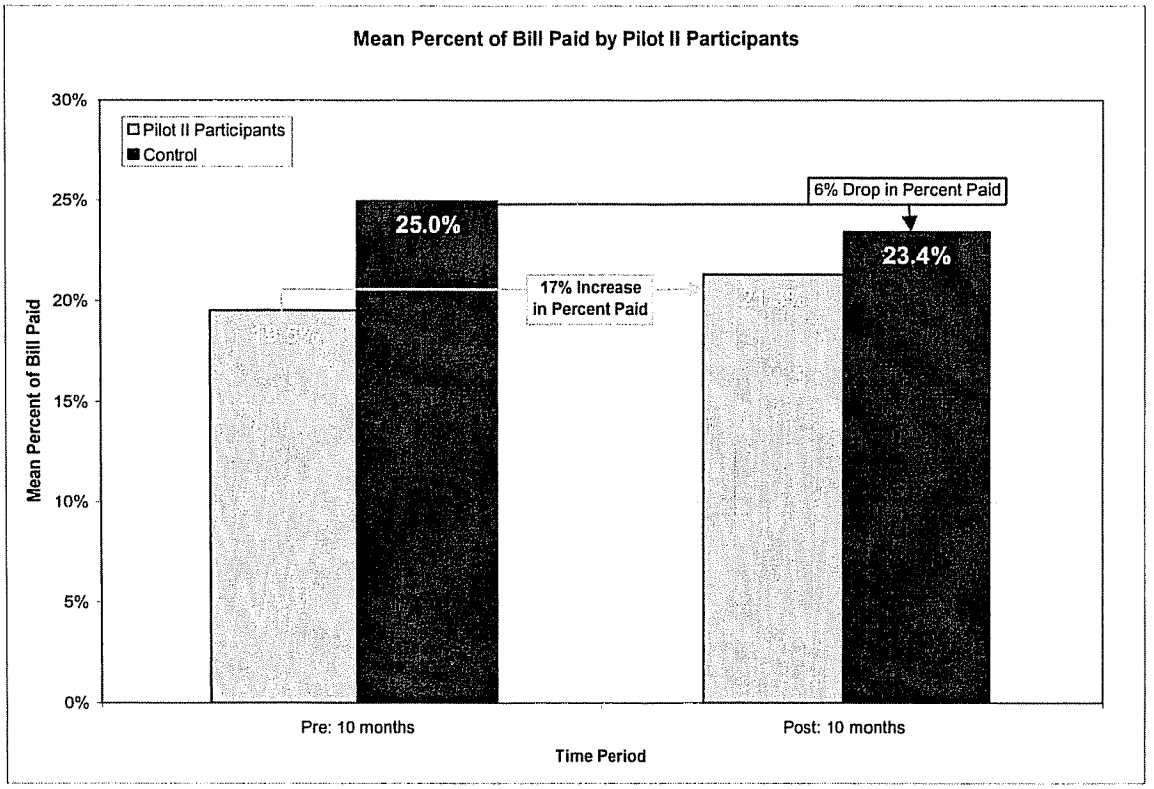

Figure 21 Mean Percent of the Bill Paid by Pilot II Participants

Figure 22 presents the monthly change in the percent of the bill paid by Pilot II participants and clearly shows the lower payment percents prior to the program and a similar post-program percent of payment pattern. However, as expected this graphic also clearly displays the fact that during and shortly after Pilot II participation, participants made less of a percent payment on their account, relying on the program's bill credits to make up some of the difference between what they owned and what they needed to pay. Following this "program credit period" the participants increased their percent of payment to almost match the control group.

These graphics indicate that both for the Pilot I and II participants, the percent of the bill that these participants paid increased relative to what was being paid by the control group.

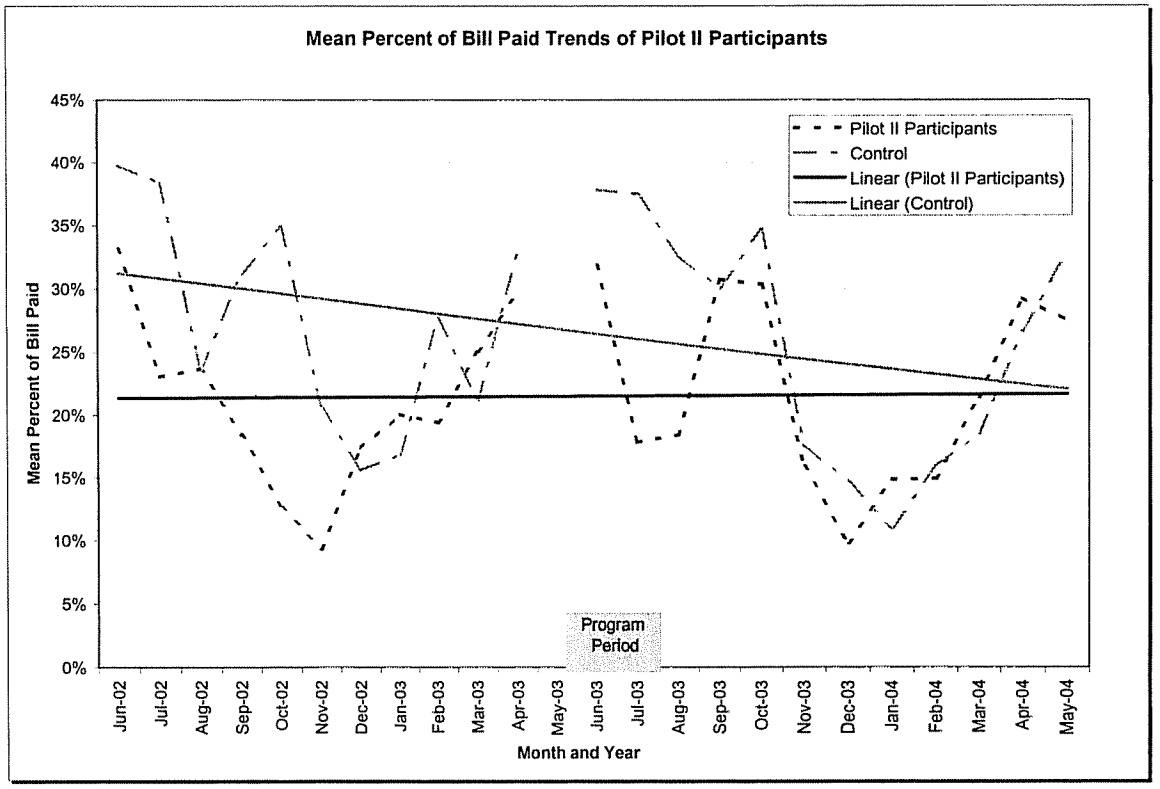

Figure 22 Mean Percent of the Bill Paid Trends of Pilot II Participants

The Frequency of Disconnects – Pilot II

An assessment of the frequency of disconnects was conducted only on Pilot II participants where both the pre- and post-program data contained a disconnection code in the billing data allowing for the analysis to be conducted.

In the ten months before the program, 4.2% of the control group was disconnected at least once, while only 1.9% of the participants were disconnected. Following the program participation period the participant group disconnects were reduced by 47% to 1.0% disconnects during the post-program period. The control group decreased their disconnects by 29% moving to 3.0% disconnects over the 10 month post-program period. Both groups dropped approximately 1.0% over the period. An interesting aspect of this analysis is that the participant group had less than half the disconnect rate prior to the program than did the control group, and had one-third of the disconnects after the program compared to the control group. The rate of decrease on the participant group disconnects is 18% faster than the decrease in the disconnect rate for the control group, indicating that the program impacted the disconnect rate over the pre- and post-program

measurement periods. Figure 23 presents the movement in disconnect rates between the participant and control groups over the pre- and post-program periods.

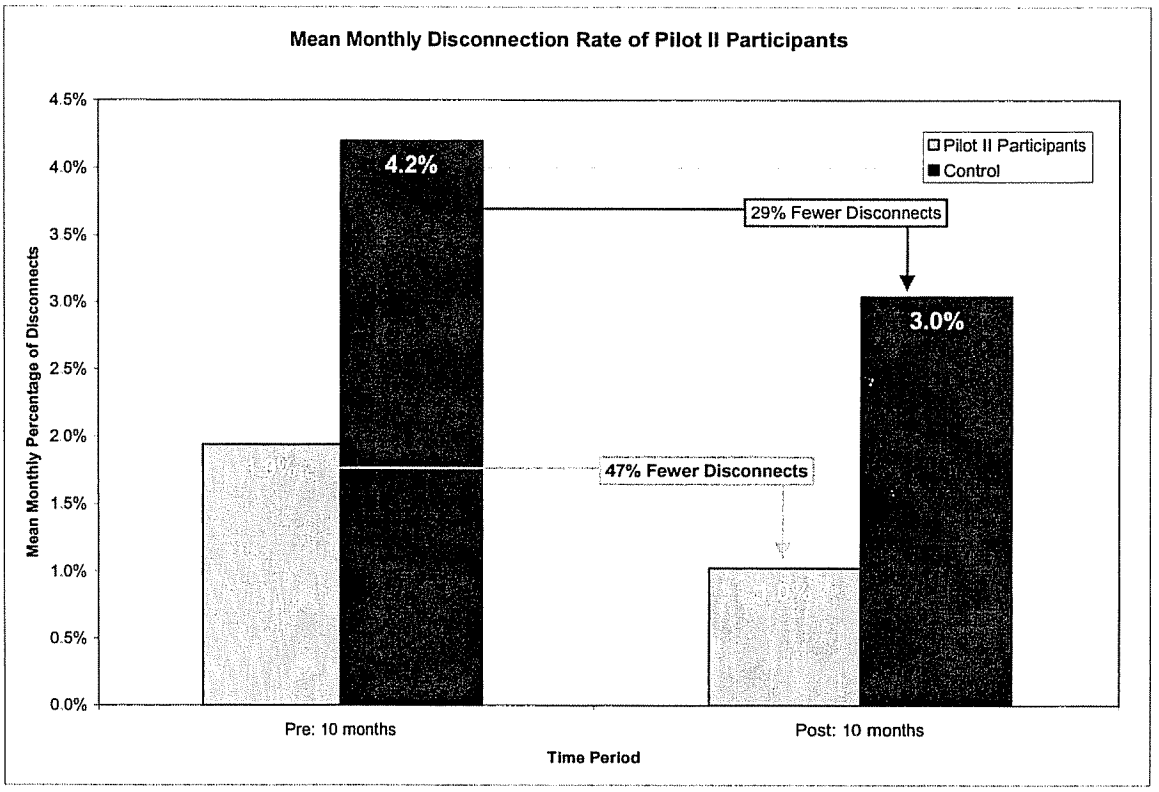

Figure 23 Mean Monthly Disconnection Rate for Pilot II Participants Before and After Participation

The percent of customers getting disconnected across the pre- and post-program periods are shown in Figure 24 and Figure 25 respectively. Figure 24 shows the disconnection rate and trends before the program. As expected the participant group significantly increased the disconnect rate during the months just prior to program enrollment as their arrearage levels climbed to over $500. Just before the program participants were experiencing a 7% disconnect rate compared to a rate approaching zero in the June to December 2002 period

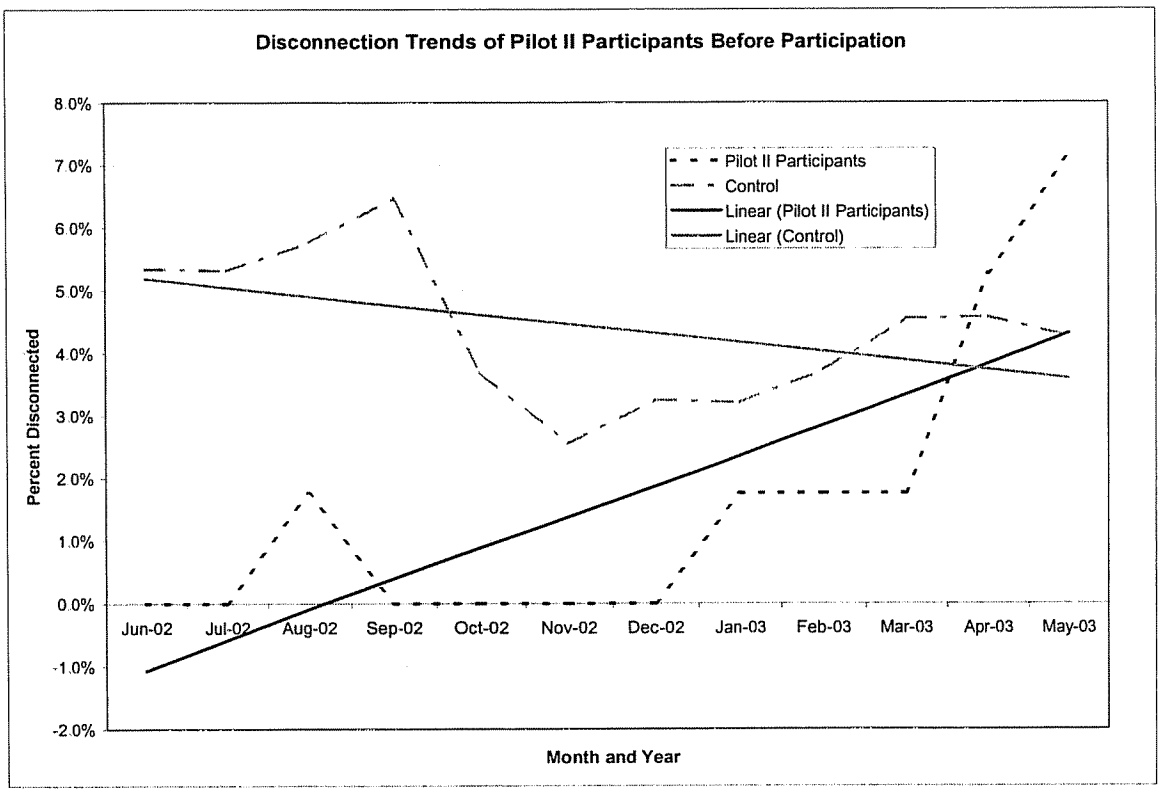

Figure 24 Disconnection Trends of Pilot II Participants Before Participation

Figure 25 shows that following the program the control group's disconnect rate remained steady until the spring of 2004 when bills were low due to the end of the heating season and the rate falls to near zero. During this same time the participant group's disconnection rate moves from 2.5% in August of 2003 to zero in October and remains at zero until February when bills increase due to winter heating needs.

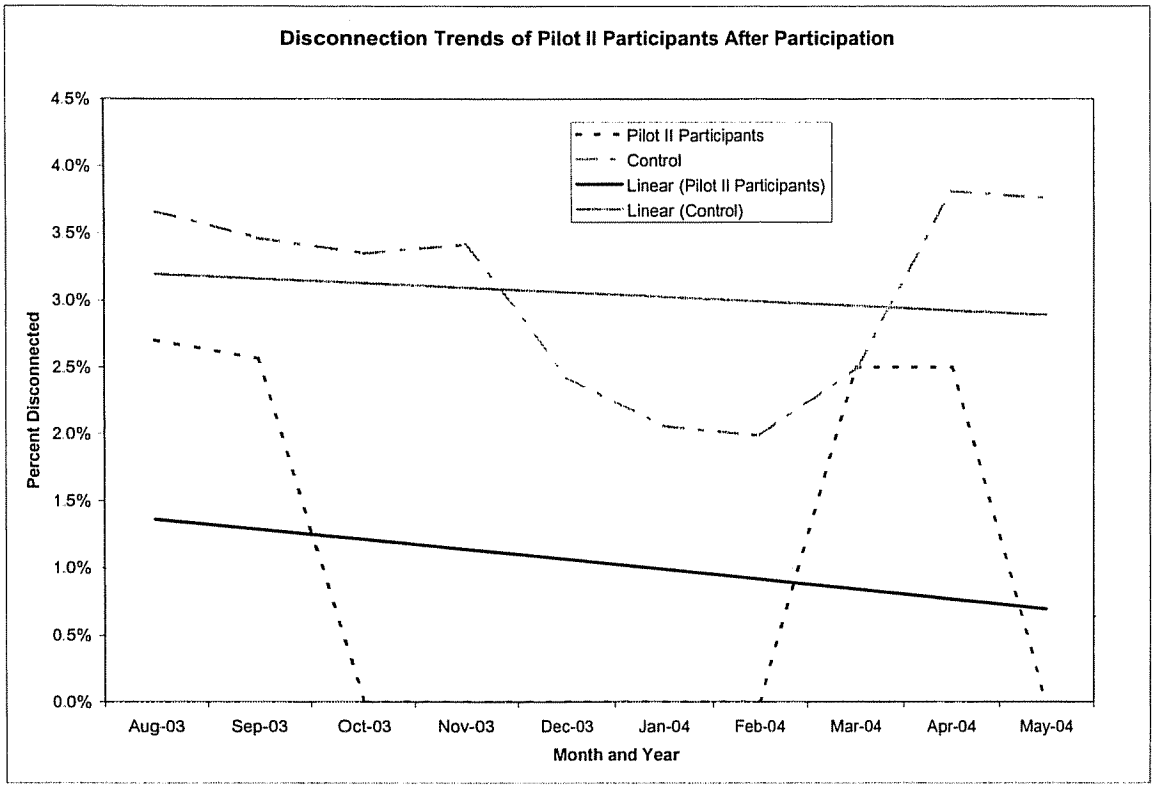

Figure 25 Disconnection Trends of Pilot II Participants After Participation

Days to Pay Bill – Pilot II

Another potential indicator of program effects is the change in the number of days it takes for participants to pay their bill relative to the control group.

During the pre-program period, participants on average made a payment to Cinergy 21 days after the billed date, and the control group paid on average 21.1 days later. These are statistically identical values.

After participation in the program, the average participant paid their utility bill 28.3 days following the bill date, a 1 week or 35% increase in the days between billing and payment. The control group slightly decreased the time between billing and payment. The control group decreased the days to pay to 20.4 days, a 3% decrease. Program participation appears to lead to an increase in the number of days needed to pay their utility bill by about a full week.

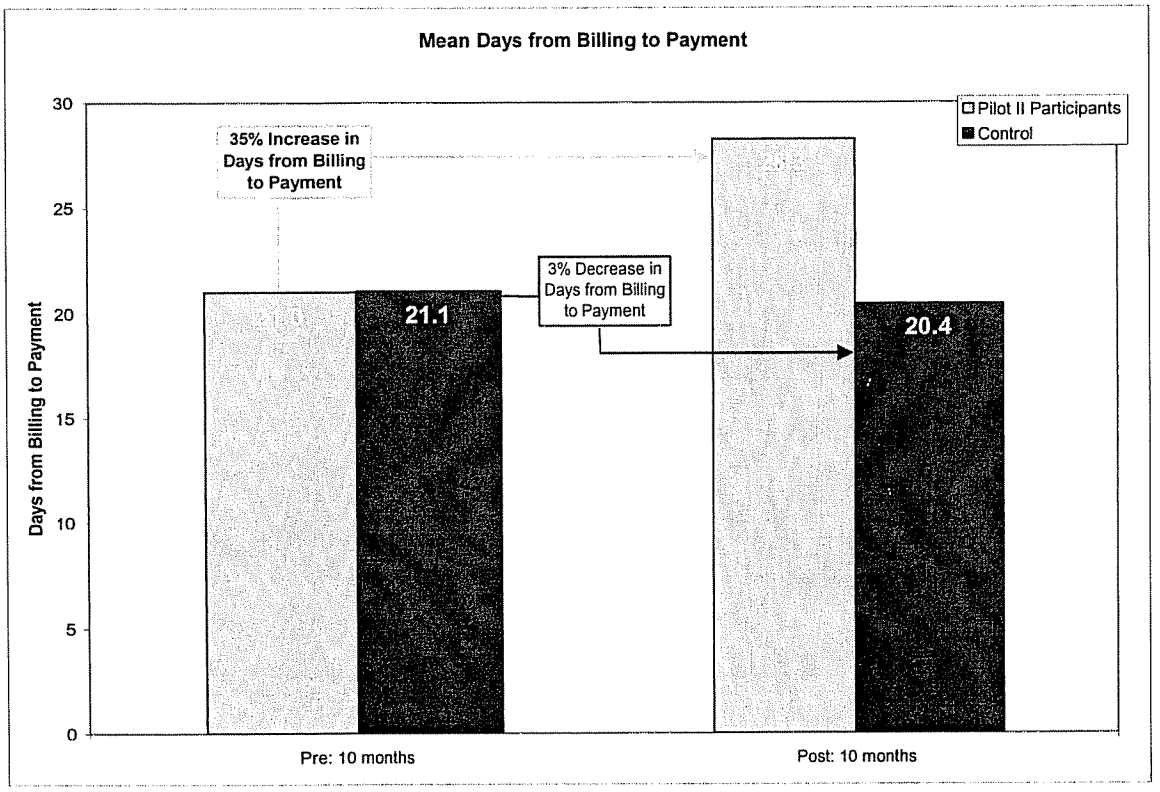

Figure 26 Mean Days from Billing to Payment for Pilot II Participants

Percent of Customers Making a Payment – Pilot II

Another potential indicator of program effectiveness is the percent change in the customers who are sending in a payment each month. Figure 27 below shows that the percentage of customers in both groups are not paying their bill as frequently as they did in the period before the program. In the 10 months before the program, the participants were making a payment of at least some amount 50% of the time, while the control only paid at least some of their bill 43% of the time. After the Payment Plus Program, the participants made a payment about 42% of the time, a drop of 16% compared to a 12% drop in the amount customers making at least some payment in the control group. This data indicates that both groups are similarly making a payment of at least some amount fewer times after the program than during the pre-program period.

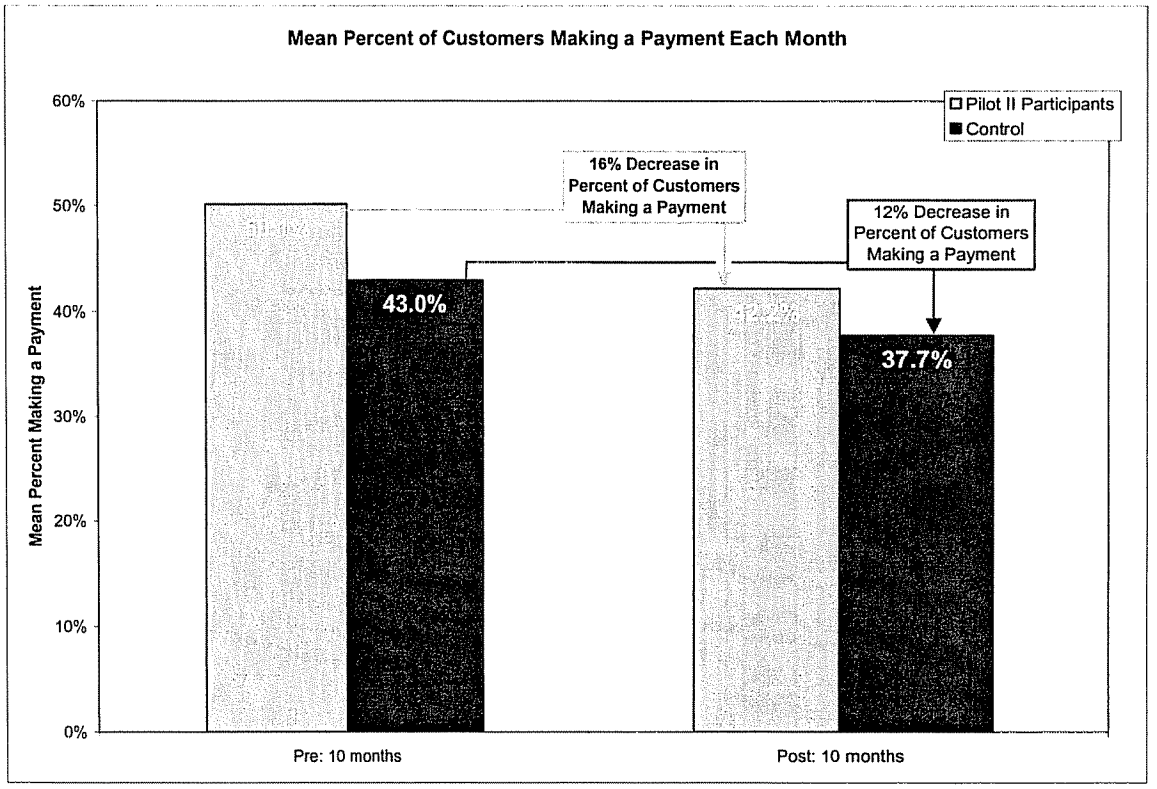

Figure 27 Mean Percent of Pilot II Customers Making a Payment Each Month

Summary of Days to Pay and Percent of Bill Paid – Pilot II

In looking at the number of days from billing to payment, and the percent of the bill amount due being paid, it is very helpful to combine this data with how many customers are making a payment at all in each month.

Figure 28 below shows the percent of Pilot II participants and control group customers making a payment of any amount in each month before and after the program (bars on the graph). The lines on the graph indicate the average number of days from billing to payment for those that paid.

Figure 28 shows that after the program, participants were less likely to pay their bill, and when they did, it took them longer to do so. This relationship continues for about eight months following the program before it moves back in line with the control group. We assume that the program has this negative effect (fewer participants paying their bills after the program (because the credit they received moved the pressure of paying the utility bill to a lower priority relative to their other obligations, i.e., they had other bills to pay that were more important. After 8 months, this relationship returned to the pre-program condition in which the priority to pay the energy bill moved back to the same priority as the control group.

This graphic also dramatically demonstrates the program's effects on the way in which participants pay their utility bill during the program. The dashed line above the "Program Period" box shows that the participants increased the amount of time it took to pay a bill. Again, at this time the program was providing $500 in bill credits, allowing participants to move the utility bill to a lower priority, essentially almost doubling the period of time between a billing and a payment. Customers could assume that their account was moving down because of the arrearage credits applied to their bill during the program. Then, over the following six months, as their arrearage levels increased and pressure to pay mounted, they began to reduce the time between the billing and the payment until it again matched the control group's period and matched the pre-program condition for both the participants and the control group.

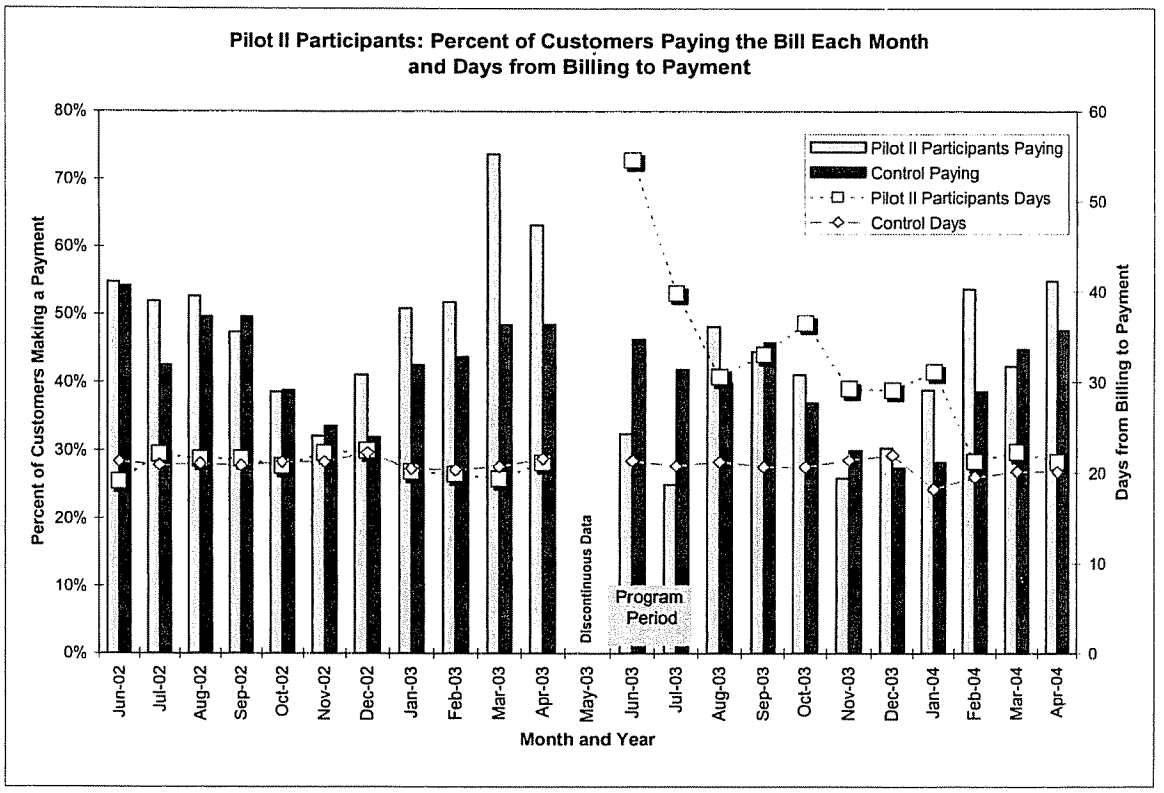

Figure 28 Percent of Customers Paying the Bill, and Days from Billing to Payment

Figure 29 below shows the same data in the bars as the previous graphic; however, the line graph represents the mean percent of the bill paid when a payment is made. The percentages above are higher than those reported earlier because earlier the calculation included a zero value if no payment was made. In this graphic, the percent of bill paid is the actual mean percent paid of only those that made a payment.

This graphic is a powerful graphic and indicates several things. First, the percent of participants and the control group make payments in about the same amount of time in the spring and summer, and fall months of the pre-program period. Then as winter sets in and bills go up, the participant group makes more payments, but tends to pay a lower amount of the bill than the control group. During the program participation period the participants make fewer payments and pay less of the bill, relying on the arrearage credits to be credited to their accounts. Once the program is over, during the immediately preceding summer and fall, participants and the control group pay about the same number of payments and pay about the same amount on their bills. However, as the bills move into their winter amounts, unlike the pre-program period, the participants begin to pay more often and begin to pay higher amounts of the bills they do pay.

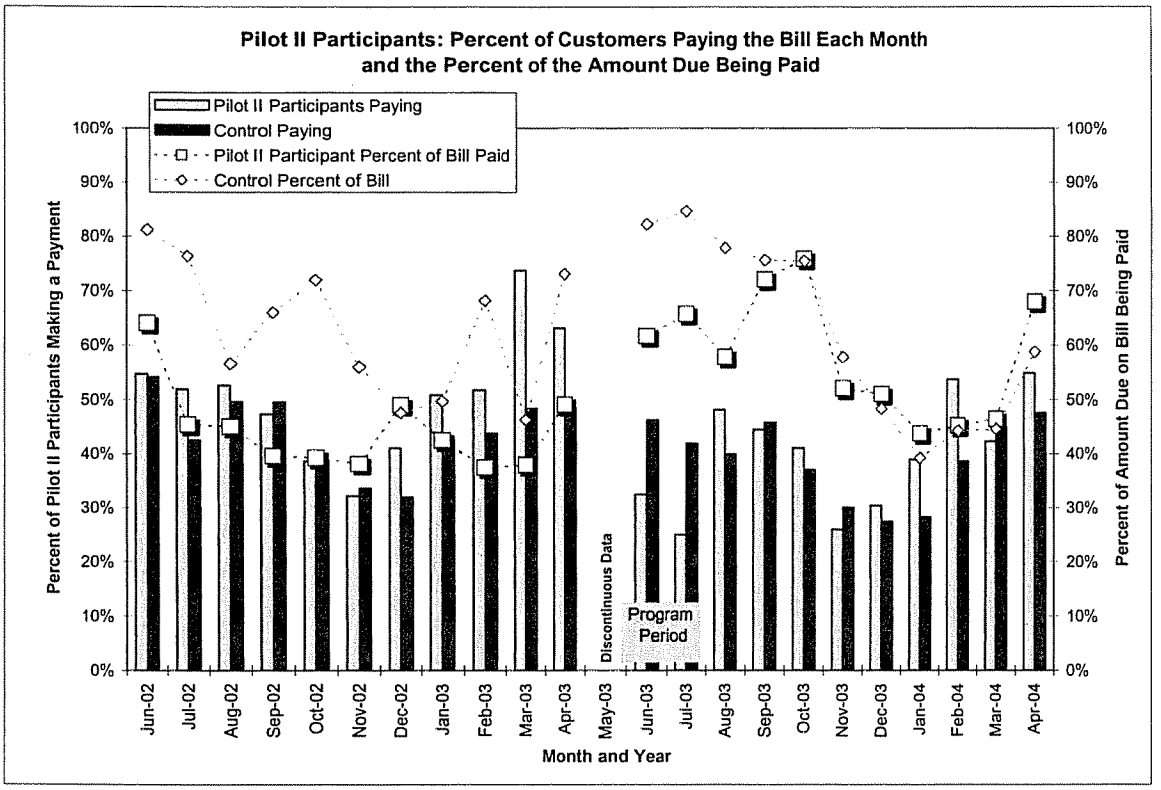

Figure 29 Percent of Customers Making a Payment and the Percent of the Bill Being Paid

Section V -- Pilot II Participant Interview Results

A total of sixty interviews were conducted with dropouts and participating low-income customers. We interviewed fifty-one participants who took part in one or more program events, including twenty-three participants who took part in both training sessions and had weatherization measures installed in their homes. This group of participants is called "full participants," participating fully in all program components. We also interviewed twenty-eight participants who completed one or two components, but who did not complete all three. These customers are called partial participants, having taken advantage of part of the program offerings. In this study the term dropout refers to customers who enrolled in the program, but who did not actually take part in any program event. That is, they enrolled in the program and then "dropped out" having no further contact with the program. We interviewed nine dropouts.

The response rates for all interviewed groups are presented in Table 5 below. The demographics of the interviewed customers can be found in Appendix C.

Table 5 Customer Interview Response Rate

	Dropouts	Participants			
		Full Participants	Partial Participants		
	Enrolled, but did not participate.	Both training sessions and weatherization	Energy training session only	Energy and financial training sessions	Energy training session and weatherization
Enrollees	25	33	12	27	6
Enrollees with phone service	14 56%	30 91%	9 75%	23 85%	6 100%
Interviewed	9	23	6	18	4
Response Rate[a]	64.3%	76.7%	66.7%	78.2%	66.7%

[a] Based on Enrollees with phone service. Overall participant response rate is 73.2%

In some cases, this report presents a comparison of the results from the Pilot Program II evaluation with the Pilot Program I evaluation results. In reviewing these comparisons the reader should keep in mind that the Pilot I evaluation results are based on 17 interviews across 28 participants completing the program. The results from the Pilot Program II evaluation are based on interviews with 51 participants across 78 participants. As a result, the conclusions from this study can be interpreted as being more reliable than the results from the Pilot Program I study. The sample confidence level and interval of this study is 90%+/-8% based on 50% bimodal characteristic distribution within the population, while the Pilot Program I study has a confidence level and interview of 90%+/-13%.

Recalling Participation or Enrollment in the Program

Of the fifty-one interviews conducted with participants, only one person could not recall participating in the program. (This customer was one of the twenty-seven partial participants that attended both training sessions but did not receive weatherization services.) Seven of the nine dropouts (78%) contacted recalled enrolling in the program. It is not unusual for a very small percent of low-income program enrollees to not remember participation for a variety of reasons, including the health and mental state of the participant.

How Customers Learned about the Program

Thirty of the fifty participants interviewed (60%) who recalled the program learned of this program by reading the enrollment letter sent to them by the Northern Kentucky Community Action Commission (NKCAC). Ten percent reportedly learned of the program by calling the NKCAC or the through the Crisis Program operated by NKCAC. Four participants (8%) report that they first heard about the program from their friends and neighbors, indicating that there was at least some networking going on in the neighborhood and this networking caused some people to contact NKCAC. Two participants indicated that they were referred to the program after they had called Cinergy's office and discussed payment issues with a Cinergy customer service representative. Other methods mentioned can be seen in Table 6.

Four of the nine (44%) interviewed dropouts report hearing about the program via the letter sent out by NKCAC, three recall learning of the program from Cinergy: either they called Cinergy, or they received a letter from Cinergy.

Table 6 How Participants Found Out About the Payment Plus Program

	Frequency	Percent
Letter from NKCAC	30	60%
Other[a]	7	14%
Client called NKCAC	5	10%
Friends or Neighbors	4	8%
Client called Cinergy	2	4%
Call from NKCAC	1	2%
Through another Agency	1	2%
Total	50	100%

[a] "Other" consists of letters from an unrecalled source, Cinergy bill inserts, or other unidentified sources.

Main Reasons for Participation or Enrollment

Three quarters of the customers who enrolled in the program did so for one primary reason: to receive the bill credits. About 20% of participants indicated that they enrolled

so that they could save energy in their home by learning conservation measures in the Energy Training Session, or by obtaining the weatherization services. However, all participants reported that saving money and reducing their bills drove their participation decision. That is, even the participants who report that they enrolled to receive weatherization measures or to learn how to save energy, reported that saving money was behind their reason for enrolling. Dropouts enrolled for similar reasons, citing the credits as the primary reason for enrolling.

It is interesting to note that none of the customers reported that they enrolled in the program to attend the Financial Training session or to learn how to better manage their household income. These results indicate that this aspect of the program is not viewed as factor in the participation decision process.

Table 7 Main Reasons Given for Enrolling in the Program

	Participants (n=50)		**Dropouts** (n=7)	
	Frequency	Percent[a]	Frequency	Percent
To receive the bill credits	37	74%	6	86%
To save energy in my home	10	20%	1	14%
To obtain weatherization services	9	18%		
To find ways to reduce my utility bills	7	14%		
To avoid disconnect	3	6%		
For help paying current bill	2	4%	1	14%
To make my home more comfortable	2	4%		
Other	1	2%		

[a] Percent figures add up to over 100% as multiple answers were allowed.

Obligation of Participants

Most participants understand their participation obligations. Only three of the participants were unable to say what was required of them, and only one thought that her current bill had to be paid on time during the course of the program. Forty-seven out of fifty (94%) knew that they were required to attend the training sessions. Three offered other requirements in addition to attending the training sessions: 1) fill out paperwork, which is technically correct; 2) be available for weatherization; and 3) to have their home weatherized. Participants were also able to identify what they would receive in return for their participation. Forty-four of the fifty indicated that they would receive bill credits, ten said that they would obtain home weatherization services, and eight said that they would receive educational services on energy conservation or household budgeting.

However, in speaking with the dropouts, the program requirements and rewards were not clear. We asked five of the seven if they were aware that the credits were given separately and that participation in all three components of the program was not a requirement. Three of the five reported that they were unaware of this condition. Two of these three said they did not participate because they couldn't get approval from their landlord to have their homes weatherized. It is unknown whether they would have

participated by attending the training sessions if they had known that they could have received the bill credits for attending.

Workshop Attendance: Reasons for Not Going; Suggestions for Improvement

The interview discussed the reasons why participants did not or would not attend the educational workshops. We asked this in two ways; first we asked participants who attended both workshops why they think some participants elected to not attend the workshops. Second, we asked participants who did not attend a workshop why they did not attend.

Participants who attended both of the Training Sessions were asked for possible reasons for people not attending one or both of the sessions. The responses include:

1. They may not have had high arrearage, so there was little incentive to attend the second session for the additional credit.
2. Lack of transportation, childcare, or time.
3. They may have thought it was a waste of time: nothing to learn, too long of a session, didn't want to be told what to do with their money.
4. "They're stupid."

When we asked the participants that did not attend the Financial Training Session why they did not, the responses indicate that it may not have been a choice. Responses included:

1. Five of the ten had health-related issues. One was in the hospital with a child suffering from sickle cell anemia; another had to go out of state to be with a dieing mother-in-law. One was too sick to go out of the home, and another said that she couldn't go out in the rain with her çane because she is scared of slipping. The fifth was an elderly woman who had just broken her foot, while her other leg already had two breaks.
2. Two people had to work at the time of the workshop.
3. Two said it was too far away for them to attend.
4. One claims that she was not informed of the time and location.
5. One was on house arrest as a result of criminal activity.

The interview also included questions soliciting suggestions for increasing the number of people who attend the training sessions. The responses we obtained include:

1. Have the budgeting session first.
2. Offer more classes at different times and more convenient locations.
3. Advertise more, not enough people know about the program. Have information at places where low-income people would visit: social service agencies, unemployment offices, etc.
4. Offer transportation services that would serve the elderly and disabled.
5. Offer childcare at the same location.
6. Increase the credits.

7. Offer a take-home option (workbook) of the sessions for those that are elderly, disabled, or cannot make the class due to work or family obligations.

Why Customers Aren't Getting Weatherization

All fifty participants interviewed were asked about why participants would not want to receive weatherization services. Again, we asked this question in two ways. One, if the participant received weatherization services or was on the waiting list to receive services, we asked them why they thought others were not responding to the offer. Most could not provide an answer to this question; not having any idea why a participant would not be interested in free weatherization services. Those that did offer possible reasons provided the following responses:

1. Some may think it is an inconvenience; or they don't have the time to deal with the process.
2. Some may not trust the organization: they don't want others working on their home.
3. They may not want to take anything without paying for it, particularly the elderly.
4. Property owners may not have approved the service.
5. Some may not have realized that it was free.
6. Some may have been fearful of what weatherization staff may find. They don't want to be turned in for something illegal.
7. Some may have been ashamed of the condition of their home (dirty, run-down)
8. "Complete stupidity," "they're dumb," or "foolish."

We asked those participants that did not have their homes weatherized why they did not take advantage of the service

1. Property owners did not allow the weatherization on their property.
2. Their income was too high, they were no longer qualified.
3. Too busy with other things, did not have the time.
4. Negligence: forgot all about it.
5. House is a mess; don't want people to see it.
6. Moving to a new place soon.

Suggestions for improving the number of participants that follow through and obtain weatherization services were offered by both weatherized and unweatherized participants. These included:

1. Set up a program with property owners: write to them explaining that the service is free and will benefit both the owner and tenants.
2. Advertise more, particularly where low-income people go. (Churches, social service centers, etc.)
3. All participants should be required to have energy audits be done as part of the program, regardless of whether they are interested in getting weatherization, so they will know how much weatherization will help them. This may increase participation in the weatherization component of the program.

4. Ensure confidentiality about the state of the home.
5. Ensure that child welfare services will not be called based on what is seen in the home.
6. Show examples of bills before and after weatherization to participants at the Training Sessions.

Awareness of Credits and How They Would be Applied

The interview included a series of questions to determine if they were aware of specific aspects of the program operations. These questions were designed to determine if customers knew the details about how the incentives would be credited. We asked if customers were aware that participants would receive an arrearage credit after attending each of the sessions, and after the completion of the weatherization work. We also asked if they knew that these credits would be applied only to their arrearage rather than applied to their current bill.

As reflected in Table 8, most of the customers were aware of how the credits would be applied. However, of the participants who were not aware of the credit amounts, many of these reported in their discussion of the questions that they thought the program credits would be applied in one $500 lump sum after all three components of the program were successfully completed. Also, during the questioning, several of the participants who knew the value of the credits did not fully understand the method by which the credits would be applied.

The results of these questions indicate that participants knew the value of the credits, but that there may have been some confusion in the understanding of the way in which the credits were to be applied. The interview did not quantify the level of respondents who were not aware of the approach that NKCAC and Cinergy would use to apply the credits, but enough of the participants expressed this lack of awareness during the interview to report the finding as a qualitative finding.

Table 8 Customer's Understanding of Credits

Number of customers who understood (at the time of enrollment) that the:	**Participants** (n=50)		**Dropouts** (n=7)	
	Frequency	Percent	Frequency	Percent
Energy Session = $200 credit	37	74%	7	100%
Financial Session = $150 credit	39	78%	6	86%
Weatherization = $150 credit	40	80%	5	71%
Credit would be applied to arrearage	45	90%	6	86%

When we examined credit level knowledge by the workshops attended we found that 89% of the participants who attended only the Energy Training Session understood that they would get a credit for $200 for attending that session. However, of those that attended both sessions, only 73% understood that they would get a $200 credit for that

session, indicating that there may have been a bit of confusion in a few participants' minds about how much the credit would be across the two training sessions.

We also found that older participants had a better understanding of the program. Of those under forty-six years of age, 30% did not understand that the credits could be applied only to their arrearage yet only 12% of the participants over the age of forty-six did not understand.

An examination of the educational levels did not reveal any changes in the understanding of the program credits or how they would be applied, but the number of children in the household did. The more kids in the household, the more likely it was that the participant didn't understand that the credits would be applied only to their arrearage. Table 9 presents how the percentage of those that don't understand increase with the number of children.

Table 9 Number of Children Versus Understanding of Credit Application

Children in household	Participants in group	Percent that didn't understand that credits only applied to arrearage
0	12	16.6%
1	8	25.0%
2	16	25.0%
3	11	27.3%
4	2	100.0%

Participants that attended both training sessions or had weatherization measures installed in their home were all aware that the credits would be applied only to their arrearage. Of the ten participants who attended only the Energy Training Session, six of them were aware that the credit could only be applied to their arrearage.

Importance of (and Issues with) the Incentives

Earlier we presented that the credits offered through the program were the main reason people chose to enroll in the program. Of the fifty participants interviewed, thirty-nine (78%) scored the importance of the incentives a 10 on a 10-point scale. Only three (6%) participants scored the importance of the bill credits a 5, 6, or 7. No participant scored the importance of the credits lower than 5 on the 10-point scale. Across all participants, the importance of the credits in their decision to participate averaged 9.5 on a 10-point scale.

While the credits were the single most important driver of program enrollment (discussed earlier) getting the credits applied to the participant's bill was an issue for many. Eighteen (36%) out of the fifty participants interviewed reported having a problem getting the credit applied to their bill. Most of these participants said that it took too much time for the credits to be applied. In the reported "worst case scenario," one

customer reported she had to borrow money to avoid being disconnected while waiting for the credit. One of the reasons for the prevalence of this issue across participants is that they were informed during the program that the credit would be applied within "a few business days." While this created an expectation in the mind of the participant that was not filled through the program, these findings support a conclusion that program credits and services earned need to be provided in a timely fashion. An additional issue expressed by a few participants was that they were provided with double credits following one of the training sessions. However, only three participants indicated this was a problem for them.

Incentive Structure

Participants were asked an open-ended question about the minimum amount of credit that would need to be offered for them to attend one of the program training sessions. Table 10 presents the result to this question expressed by twenty-one participants.

Responses ranged from a low of no credits are needed to a high of $200 per session. On average participants reported that $123.81 would be needed to incentivize the training session attendance. Likewise, dropouts reported incentives needed to be from a low of no credits to $200 per session with an average incentive of $100. However one dropout suggested that Cinergy would need to eliminate the entire arrearage for him to attend.

In both cases (participants and dropouts) the incentive offered by Cinergy are greater than the incentive participants and dropouts report needing in order to attend the training sessions.

Table 10 Minimum Credit Needed to Attend a Training Session – Open-Ended Responses

Open-ended response given	Participants (n=50)		Dropouts (n=7)	
	Frequency	Percent	Frequency	Percent
$0	1	2%	1	14%
$50	2	4%	1	14%
$100	8	16%	1	14%
$150	6	12%	1	14%
$200	4	8%	1	14%
Full Arrearage Amount	0	0%	1	14%

The remaining twenty-nine participants who could not provide a response to the open-ended question were asked if they would attend for amounts ranging from $25 to $100. On average, this group reported that they would attend the training session for an incentive credit of $53.68 and 88% indicated that they would have attended the sessions even if the weatherization services were not a part of the incentive structure.

Table 11 Amount of Credit Needed to Attend the Training Sessions

Would have attended for:	Frequency	Percent (n=50)
$25 a session	16	32%
$50 a session	4	8%
$75 a session	7	14%
$100 a session	7	14%
No Weatherization	44	88%

Drawing conclusions based on this information is difficult. While these responses indicate that participant may well attend for somewhat less incentive levels than applied. These responses are provided after program participation. In view of the very strong satisfaction scores for the workshop components it is not possible to determine from this data if the credits would need to be higher without the hindsight of the value of the sessions. Table 11 indicates that a third of the participants who could not answer the open-ended question would have attended the sessions for $25 each. This response indicates that the incentives could be significantly lower. In the open-ended responses given in Table 10, most of the responses given were $100 or more and average $123.81, a significantly higher credit level.

Satisfaction with the Training Sessions

During the interviews, participants were asked to rate their satisfaction with specific aspects of the program's training sessions. Participants were asked to score their satisfaction using a 10-point scale where a 1 means very unsatisfied and a 10 means very satisfied. We asked participants to rate their satisfaction with the convenience of attending, comprehensiveness, materials, credits provided, the instructor's knowledge and the instructor's presentation skills. We asked these questions for each of the two training sessions. A score of less than 7 (on a 10 point scale) typically means that there is at least some level of dissatisfaction with a program component. When participants provide a score of 7 or less in a response, they were asked how that aspect of the program could be improved.

Participants report their highest levels of satisfaction with the bill credits and the instructor's knowledge. Satisfaction with the comprehensiveness of the subjects covered, the materials handed out, and the instructor's presentation also score high with means over 9.0. The area of lowest satisfaction was the convenience of attending the sessions. However, even the lowest scoring item received an average score of 8.58, indicating that overall, participants were satisfied with the times and locations of the sessions. Table 12 presents the satisfaction scores for the program participants.

Table 12 Mean Satisfaction Scores for Training Sessions

1 = very dissatisfied, 10 = very satisfied. **Customer Satisfaction with:**	**Energy Session** (n=50)	**Financial Session** (n=39)
Bill Credits Provided	9.47	9.77
Instructor Knowledge	9.42	9.47
Comprehensiveness of Subjects	9.27	9.31
Materials Handed Out	9.16	9.49
Instructor Presentation Skills	9.13	9.23
Convenience of Attending	8.58	8.77

Issues with the convenience of attending were the most common issues expressed about the convenience of attending the training sessions. Some of the comments of participants scoring convenience below a 7 are provided below. Participant scores are provided after the comments in parentheses.

1. "Have the sessions in town, it was in the middle of nowhere." (score: 1)
2. "I'm very sick with cancer right now." (score: 3)
3. "Evening and weekend courses should be provided." (score: 5)
4. "I'm disabled, it's hard to go anywhere." (score: 6)
5. "I don't drive, but it wasn't that far, so it wasn't a big deal." (score: 7)

In other areas, the scores all have an average of over 9.0, indicating that the customers were very satisfied with the sessions. However, there were a few negative comments that came with the lower scores:

Energy Training Session Comments:

1. "There was a delay in setting up, we didn't start on time." (score: 5)
2. "I wanted more examples and explanations." (score: 7)
3. "We were supposed to get CFLs, but they didn't have any." (score: 5)

Financial Training Session Comments:

1. "Put more emphasis on explaining how to save money." (score: 7)
2. "Put more focus on utility bills, not checking and savings accounts." (score: 7)
3. "There wasn't enough time, we skipped through a lot." (score: 7)

There were some changes made to the Pilot Program I interview instrument compared to the instrument used in the Pilot Program I evaluation. However, we are able to make some comparisons between the two programs. Table 13 below provides a direct comparison of the satisfaction scores between Pilot Program I and II. Scores given for Pilot II are the weighted average of the scores from the two sessions in Table 12 above. Weighting is based on the number of respondents for each session.

Table 13 Comparison of Satisfaction Scores, Pilot I Versus Pilot II

Satisfaction with:	**Pilot I Score** (n=17)	**Pilot II Score** (n=50)
Bill Credits	9.8	9.6
Convenience	9.5	8.7
Knowledge of Instructor	9.0	9.4
Presentation Skills of Instructor	8.9	9.2

All four of these satisfaction categories underwent changes in their structure and delivery between Pilot Program I and II. The bill credits were lowered, and they were credited and applied differently. The satisfaction scores have dropped in Pilot Program II, but not significantly. The convenience of attending the sessions has decreased despite the expansion of times and locations offered from Pilot I. The instructor scores have increased somewhat with the new instructor and the new training materials. (Pilot I's instructor was a volunteer; the NKCAC Educational Director led Pilot II's sessions.)

We also asked the participants if the sessions were too long, too short, or about right. Table 14 indicates that the majority of customers thought that the sessions were about the right length of time.

Table 14 Customer Opinions on the Length of the Training Sessions

	Too Long		**About Right**		**Too Short**	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Energy Session (n=50)	5	8.0%	43	86.0%	1	2.0%
Financial Session (n=39)	4	10.3%	33	84.6%	2	5.1%

We also wanted to know if participants think workshops provided at a single location are as acceptable when compared to educational sessions provided in their homes. To conduct this comparison we asked the participants if the workshops would have been more helpful if someone came to their home to conduct the session and discuss their individual energy and financial conditions, as opposed to attending the central workshop. The results of this question indicated that most (90%) of the participants think the central workshop is the preferred method of delivering the educational components of the program.

Table 15 Preferences: Centrally Located Session Versus In-Home Personal Consultations

	Sessions were fine		In-home visit is preferred	
	Frequency	Percent	Frequency	Percent
Energy Session[a]	43	89.6%	5	10.4%
Financial Session	35	89.7%	4	10.3%

[a] Two respondents replied "Don't know," these responses are not included in the percentage.

Of the six people that responded that in-home visits would be preferred, two are disabled, and one is a single mother of two working full time. Judging by demographic information, the other three don't have extenuating circumstances that would make the in-home visit highly preferable, they may have simply preferred the more personalized training that would come with an in-home visit.

Satisfaction with Weatherization Services

Program participants who had received their weatherization service before the evaluation interview are very satisfied with the quality of the measures installed and the information provided. Satisfaction scores are similar to, but generally a bit lower, than last year's scores, as can be seen in Table 16 below.

Table 16 Customer Satisfaction with Weatherization Services

Satisfaction with:	**Pilot I** (n=10)	**Pilot II** (n=22)
Information on the Installed Measures	10	9.30
Quality of the Measures Installed	10	9.25
Scheduling the Energy Audit	9.6	8.82
Weatherization Services Overall	8.7	8.71
Scheduling Weatherization	9.6	8.43

The small drop in scores for Pilot II is primarily due to a few customers providing lower scores and as a result, should not be interpreted as a systematic drop in customer satisfaction. With only 22 respondents, a couple of low scoring participants can significantly affect the average score. The median score across all weatherization scores is 10 on the 10 point scale used, with only one exception: the median satisfaction score with the scheduling of weatherization services received a median score of 9 in Pilot Program II.

In looking at who provided satisfaction scores we found that all married participants were very satisfied with the scheduling of the audit and services; all of them gave a score of 9 or 10. Divorced participants were less likely to score satisfaction as high, with only 60% scoring their satisfaction a 9 or 10, the others scored it less than 9, with one individual scoring satisfaction with scheduling at a 1.

When customers gave a score of 7 or lower, we asked them for suggestions to improve the service. Some of these comments are listed below. The comments include the scores provided by the customer. The following complaints about weatherization all come from four customers.

Scheduling the energy audit and weatherization work:

1. "They didn't come back when they told me they would, on a Friday in September. They finally called me today (November 24th)." (score: 1)
2. "We had to talk three or four times before we scheduled a day and time." (score: 4)
3. "They weren't prompt, and didn't call to let me know they'd be late." (score: 5)

Information provided:

1. "They told me to call PWC and tell them what was done." (score: 4)
2. "I had no idea what they were talking about." (score: 7)

Weatherization Overall:

1. "I'm getting frustrated. The work isn't done, I haven't heard from them." (score: 7)
2. "They told me I needed it, only to tell me they couldn't do it because they ran out of funds." (score: 5)
3. "One staff member was very rude. He was "doggin' on the landlord," saying he was going to have the place condemned, but the place was just inspected and was OK. He gave me a CO monitor, said he was coming back Friday, never came, never called until over 2 months later." (score: 1)

We also asked participants who had weatherization services if the installation crew completed any repairs on the home while they were installing the weatherization measures. While some customers reported that they had completed some home repairs, further discussion of these "repairs" turned out to be a component of the installation of a weatherization measure. However, one individual indicated that the installer fixed a doorknob that was "hanging by a thread."

Some customers were still waiting for their weatherization service at the time of the interviews. We asked about the reasons for the delay. The responses indicate that most of the delays are not program related, including:

1. The city was going to condemn the building.
2. Our income was too high at the time.
3. Problems with getting permission from the property owner.
4. Illnesses in the family; surgery.

However, other reasons were program related: two people indicated that they did not get the proper forms despite asking for them at the sessions (although program records indicate they obtained and completed the forms), and a few people they were still waiting for phone calls to schedule the energy audit and/or weatherization work on their homes. Four out of five of these customers are homeowners indicating that the comments are not related to landlord approvals.

We asked those customers whom had the weatherization work done if they could name the organizations that funded and performed the work involved. Their responses are below in Table 17.

Table 17 Participants Recollection of the Organizations Providing Weatherization Work

	Audit and weatherization work done by:	**Funding for the work was provided by:**
Cinergy	2	6
NKCAC	10	9
PWC	14	3
Other	2[a]	3[b]

[a] Emerson Furnace, Aurora Insulation

[b] Saint Vincent DePaul, Welfare Office, United Way

Only half of the participants were able to recall that it was PWC that provided the energy audit and weatherization work on their homes. Less than a tÜ
identify Cinergy as the organization that funded the measures.

Value of Program

As part of the evaluation, we asked the customers to value the three components of the program. The customers were very appreciative and valued the program highly. Participants scored the value of the Energy Session, the Financial Session, and the Weatherization services very high, with all three receiving a median score of 10. The mean value scores are as follows:

Table 18 Mean Value Scores of Program

Value of the:	**Mean Score**
Energy Session	9.46
Financial Session	9.04
Weatherization Service	9.50

Views of the Overall Program

We also asked the customers how satisfied they were with specific aspects of the program. The results indicate very high satisfaction with most aspects; however, the lower scores from communications during the training sessions and the weatherization services may need to be investigated to determine the cause of the lower scores. Table 19 presents the satisfaction scores for the aspects of the program that were measured.

Table 19 Mean Satisfaction Scores of Program

Satisfaction with:	Mean Score
Overall Program	9.58
Ease of Filling out Application Forms	9.09
Communication during the Application Process	8.91
Communication during Sessions and Weatherization	8.81

Satisfaction scores are generally high, and four out of five participants interviewed reported that they told friends and/or family about the program. These thirty-nine participants estimate that they told a total of 218 people about the program, or an average of 5.7 people each.

We also wanted to know what customers liked the most about the program, and what they liked least. The informational and educational aspects appear to be the single aspect of the program that participants liked most. While people enrolled for the credits, and valued the credits most, the educational workshops were reported as the most liked aspect of the program.

When participants were asked what they liked most about the program made the following responses:

Educational efforts and information aspects:

1. Leaning how to conserve energy. (eight participants liked this most)
2. The instructor (nice, made it fun, etc.) (four participants)
3. The Energy session. (two participants)
4. Learning how to save money.
5. Cinergy being willing to teach people how to conserve energy.

Bill credits and billing assistance aspects:

1. The credits. (eight participants)

2. The help with the bill and offer of weatherization.

Other aspects they liked the most:

1. Helpful and friendly people. (three participants)
2. Well-structured program. (two participants)
3. Someone being there to help when I really needed it.
4. The fact that I didn't feel looked down upon, they gave me respect and helped me with things I can't do by myself with my house.
5. The sessions were close to home.
6. Everything worked like clockwork.

Weatherization aspects:

1. Getting the weatherization. (seven participants)
2. The new furnace. (two participants)
3. Learning how to seal the doors.
4. Learning new weatherization methods.
5. Knowing the house would be more comfortable.

We also asked participants what they liked least about the program. Twenty-nine of the participants (58%) were able to identify what they liked least about the program. Their responses are below. The other twenty-one participants could not think of anything that they liked least; they were very pleased with the program.

Least liked aspects of the training sessions:

1. Location of sessions. (five participants)
2. Sessions were too long. (four participants)
3. Difficulty of attending sessions (disabled). (three participants)
4. Need short breaks (restroom, cigarette). (two participants)
5. More time needed in Financial Session.
6. Irrelevant topics were a waste of time.
7. The other participants: people were asking the instructor questions that should be asked of Cinergy, wasting class time.
8. The lighting of the NKCAC room (note: this participant is epileptic).
9. The room at the NKCAC was not comfortable.
10. Parking situation at sessions.
11. Slides were like sleeping pills – just use the handouts and keep discussion going.

Other aspects that the customers did not like:

1. Not getting called back about weatherization services. (two participants)
2. Not receiving the weatherization application.
3. Having to repaint where they put insulation in the walls.
4. Credits not being applied fast enough.

5. Poor attitude of the man doing the energy audit.
6. The run-around during the application process.
7. The communication between Cinergy and NKCAC.

Views of Cinergy

After being told that the Payment Plus Pilot Program was provided by Cinergy, we asked if their attitude towards Cinergy had become more positive, more negative, or stayed about the same. If they responded with a change, we asked them if their attitude was much or somewhat more positive or negative, and why.

None of the participants reported that their attitude toward Cinergy had become more negative, seventeen reported no change, and thirty-one indicated that their attitudes were more positive: twenty-three said they felt "much more positive," the other nine said that they were "somewhat more positive" in their attitudes toward Cinergy. The reasons for these positive changes in attitudes are described below Table 20.

Table 20 Participant's View of Cinergy

View of Cinergy is now:	Frequency	Percent
Much more positive	23	46%
Somewhat more positive	9	18%
About the same	17	34%
Somewhat more negative	0	0%
Much more negative	0	0%

Comments from those with more positive attitudes:

1. This program helped me a lot. (twelve participants)
2. Cinergy is giving back to the community. (three participants)
3. They are interested in working with people, not just making money. (three participants)
4. They are willing to take the time to teach us methods of saving energy, they really do care. (three participants)
5. I appreciate the initiative Cinergy took to work with NKCAC on this program.
6. Cinergy is concerned; they will offer help, education, and bill credits.
7. Cinergy gave me a chance.
8. I learned how the utility companies actually work.
9. They worked with us; it was fantastic. They helped open our eyes to what can be done.
10. Cinergy worked with me.
11. The program gives them a human quality.
12. Before this I thought about Cinergy buying a stadium in Cincinnati while raising rates, but they are paying attention to customers.
13. I always talk to the same person (lady in booth 2); she is very helpful and friendly.

14. Talking with Kathy (Schroder) - she has done a lot to change my attitude, she is very helpful and kind.

Three participants offered comments after saying that their attitude towards Cinergy has stayed the same.

1. Cinergy doesn't work well with people.
2. It's a big business.
3. I'm happy with the program, but they keep increasing the rates.

Participant's Recommendations for Improvements

Participants were asked for suggestions for changes and what additional services the program could offer to improve the program.

1. Make sessions more convenient. (three participants)
2. Provide more information on metering and billing. (two participants)
3. Additional classes that offer more detail. (two participants)
4. Offer daycare services during sessions. (two participants)
5. Improve communication between organizations involved.
6. Hand out CFLs as an educational tool so people can see how long they last.
7. Communicate accurate waiting times for weatherization.
8. Offer discounted energy rates that are based on income.
9. Offer credit counseling for first time homebuyers, information on banks/loans.
10. Perform basic house maintenance and/or repairs.
11. Contact property owners to explain weatherization program.
12. Offer another program for those with dire medical circumstances.
13. Make the Financial Session more advanced.
14. Offer emergency assistance.

Participants were asked if they could suggest ways that the program could encourage people to participate in programs like the Payment Plus Pilot Program. The twenty-nine that offered suggestions provided the following responses.

1. Advertise more. (twelve participants)
2. Put a flyer in the Cinergy bill. (four participants)
3. Target promotion: PWC, unemployment agencies, etc. (three participants)
4. Provide testimonials from past participants. (three participants)
5. Change qualifications to include those that are not in disconnect status. (two participants)
6. Send brochures to past participants and ask them to distribute them.
7. Provide daycare.
8. Offer in-home services for elderly and disabled.
9. Offer more and larger classes.
10. Keep application forms at NKCAC, Cinergy, and PWC.

We asked participants about their opinions on how Cinergy can help low-income customers pay their bills on time. Their suggestions are given below.

1. Offer more flexible payment arrangements that are based on income and/or medical conditions - offer weekly or bi-weekly payment plans. (four participants)
2. Lower the rates. (four participants)
3. Even billing should be lower, based on income. (two participants)
4. Disconnect should not occur if payments are being made, no matter how small, if medical conditions exist. (two participants)
5. Offer payment arrangements at the training sessions.
6. Base energy bill estimates (for people considering moving) on more than one year. When she moved into her place, the energy bill estimates that were provided were based on the past year usage in the dwelling when nobody lived there. She wasn't prepared for or expecting the high cost of energy.
7. Have neighborhood stores that can take small payments at any time.
8. Allow extra (small) payments.
9. Encourage budgeting session to low-income customers.
10. Have more consideration for disabled people.
11. Offer additional resources for low-income people at the training sessions.
12. Extend payment plans from six months to one year.
13. Insist that bills come first, and paying them will lower their money-related stress.
14. Make participation mandatory if bills are outrageously high or always late.
15. Give a year on arrearage, not six months.
16. Allow more flexibility in programs. (Participant couldn't attend Financial Session, but would like to at another time.)
17. Structure program similar to the one offered in Ohio. (Probed for details, participant doesn't remember details; just that they liked what they heard about it.)
18. Programs like this should be federal, not utility based. Poverty issue needs to be dealt with as a whole.

Changes in Energy and Payment Related Issues

This section of the report presents the results of questions asked of the participants pertaining to changes in their utility bills, their ability to control energy costs and changes in their ability to manage their payments. The results of these questions are described below and summarized in
Table 21.

Changes in Knowledge of How to Conserve Energy

None of the fifty participants interviewed said that their knowledge of how to save energy had decreased as a result of their participation. In fact, 90% of the participants said that their knowledge of how to save energy increased, indicating that the program's educational goals were successful achieved.

Changes in Ability to Control Energy Use
Over 80% indicated that their ability to control energy use increased. Of those that said that it stayed the same, many talked about their kids not listening to their repeated requests to turn lights and appliances off.

Table 21 Changes in Energy Knowledge, Use, Bill, and Ability to Pay

n=50	**Increased a lot**	**Increased somewhat**	**Stayed about the same**	**Decreased somewhat**	**Decreased a lot**
Knowledge of How to Save Energy	48%	42%	10%	0%	0%
Ability to Control Energy Use	46.9%	30.6%	22.4%	0%	0%
Ability to Control Monthly Utility Bill[a]	6.3%	0%	12.5%	47.9%	22.9%
Ability to Pay Utility Bill Arrearage	14.0%	18.0%	52.0%	10.0%	6.0%
Ability to Pay Other Household Bills	8.0%	14.0%	62.0%	10.0%	6.0%

[a] Does not add up to 100%. 10.4% responded "Don't Know" to this question.

Changes in Monthly Utility Bill
Twenty-three percent of the participants reported that their bills have decreased "a lot" as a result of participation and 48% said their bills have "somewhat" decreased. Together, 71% of participants said that their bills have decreased as a result of their participation Twenty-seven of these participants that indicated a decrease in their bill and were able to provide an estimate of the change. The summaries of these estimates are in Table 22. Those that first indicated that their bill had decreased somewhat and provided an estimate of the monthly change gave a range of $15 to $62.50, with a mean estimated decrease of $38.61. Those that indicated that their utility bills had decreased a lot gave estimates ranging from $30 to $150 per month, with a mean estimate of $72.22.

Table 22 Estimates of Changes in Utility Bill

	n	**Percent reporting**	**Mean estimate of decrease**
Participants that provided an estimate of decrease	27	54%	$49.81
Reported bill decreased somewhat **with estimate**	18	36%	$38.61
Reported bill decreased a lot **with estimate**	9	18%	$72.22

Three participants indicated that their utility bills increased a lot, with two providing estimates, one of $30, the other estimated that their utility bill has increased $200 a month since participation. Neither of these participants had weatherization measures installed in their homes.

Ability to Pay Utility Bill Arrearage

We also asked participants if their ability to pay their arrearage has increased, decreased, or remained the same. Seven participants (14%) indicated that the program increased their ability to pay their arrearage "a lot," and nine (18%) said that their ability to pay their arrearage increased "somewhat." Eight participants (16%) indicated that their ability to pay had decreased, while the remaining 26 participants (52%) indicated that their ability to pay has stayed the same. These results indicate that while participants enroll to receive the credits, place great importance on the credits they receive, are very satisfied with the sessions, learn to take energy savings actions, and implement those actions where possible; the program may have the ability to effect the ability to pay bills for a subset of the participants consisting of about 32% of participants. It should be noted that the program and post-program period occurred during a time when the economy was slowing down at the same time utility costs were increasing. However, even with the economic slow down and significant increases in the price of energy, 32% of participants report they are better able to pay their utility bills.

Ability to Pay Other Household Bills

A similar result was obtained when we asked participants if their ability to pay other household bills has changed because of the program. In this case, fewer participants indicated that the ability to pay has increased (22%), with 8% indicating that this aspect has increased "a lot" and 14% said that their ability to pay increased "somewhat."

Notes on Ability to Pay

Many participants had a difficult time separating their life situations from any changes in ability to pay that may have come from their participation. For example, many mentioned that illnesses had decreased their ability to pay, or the fact that they are now working full time, increasing their ability to pay. Therefore, these results on ability to pay must be reviewed with these conditions in mind. However, there is some indication that the participants did make this separation. Of the forty participants that attended both of the training sessions, seven indicated that their ability to pay their arrearage increased a lot, four indicated that their ability to pay other household bills increased somewhat. Of those that did not attend the Financial Training Session (10), none of them indicated that their ability to pay either their arrearage or other bills had increased a lot.

Most Important Things Learned from the Program

During the interviews, participants were asked to identify the most important thing(s) they learned from their participation. In general, all participants reported that they learned one or more things that they would classify as most important. These items are listed as expressed by the participants and focus mostly on individual items learned during the workshops.

Lessons learned from attending the Energy Session:

1. Use cold water to wash clothes. (fourteen participants)
2. Difference in energy consumption of appliances: oven/microwave, fan/air conditioner, dishwasher/hand washing. (fourteen participants)
3. Weatherize your home before winter. (thirteen participants)
4. Use various wattage light bulbs (including CFLs) for different uses. (eight participants)
5. How to save energy. (seven participants)
6. Keep the heat down. (seven participants)
7. Energy saving tips: don't leave the refrigerator door open, turn the lights off when not in use, turn the water heater down. (six participants)
8. How to read a meter. (two participants) (One caught a mistake and was credited $140.)
9. How easy it is to conserve energy.
10. That saving energy saves money.
11. How much energy is wasted if there are leaky/dripping faucets.

Lessons learned from the financial session:

1. How to budget. (ten participants)
2. Consume less. (four participants)
3. Deposit checks instead of paying a fee to have them cashed. (two participants)
4. Pay bills first. (two participants)
5. Plan ahead.
6. How to say no to unnecessary things
7. Save more money.
8. Learned about different checking and savings accounts.
9. There are no guarantees in life, you need to be financially prepared.

Actions Take as a Result of Participation

One of the goals of the interview is to determine if participants have used the skills they learned during the two workshops. To accomplish this goal we asked participants "*What actions, if any, have you taken in your home to save energy and reduce your utility bills as a result of what you learned in the this program?*" and "*What actions, if any, have you taken in your home to better manage your household budget as a result of what you learned in the this program?*" The responses to these questions demonstrate that participants are using the information and skills gained during the workshops to take actions that save energy, and that they have made adjustments to the way they handle their money. The actions that the participants report taking following the workshops are presented below:

Actions taken as a result of participation in the Energy Training Session:

1. I put plastic on the windows / sealed doors. (nineteen participants)

2. I wash my clothes in cold water. (eighteen participants)
3. I turn the lights off when not in use. (seventeen participants)
4. I keep the thermostat down. (fourteen participants)
5. I'm using more efficient light bulbs. (fourteen participants)
6. I turn the TV off when nobody is watching it. (five participants)
7. I turned the water heater down. (five participants)
8. I use the dishwasher more often. (three participants)
9. I turn the heat on later in the year. (three participants)
10. I use the microwave more. (three participants)
11. I fixed the dripping faucet. (two participants)
12. I use the air conditioning less. (two participants)
13. I replaced the windows. (two participants)
14. I don't let the water run. (two participants)
15. I had the furnace and hot water heater checked and fixed. (two participants)
16. I shut the registers in rooms that are not used often.
17. I decreased how long my clothes are washed.
18. I insulated the water heater.
19. I match the range to the size of the pot.
20. I don't use the dry function on my dishwasher anymore.
21. I take showers instead of baths.
22. I take more baths.
23. Fixed the seal on my refrigerator.
24. I changed the filter in my furnace.
25. I insulated the ductwork.
26. I keep the freezer and refrigerator full.
27. I unplugged the basement freezer and moved the contents to the kitchen freezer.

Actions taken as a result of participation in the Financial Training Session:

1. I keep a record of my expenses. (four participants)
2. I limit the extras. (three participants)
3. I pay my bills first. (two participants)
4. I'm managing my money better now. (two participants)
5. I say no to my kids more often.
6. I deposit my checks into my bank account to avoid check-cashing fees.
7. I figure out what I have at the beginning of the month. I put money in envelopes that are earmarked for certain bills.
8. I'm saving money, so I can spend a little more on extra things.
9. I'm being more careful with my money.
10. I direct deposit $20 a week into my savings account.
11. I've cut down on what I pay my grandkids for the chores they do.
12. I try to buy things I need only when they are on sale.

Overall, it seems that the participants were able to incorporate a significant amount of what they learned into their lives and the lives of their families.

CONCLUSIONS

This evaluation involved three independent coordinated studies. The first study consisted of a process evaluation. The second focused on the energy use changes as a result of the Payment Plus Program, and the third study focused on evaluating the arrearage and payment effects of the Pilot program. The process evaluation examined the operations of Pilot Program III, implemented from January through March of 2004. This study involved an examination of the management and operations of the third (of three) Pilot Programs. The process evaluation included on-site interviews with key program designers, managers and implementers. The second study was an effects evaluation focusing on identifying how the program influenced participant energy consumption using weather-normalizing software, and the third examined arrearage levels and payment effects. The effects evaluations used a control group of low-income customers who were not weatherized to serve as the baseline from which changes to the participant group could be measured. The arrearage and payment effects evaluation examined the billing and payment histories of 14 Pilot I participants and 64 Pilot II participants.

From these studies we conclude the following overarching findings:

Process Findings

1. The process used to enroll Crisis participants needs to be changed. The process used to enroll Crisis participants, the majority of the Pilot III participants, involved presenting the program to the Crisis enrollee, and then later telling many of them that they could not participate because their arrearage level or their customer account history made them ineligible for the program. This procedure damaged Cinergy's reputation and Cinergy's relationship with these valued customers by appearing to deny them service, when in fact they were ineligible to participate and should not have been presented with the potential to participate. All customers should be pre-screened and approved to receive the program offer before the program is offered to any Cinergy customer.

2. The outreach and enrollment efforts were successful at filling 90% of the Pilot III participation goal, however, the majority of participants did not come from Cinergy's target list of potential participants, but from the Crisis program enrollment. We do not think that this is because the demand for the program is low in the originally targeted customer group, but because the marketing and outreach efforts are not adequate or appropriate to capture customer interest. We suggest that the outreach efforts be supplemented with promotional materials designed specifically for low-income customers and that the program employ customer contact and enrollment methods better able to capture customer interests, including the use of professionally designed colored brochures and one-on-one customer contacts. If the outreach efforts are well designed and implemented there should be no need for supplemental enrollments methods.

3. NKCAC wants to rely on face-to-face enrollments with Crisis program participants in addition to the program's outreach efforts to LIHEAP participants with high arrearage levels. We think face-to-face enrollments are an excellent approach to filling the participation quota, and we agree that in some cases Crisis participants should be entered into the program. However, we conclude that if the program's outreach and marketing efforts are redesigned so that they are attractive to the low-income customer and the program employs one-on-one telephone or in-person contacts with the original target group the program can be successful at filling the targeted participation quotas.

4. The changes made to the Pilot program that allow PWC to present the weatherization program during the energy efficiency workshops has increased enrollments into the weatherization program and has increased the speed at which the weatherization services are provided to participants.

5. The weatherization program is having high participation rates except for the renter participant group who need landlord permission to receive the weatherization service. Program designers should explore options for helping these customers obtain permission from the landlords. We suggest that the program explore the reasons why landlord permission is difficult to obtain and consider designing program components that attempt to overcome these barriers.

6. There remains program management communication and coordination issues between NKCAC and PWC. We are unsure if NKCAC's current management can overcome these barriers and solve these problems.

7. Cinergy continues to not be considered a program sponsor by participants. While Cinergy can take a more active role in providing program services, and program providers can take a more active role in helping participants understand, this finding may not change as long as contracted venders, who are viewed at the primary program sponsor by participants, provide the program.

8. Interviewed managers agree that distributed workshops in the counties served should be the primary method of delivering workshops, however there is concern that these workshop obtain enough participants to make the process cost effective. We agree that participants should not be asked to travel to a distant city to receive program training. This adds a significant barrier to the participation process and can act to limit enrollments from potential participants who are not located in the city in which workshops are provided. It is better for the workshop instructor to travel to the participant than require the participant to travel across counties to the workshops.

9. The Pilot III program received few customer complaints and appears to be working more smoothly and more effectively than Pilot programs I and II.

10. Interviewed managers think the program participants like the arrearage credits, the weatherization services, the budget management workshop, the energy management workshop and tier II weatherization services the most. These same managers think participants like least the waiting period for weatherization service, the uncertainty of not knowing what measures they will get from participation, the lack of CFLs distributed at the workshops and the lower incentive level provided for the budget workshop.

11. Managers report a desire to see several changes made to the program. At least one manager interview reported that they would like to see the following changes:

    h. equalize the incentives over the program service components so that incentives are tied to the level of effort required by the participant, Note: TecMarket Works agrees with this recommendation to a limited extent. Because the participants report that the incentives are the primary driver for their enrollment and also report that once they are in the program the educational workshops are highly valued, we suggest that the incentive for the first workshop be set at high enough level to capture the interest of the participants during the first workshop. Once the participants have taken part in the first workshop, the incentive level does not have to be structured to capture their interest, but rather to maintain their involvement. In view that previous evaluations of this program have indicated that participants will enroll in the first workshop for less than a $200 incentive, there is room to equalize the incentive by moving part of the $200 incentive from the energy education workshop to the longer budgeting workshop. However, Cinergy may not want to fully equalize the incentives per hour of workshop in order to maintain a large enough incentive in the first workshop to capture the interest of the participant.
    i. implement a formal management communication and coordination process across the service providers and the sponsor to improve organization communication, Note: TecMarket Works agrees with this recommendation. The program currently has an informal system for communications, however, because of the strained relationships between the current service providers (NKCAC and PWC) Cinergy should consider establishing a formal protocol for management communications to avoid problems associated with event scheduling and attendance. This protocol may not be needed should different provides be contracted to administer the program in the future.
    j. have Cinergy continue to take a more active role in workshop presentations if they wish to be seen as program sponsors, Note: TecMarket Works agrees with this recommendation. The involvement by Cinergy managers allows the participant to see that Cinergy is providing the program's services in conjunction with the contracted service providers.
    k. have Cinergy pre-certify eligibility before program offerings are made to Crisis enrollees, Note: TecMarket Works agrees with this

recommendation. Customer relationships are harmed by a system in which ineligible customers are presented with the program's benefits and then are told that they do not qualify because they are ineligible.

l. improve program outreach and marketing efforts, Note, TecMarket Works agrees with this recommendation. The current approach of relying on an enrollment letter is not an effective our-reach method for low-income customers.

m. conduct follow-up training to reinforce the workshop training components, Note: The educational literature indicates that repetitive exposure to a concept is directly proportional to the rate of behavior change associated with the training events. However, as with all education efforts, there is a point of diminishing returns to the educational effort. Cinergy may want to test a series of follow-up training approaches to assess if additional training provides added program effects relating to energy savings or bill payment performance.

a. piggy-back the program on other social services. Note: TecMarket Works agrees with this recommendation. However, the current contract with NKCAC already recommends leveraging the Pilot Program with other low-income services. Under the Pilot Program there is no contractual or performance barriers associated with leveraged program activities. This aspect of the program rest with the service providers desire to accomplish this recommendation.

Energy Impact Findings

12. Pilot program participants are saving electricity. Weatherized participants are saving from 402 to 2,439 kWh per year averaging 1,054 kWh per year, and almost 2,000 kWh per year for non-weatherized participants. This equals 14.6% of total electric consumption for weatherized participants and 13.1% of consumption for non-weatherized participants.

13. Participants are saving natural gas. Weatherized participants are savings from 231 to 291 therms per year averaging 279 therms, while non-weatherized participants are saving about 85 therms per year. This equals 21.7% of total natural gas consumption for weatherized participants and about 7.9% of consumption for non-weatherized participants.

14. The PWC provided weatherization service in conjunction with the program's education services provided by NKCAC is providing weather-normalized annual, control-group-adjusted savings that places the program in the same league as the best weatherization programs in the United States and on average is saving energy significantly greater than state weatherization programs offered in both moderate and cold climate zones.

Arrearage Effects Findings

15. Past due arrearage levels for Pilot II participants have decreased at a higher rate for program participants compared to the control group with Pilot II participant arrearage levels decreasing by 11% compared to a decrease in the control group of 2%. Past due arrearage levels moved from over $500 prior to the program to $446 after the program for the Pilot II participants, a drop of about $58 dollars. The arrearage levels for the 14 Pilot I participants examined in this study did not change significantly between the pre-program period and the period ending 24 months after participation.

Payment Effects Findings

16. Pilot I participants paid about the same percent of their utility bill the year following participation and then increased the percent of the bill they paid during the second year moving from paying 17% before participation to paying almost 20% the first year after participation and 30% the second year. Pilot II participants increased the percent of the bill they paid over the post-program period paying on average about 19% of the bill before participation to paying 21% of the bill following participation. During this same period the control group decreased the amount of the bill they paid, moving from paying 25% before participation to paying 23% following participation. These changes are all small changes, indicating that the program does not significantly effect the percent of the bill that is paid more that a few percentage points.

17. Disconnects for participants were, on average, reduced by half for participants following participation; however, the changes in percentage points is small. Participants reduced their disconnections from about 2% per month to about 1% per month following participation. The control group also reduced the percent of disconnects moving from about 4% percent disconnected per month to 3% disconnected during the post-program period.

18. Program participants increased the number of days they took to pay a bill by one full week over the post-program period compared to no change in the number of days for the control group.

19. The percent of customers making a payment decreased for both the participant and the control group by about the same amount.

Customer Satisfaction Findings

20. Participants are very satisfied with all components the program and the program's educational components are greatly valued once the participants complete the workshops.
21. Participants report that they are saving money and energy. The energy effects evaluation confirms the customer's opinion.

22. The program components and requirements are well understood by participants.

23. Program incentives drive customers to enroll in the program.

Appendix A: Process Evaluation Interview Protocol

Pilot Program III
Process Evaluation Interview Protocol

Interviews will be held with the following individuals:

Cinergy
1. Kathy Schroder, Cinergy Product Manager
2. Rick Morgan, Cinergy Program Design Consultant

NKCAC:
3. Brian Angus, NKCAC Director
4. Darla Griffin, NKCAC Program Implementation Manager
5. Linda Huff, NKCAC Educational Director

PWC
6. Nina Creech, PWC Weatherization Manager
7. Al Lovin, PWC Weatherization Supervisor
8. Rachelle Villanueva, PWC Program Administration

Title: _____

Responsibilities associated with the Pilot Program: _____

_____

_____

_____

_____

Customer recruitment and retention

- I understand that there were a couple different ways in which participants were identified, contacted and offered the program. Please describe each of the ways customers were identified, contacted and enrolled in the program.

- What aspects of this process worked well? Which worked least well? Why?

- Please describe how the targeted mailings used to inform customers worked and how successful you think this effort was as stimulating customer's interest and involvement in the program. How could this be improved?

- What system for identification, notification and enrollment do you think should be used in order to obtain participants and accomplish Cinergy's program goals? Discuss how these might work.

- What screening tests were used to make sure the right customers were enrolled in Pilot III. Please explain how the screening process worked. Walk through some different examples of how this worked. In your opinion, how well did this work? Why? Are any changes needed to the screening process?

- To be eligible for Pilot III, LIHEAP participants needed to have been a Cinergy customer for a while (12 months – then 6 to 9 months). What portion of the LIHEAP customers that were contacted or approached were actually eligible for Pilot III because of the requirement for 6 to 12 months of account history?

- What percent of those contacted or approach were eligible because of the need to have $500 or more in current utility debt?

- What percent of the non-crisis-mode customer that you presented the program to were interested in participating?

- What are the main reasons customers have for not wanting to participate?

- What percent actually enroll once they apply and are screened?

Drop-outs and No-shows

- Why did some of the Pilot III participants offered the program not take advantage of it?

- Why do you think customers enroll in the program, but then do not take part?

- What can be done no decrease the program drop-out rate and keep them involved?

- What can be done to increase the interest in receiving the weatherization service?

Program process

- What were the dates for the Energy workshops and where were they conducted?

- What were the dates for the Budgeting workshop and where were they conducted?

- When thinking about the way in which the workshops are conducted, do you think it is better for the participants to have multiple workshops located in different locations near where they live, or have workshops in one location and have the participants travel to that location? Why? What are the strengths weaknesses of each approach?

- What complaints or customer issues did you experience in Pilot III? How were these handled?

- What can be done to help solve (complaint 1 / complaint 2 / complaint 3 / etc.)?

- I would like you to tell me about the customer's experiences with the program. What kinds of things did they like, what kinds of things did they dislike, and how do you think they feel about the program overall.

Program Management and Communication

- I understand that there were some coordination and notification issues regarding the Pilot III workshops. Please explain what these issues were and why the occurred?

- What can be done to make sure these problems are not repeated?

- Describe the process used for obtaining weatherization applications from program participants and getting the applications into the weatherization planning stream.

- How well did this process work? Were there any problems in getting the applications to PWC after the participants filled them out? How can this process be improved?

- In Pilot II there were some issues associated with incorrect account numbers of program participants? Have these problems been resolved in Pilot III? If so, how, if not how can they be resolved?

- In the past there have been some issues relating to providing credits to participants after they attend a workshop? How are these credits being applied now? What is the system that is currently being used to credit accounts and how well is it working?

- Were there any participant tracking, accounting or processing problems, or issues associated with tracking and delivering services or incentives? What were they and how can these be avoided in the future?

- What other types of management or participant issues have come up and what were their resolutions?

- If you had one thing to change about the Pilot Program, what would it be? Why? How should this be incorporated into the program? Anything else that you would change?

- When you look at the help provided to participants by the program, and weigh the program costs and operational challenges; what would you say are the different types of benefits the participants receive from the program?

- Now I want to ask you about Cinergy's ratepayers who are ultimately responsible for funding the Pilot Program. What are the benefits that the program provides to all of Cinergy's northern Kentucky ratepayers?

- Do you think the cost and efforts associated with the Pilot Program justify the results achieved? Why do you say this?

- Using your experience and knowledge about the Pilot Program, please finish the rest of the following statement. I think this program can be viewed as a success if it accomplished the following things....
  1.
  2.
  3.

- How well do you think the Pilot Program accomplished each of these things?

Now I would like to ask you about the kinds of things that the Program did not accomplish, did not accomplish well, or things that can be accomplished in a future version of this program.

- First, are there things that the program should have accomplished but for some reason was unable to accomplish? Why was this not accomplished? What can be done to accomplish this in the future?
  1.
  2.
  3.

- And, were there things that the program was designed to accomplish, but did not accomplish well? Why was that? What can be done to accomplish this in the future?
  1.
  2.
  3.

- And, are there things that could be accomplished by future programs, that were not a part of the past Pilot Programs? What are these and how can they be incorporated into the program?
  1.
  2.
  3.

- When we asked participants of Pilot Program I who funded and sponsored the program they did not report that Cinergy provided the program. The same result occurred in the Pilot Program II, even after they were told that Cinergy provided the program. What can the program do to help people understand that the program is being provided to them by Cinergy, but is implemented through Cinergy's contractors?

- One of the goals of the Pilot Program was to reach out to other counties and bring in participants across Cinergy's northern Kentucky service territory. How can the

program be structured to better provide services across Cinergy's northern Kentucky customers? What kinds of things can be done to expand program services into these other counties?

Appendix B: PRISM™ Graphical Summaries

The following pages contain the graphics produced by the Princeton Scorekeeping Method (PRISM™) software that provides for weather-normalized analysis of energy use between a control group and participants. The data used was collected from Cinergy Corporation and included daily weather data for the service area and energy usage data for Pilot I and Pilot II participants and a control group selected for their similarities to the participants in their arrearage patterns (described in Methodology). The control group contains customers whose homes have not been weatherized. Pilot I and II participants were split up into weatherized and non-weatherized groups. The results of three of these groups are provided, as there were only two Pilot I participants that were not weatherized, which did not allow for a meaningful analysis.

The graphics on the pages that follow are separated by group in the following order:

- Pilot II, Not Weatherized, Therm Consumption
- Pilot II, Weatherized, Therm Consumption
- Pilot II, Not Weatherized, kWh Consumption
- Pilot II, Weatherized, kWh Consumption
- Pilot I, Weatherized, Therm Consumption
- Pilot I, Weatherized, kWh Consumption

Each of these groups show the same control groups' results repeatedly for easier use in making comparisons between the above groups and the control. For analysis of how the groups themselves compare to each other, please see Section II: Energy Use Analysis and Findings in the body of the report.

Pilot II: Non-Weatherized Participants PRISM™ Results, Therms

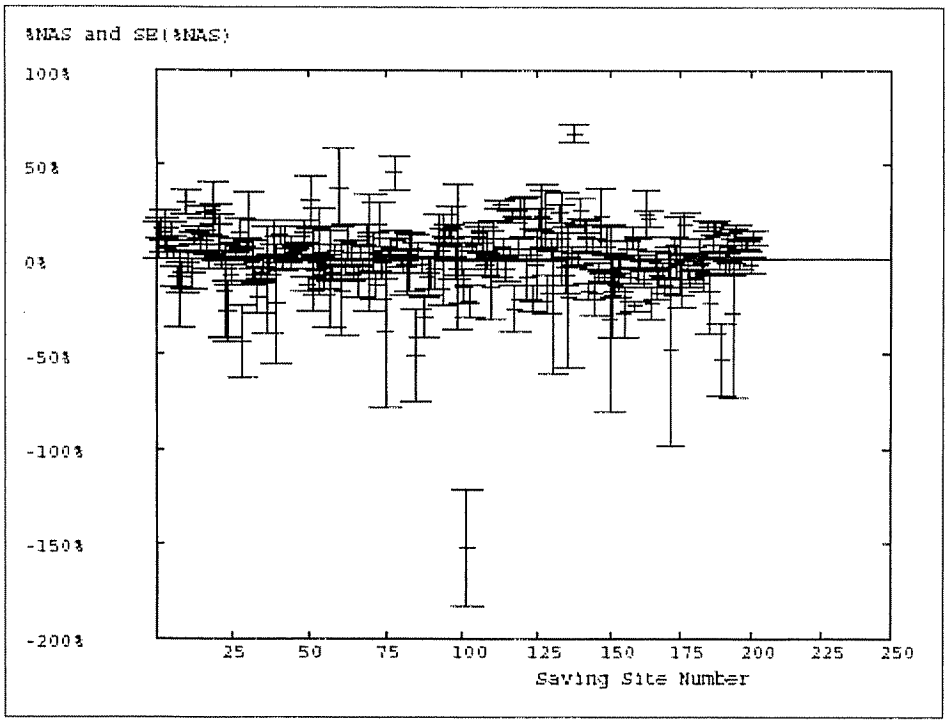

Figure 30 Percent Normalized Annual Therm Savings for Pilot II Participants (black) and Control, (blue), Not Weatherized

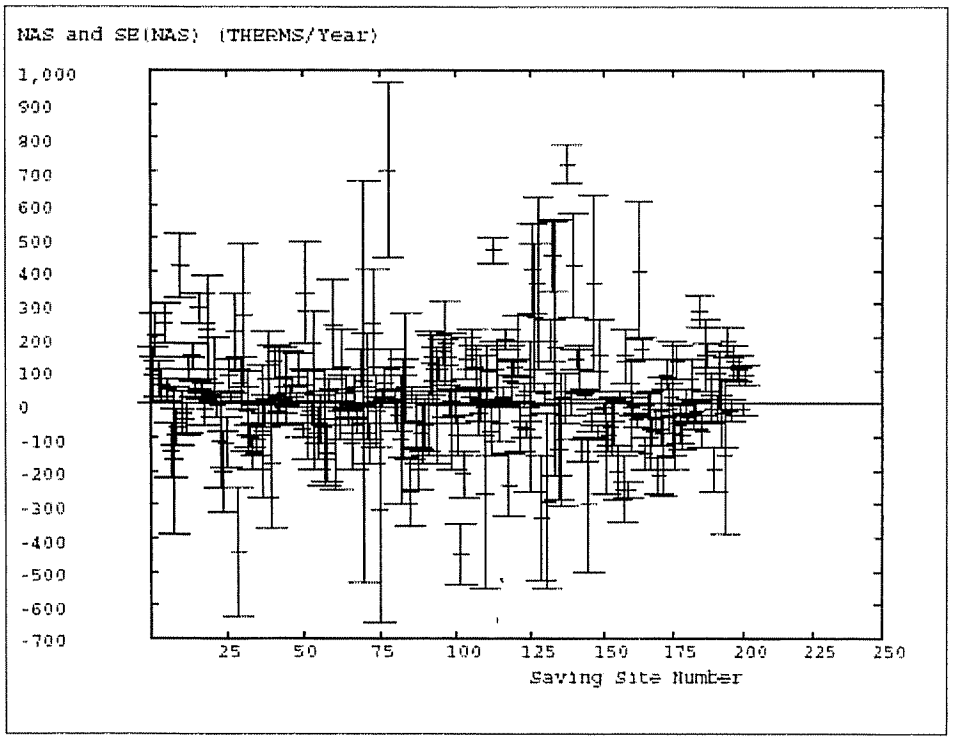

Figure 31 Normalized Annual Therm Savings for Pilot II Participants (black) and Control (blue), Not Weatherized

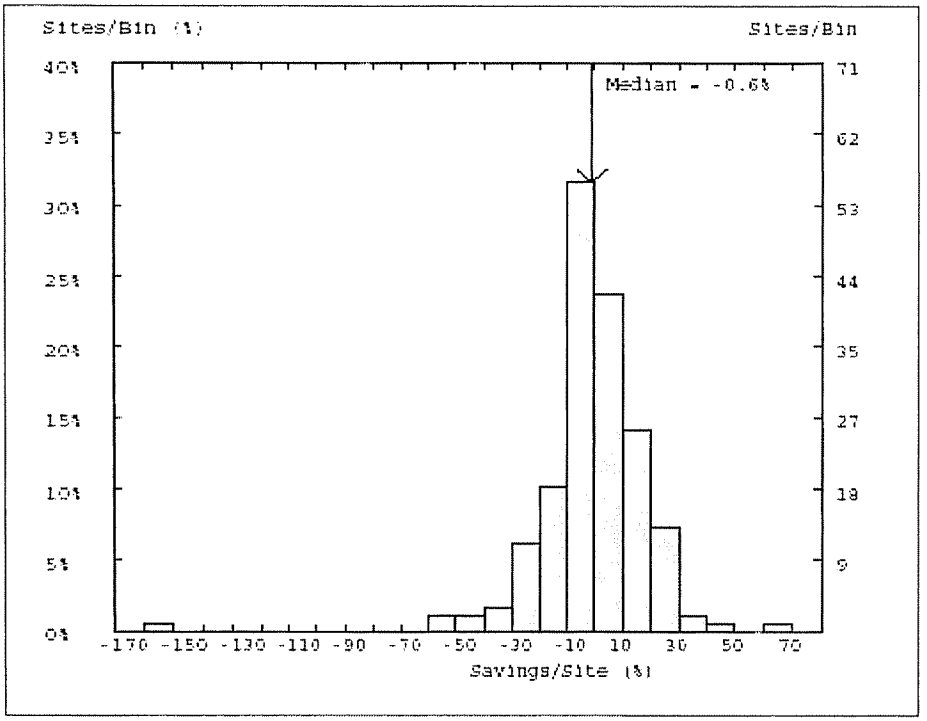

Figure 32 Percent Therm Savings for Control Group, Not Weatherized

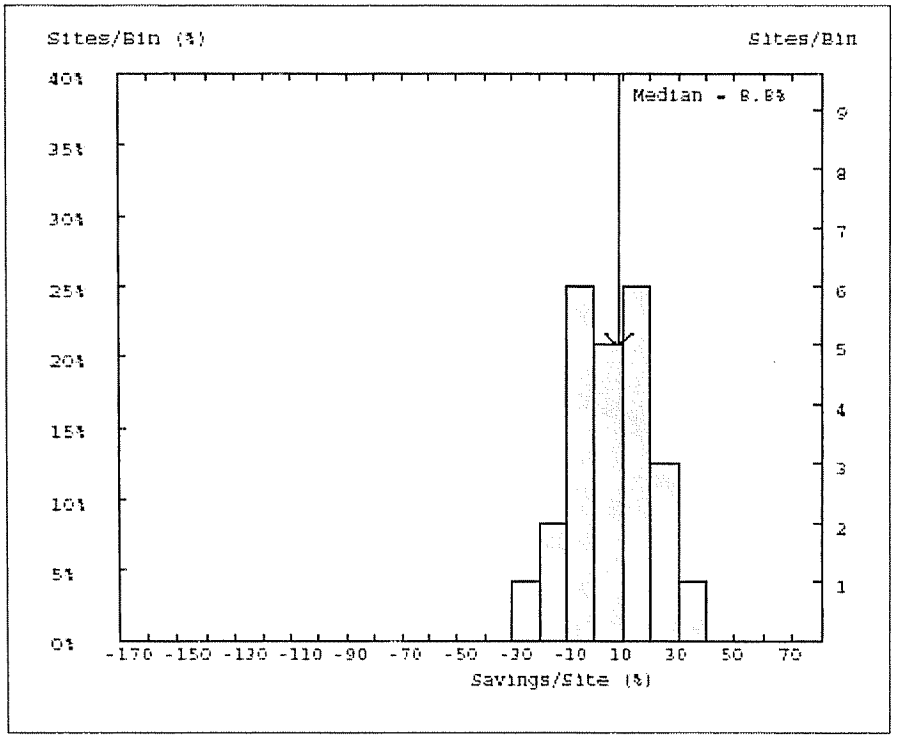

Figure 33 Percent Therm Savings for Pilot II Participants, Not Weatherized

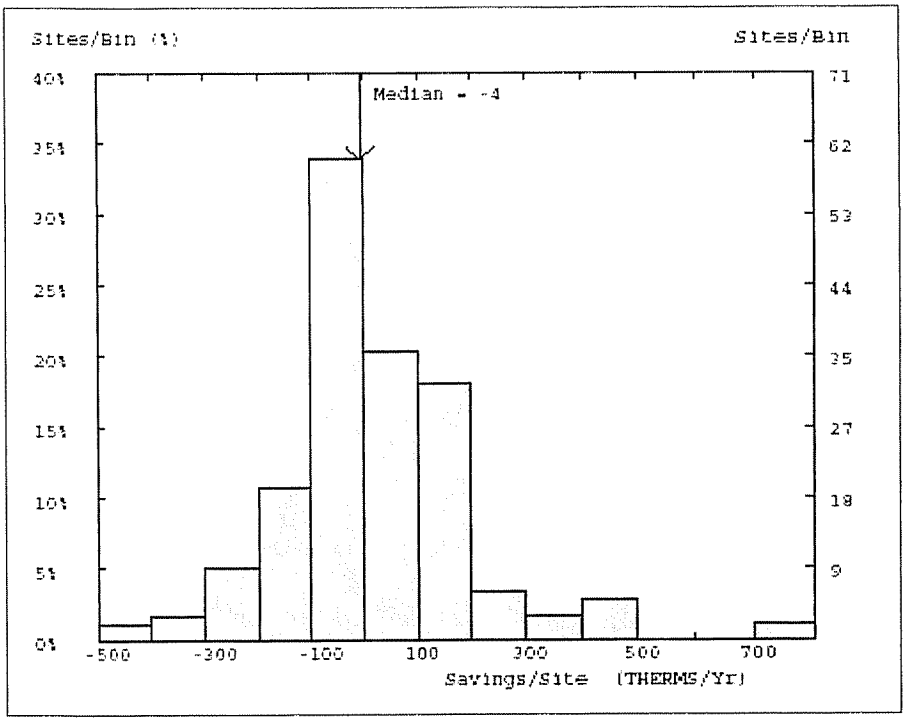

Figure 34 Annual Therm Savings for Control, Not Weatherized

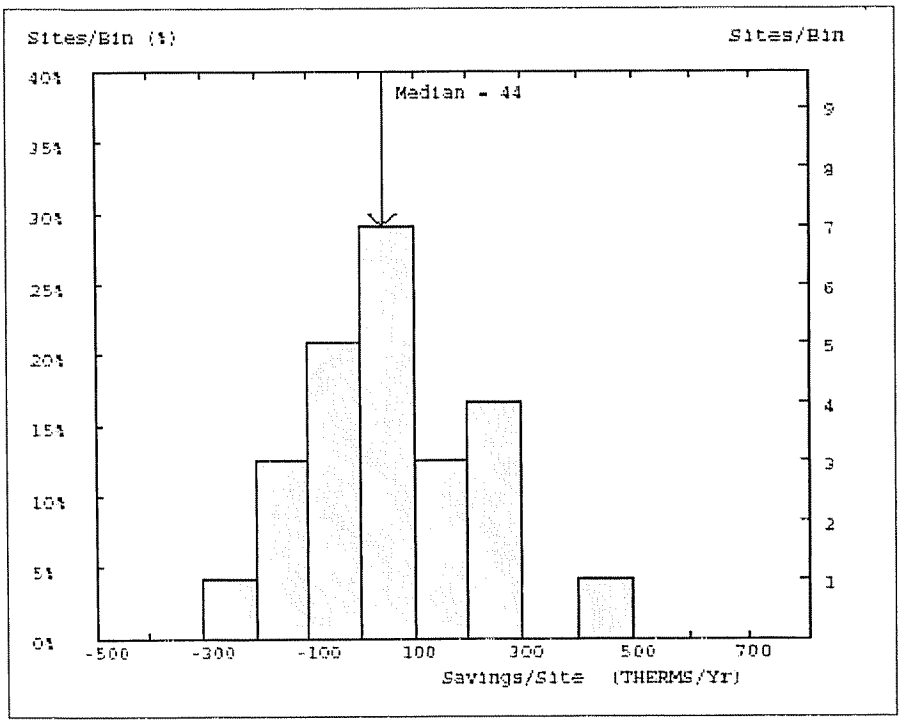

Figure 35 Annual Therm Savings for Pilot II Participants, Not Weatherized

Pilot II: Weatherized Participants PRISM™ Results, Therms

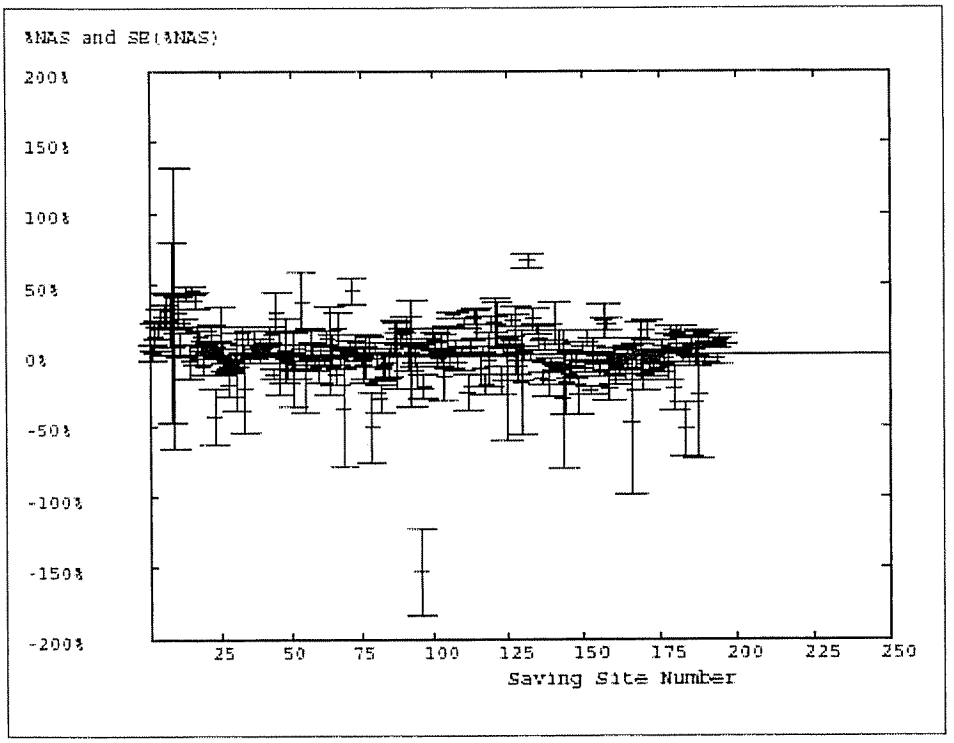

Figure 36 Percent Normalized Annual Therm Savings for Pilot II Participants (black), Weatherized, and Control (blue), Not Weatherized

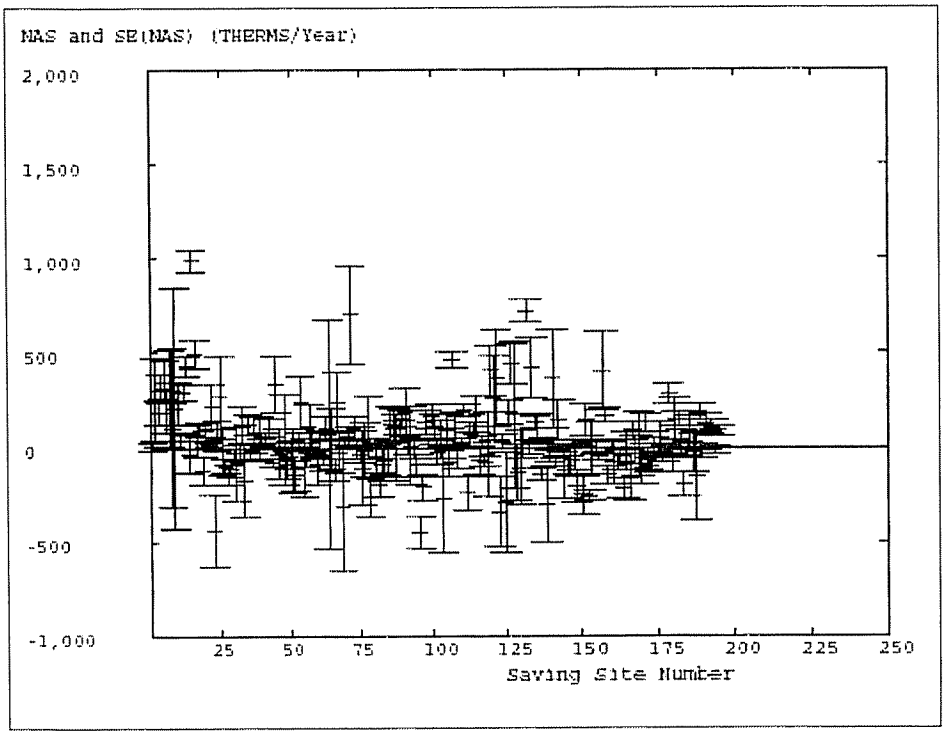

Figure 37 Annual Therm Savings for Pilot II Participants (black), Weatherized, and Control (blue), Not Weatherized

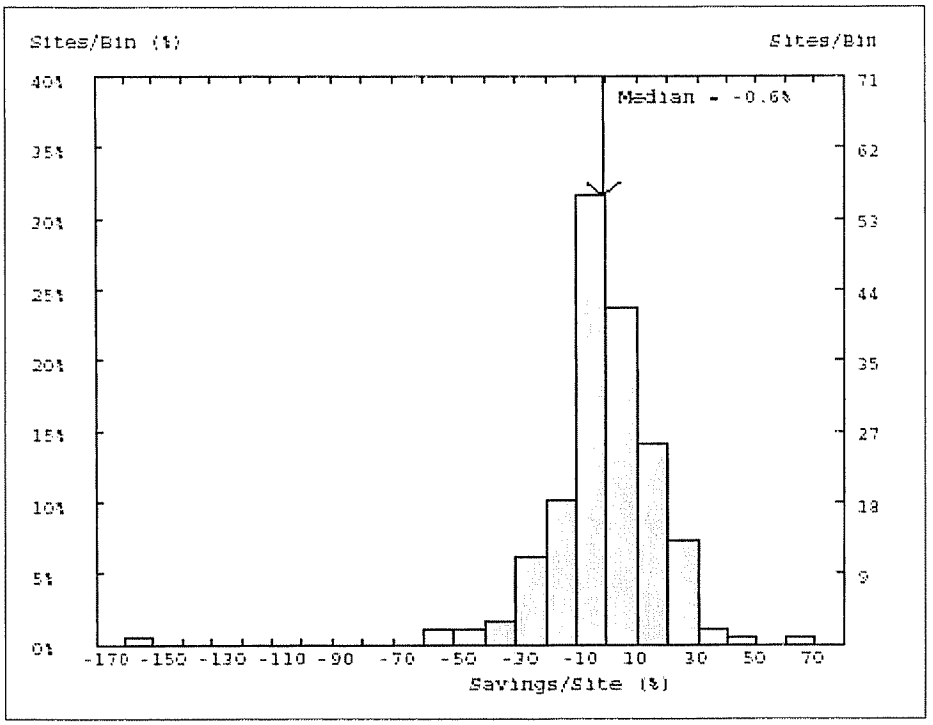

Figure 38 Percent Therm Savings for Control Group, Not Weatherized

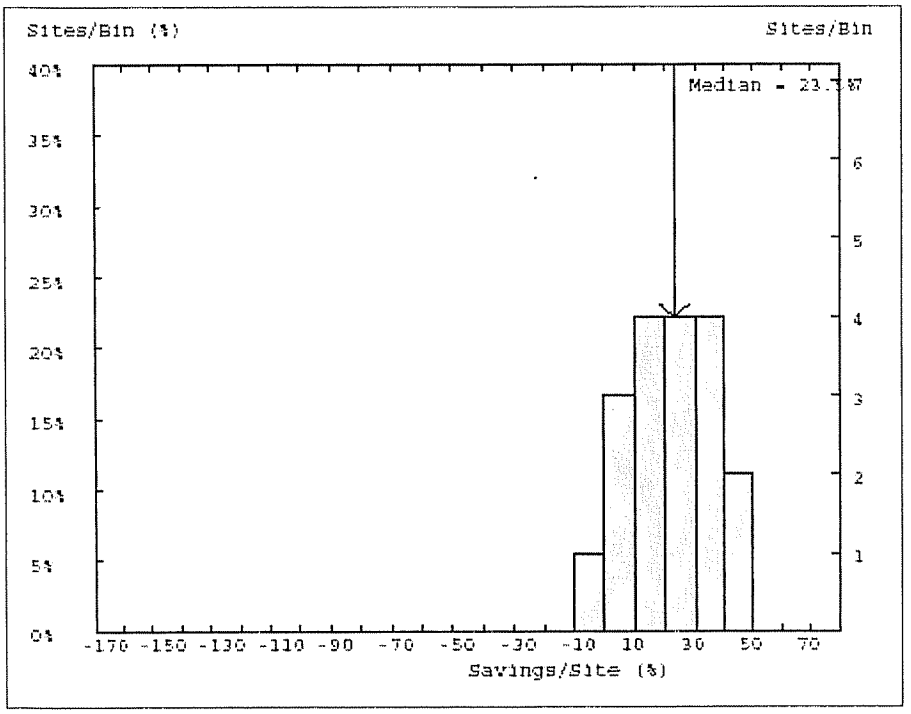

Figure 39 Percent Therm Savings for Pilot II Participants, Weatherized

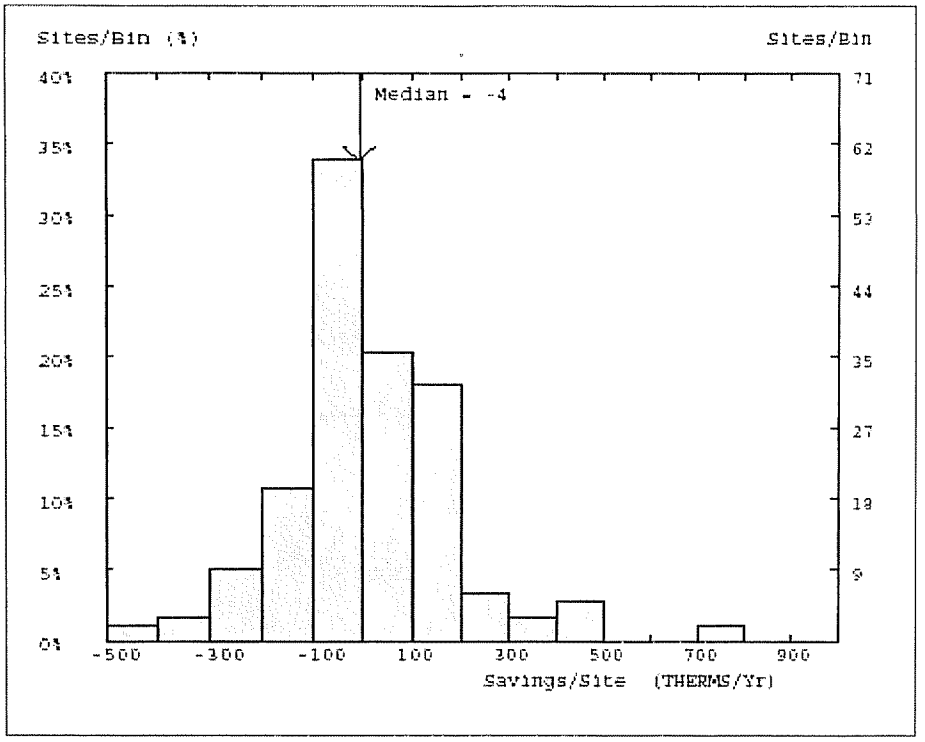

Figure 40 Annual Therm Savings for Control, Not Weatherized

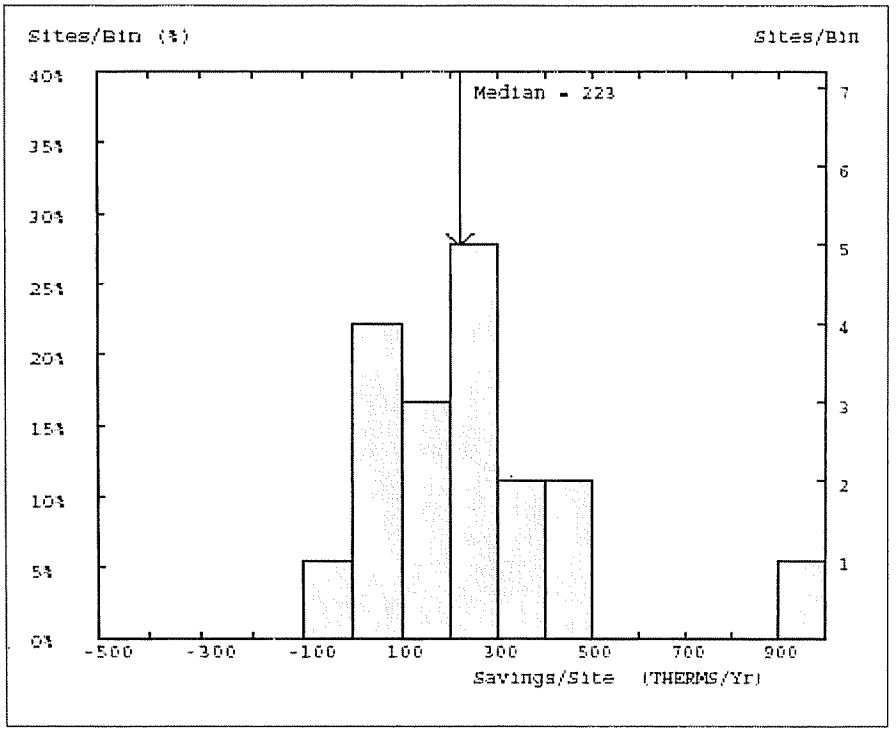

Figure 41 Annual Therm Savings for Pilot II Participants, Weatherized

Pilot II: Non-Weatherized Participants PRISM™ Results, kWhs

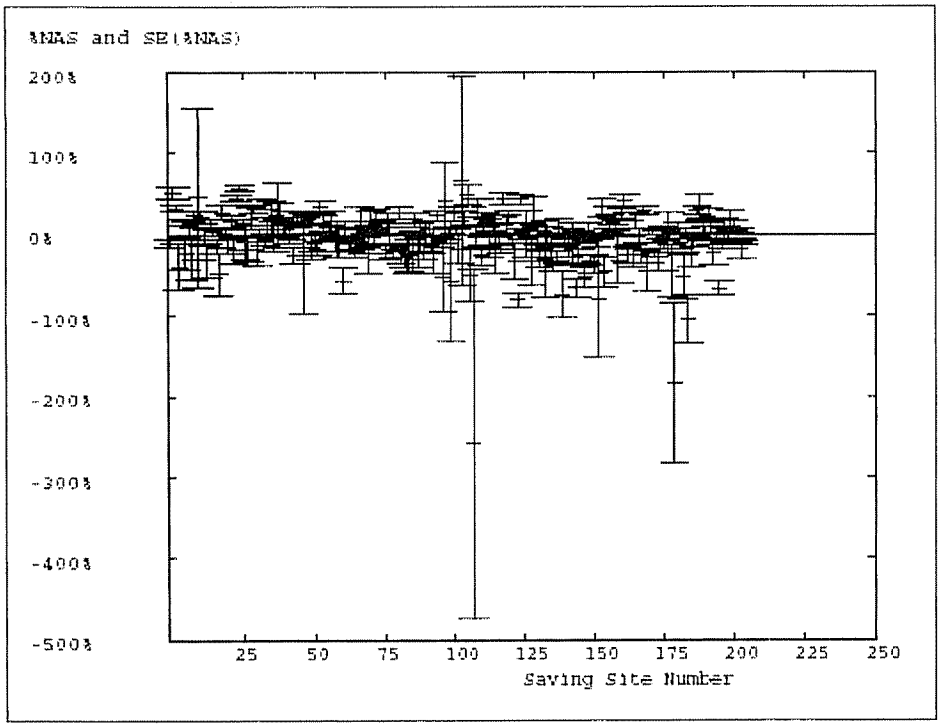

Figure 42 Percent Normalized Annual kWh Savings for Pilot II Participants (black) and Control (blue), Not Weatherized

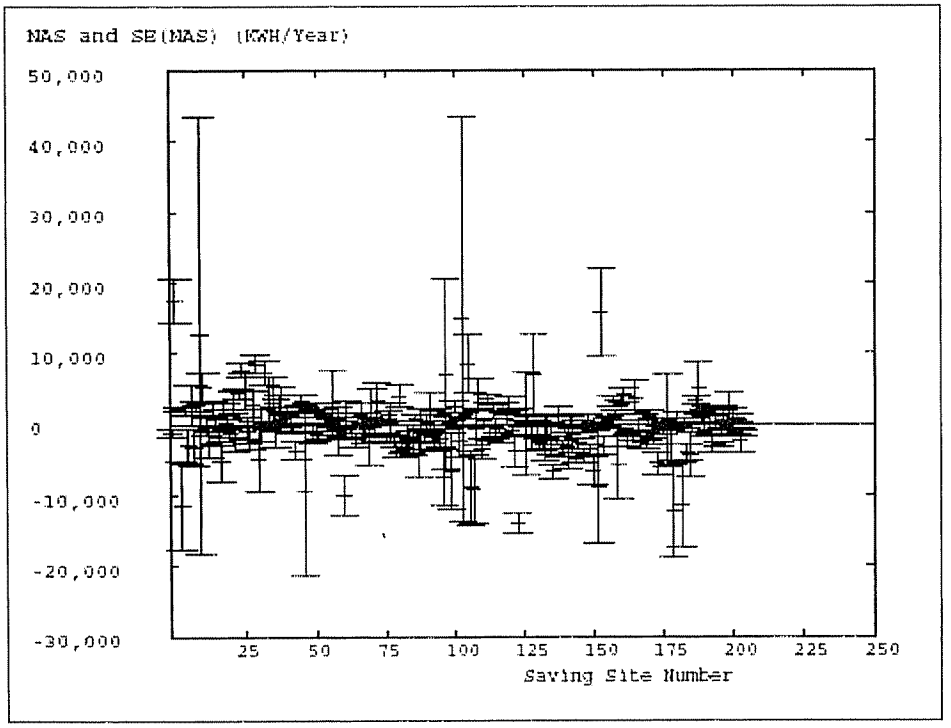

Figure 43 Normalized Annual kWh Savings for Pilot II Participants (black) and Control (blue), Not Weatherized

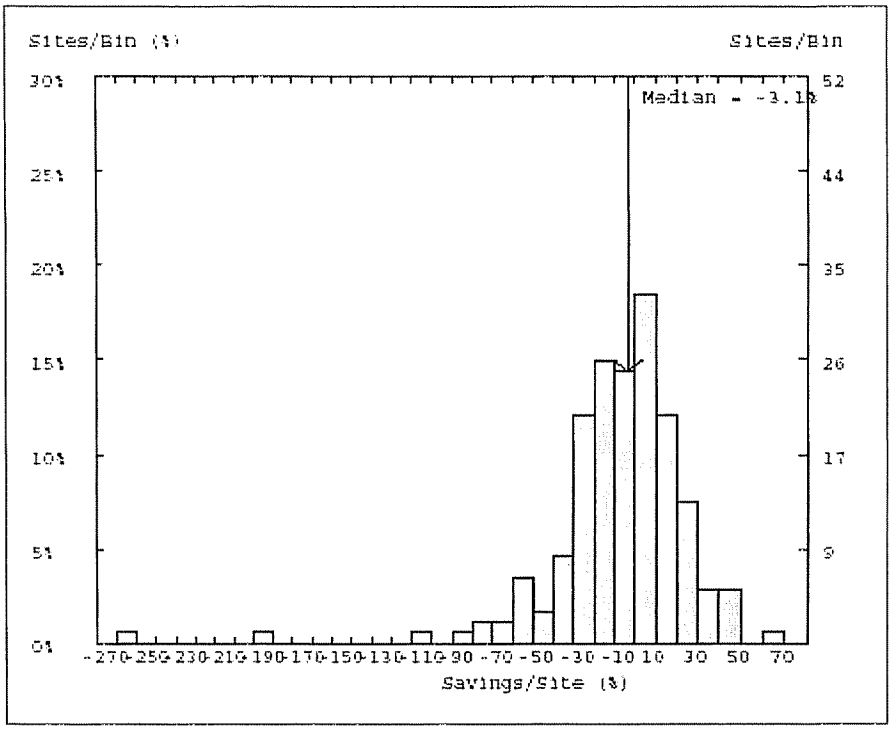

Figure 44 Percent kWh Savings for Control Group, Not Weatherized

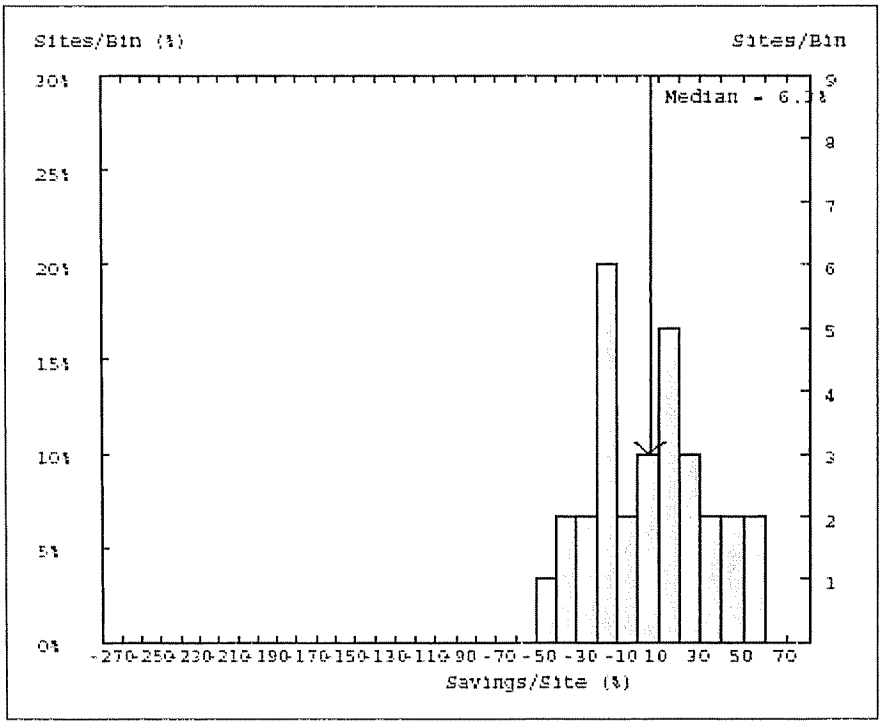

Figure 45 Percent kWh Savings for Pilot II Participants, Not Weatherized

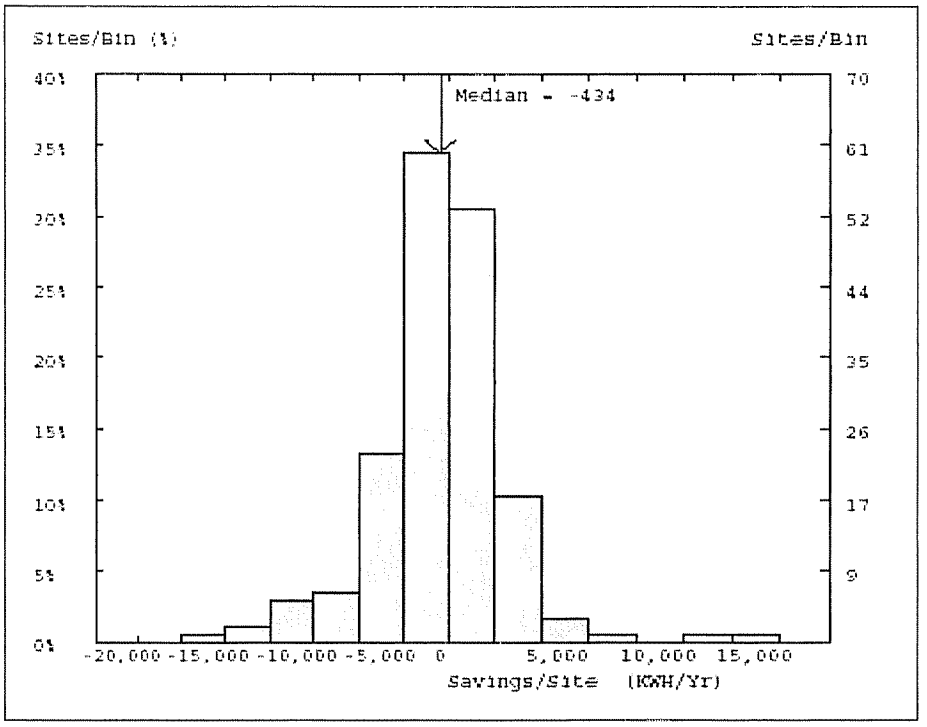

Figure 46 Annual kWh Savings for Control, Not Weatherized

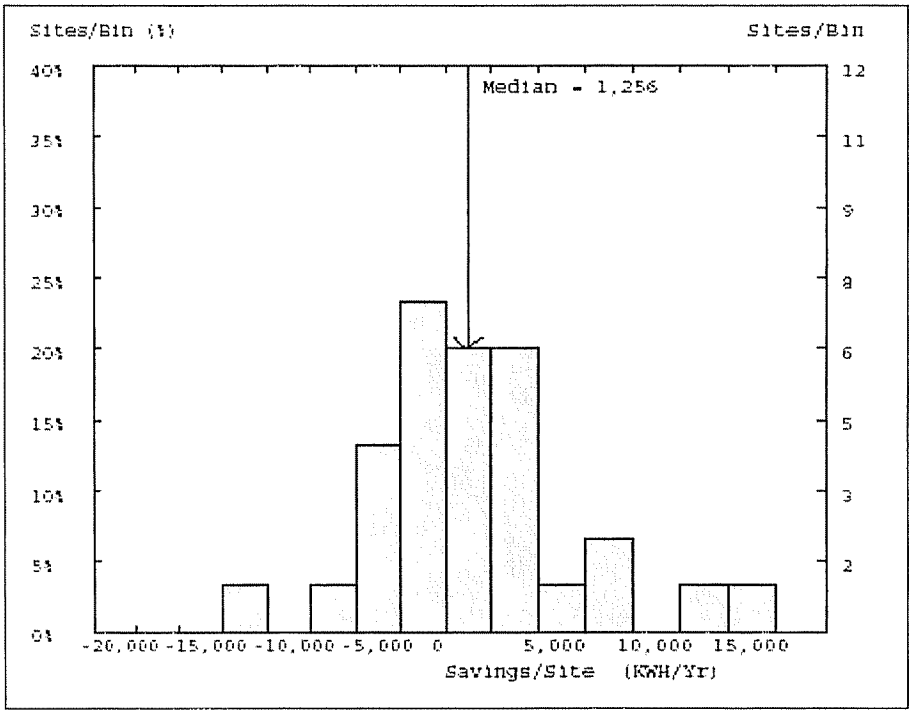

Figure 47 Annual kWh Savings for Pilot II Participants, Not Weatherized

Pilot II: Weatherized Participants PRISM™ Results, kWhs

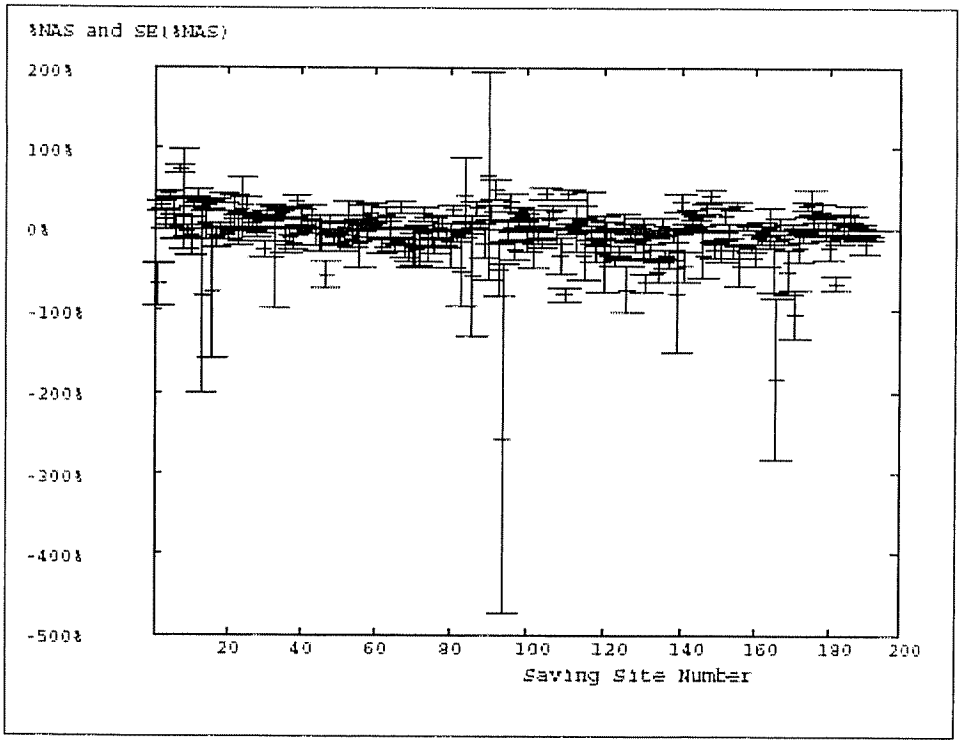

Figure 48 Percent Normalized Annual kWh Savings for Pilot II Participants (black), Weatherized, and Control (blue), Not Weatherized

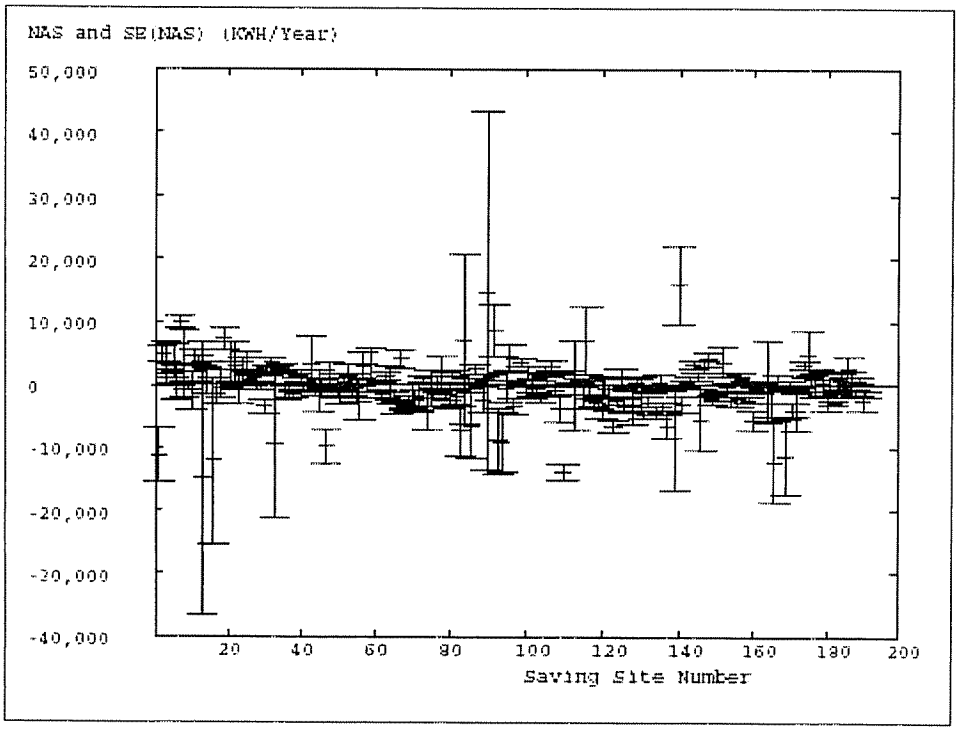

Figure 49 Normalized Annual kWh Savings for Pilot II Participants (black), Weatherized, and Control (blue), Not Weatherized

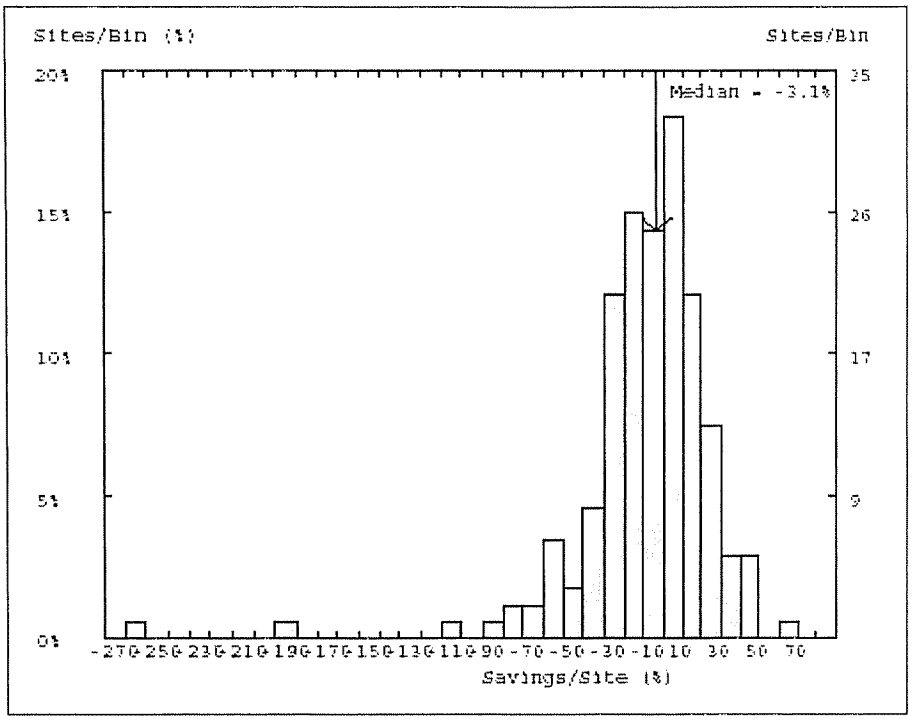

Figure 50 Percent kWh Savings for Control Group, Not Weatherized

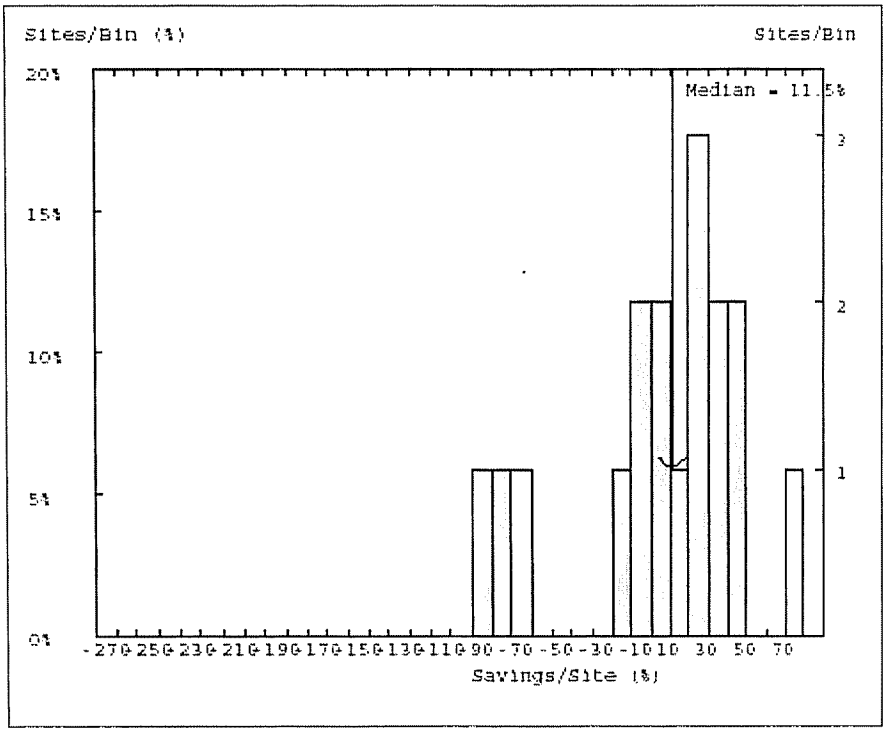

Figure 51 Percent kWh Savings for Pilot II Participants, Weatherized

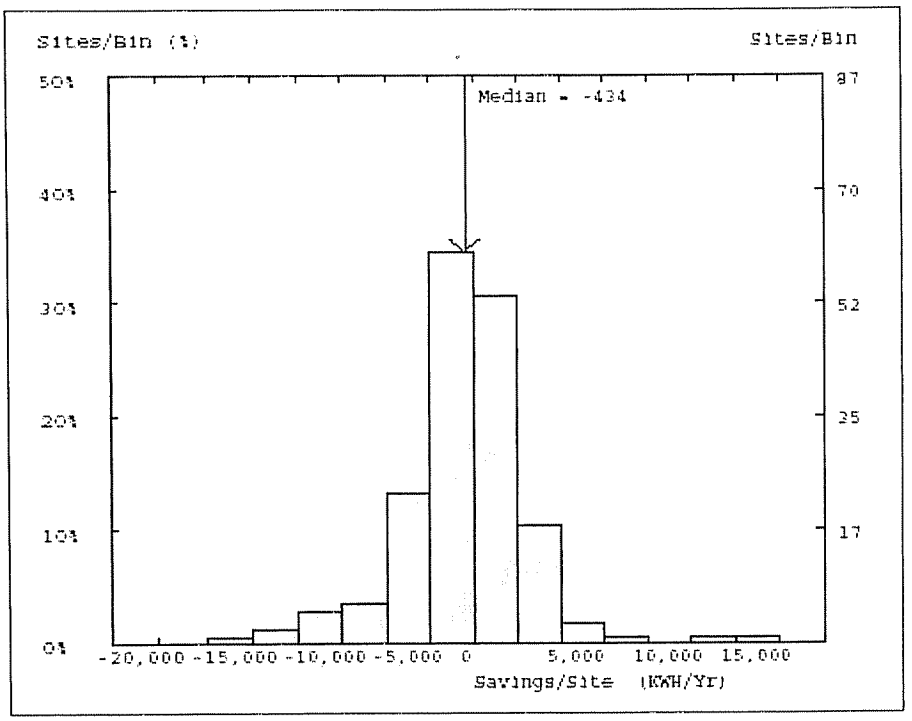

Figure 52 Annual kWh Savings for Control, Not Weatherized

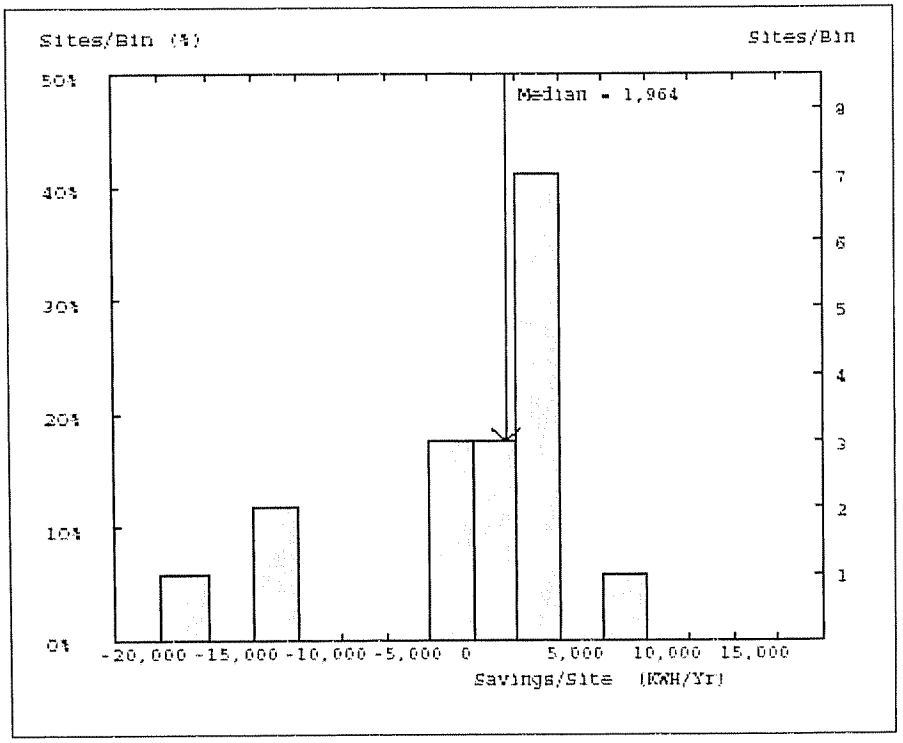

Figure 53 Annual kWh Savings for Pilot II Participants, Weatherized

Pilot I: Weatherized Participants PRISM™ Results, Therms

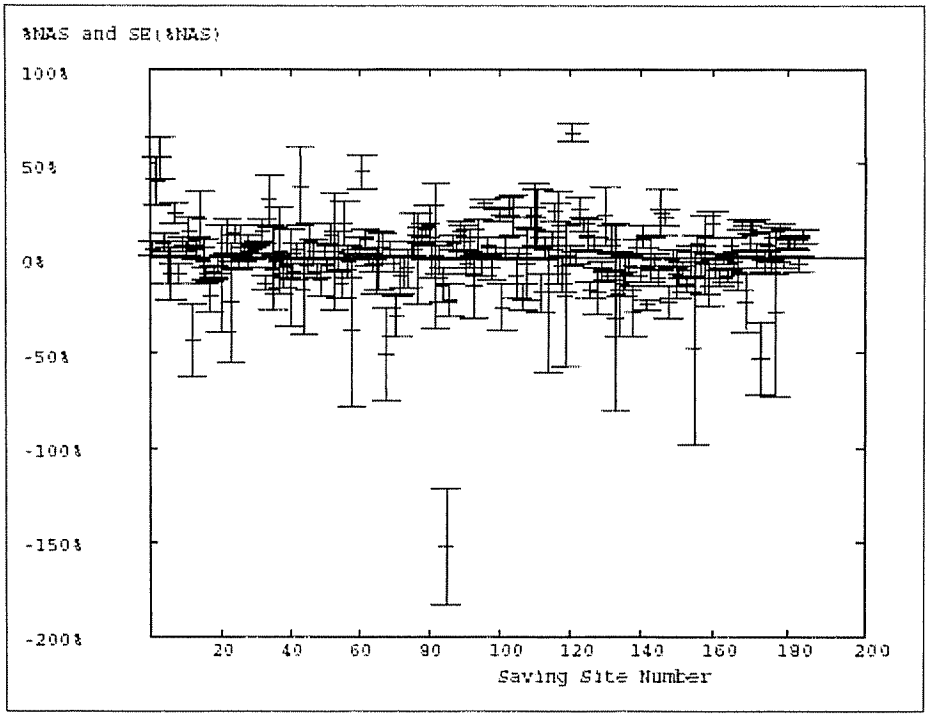

Figure 54 Percent Normalized Annual Therm Savings for Pilot I Participants (black), Weatherized, and Control (blue), Not Weatherized

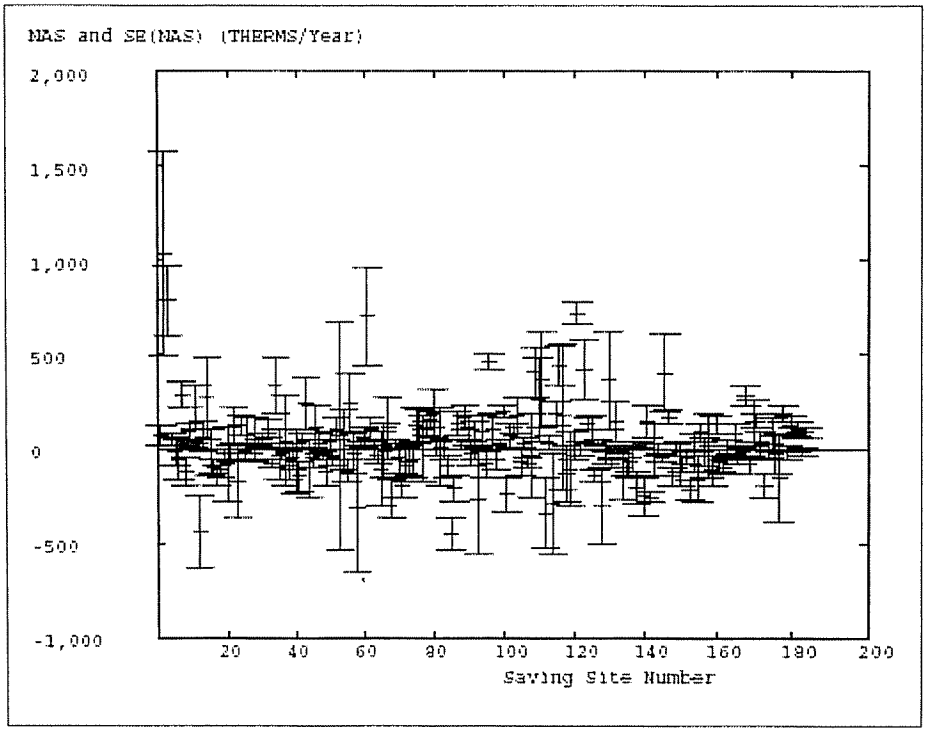

Figure 55 Normalized Annual Therm Savings for Pilot I Participants (black), Weatherized, and Control (blue), Not Weatherized

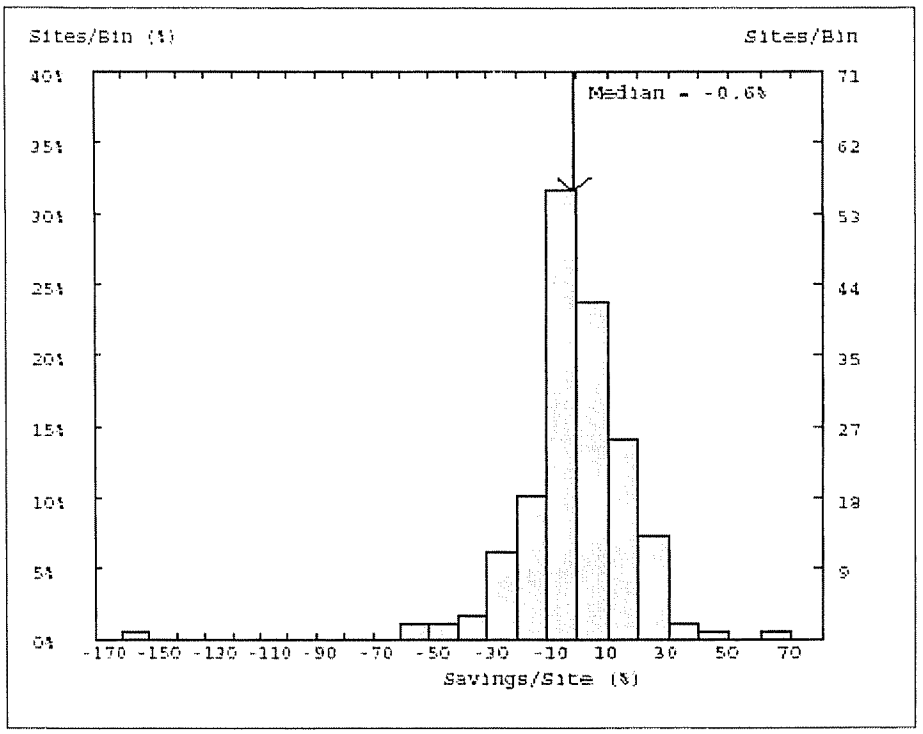

Figure 56 Percent Therm Savings for Control, Not Weatherized

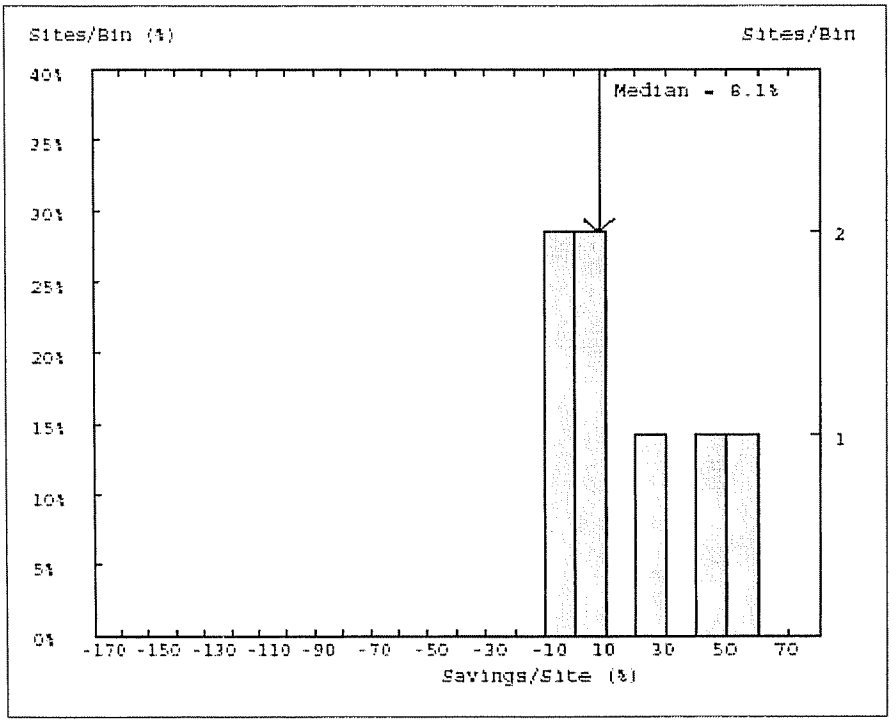

Figure 57 Percent Therm Savings for Pilot I Participants, Weatherized

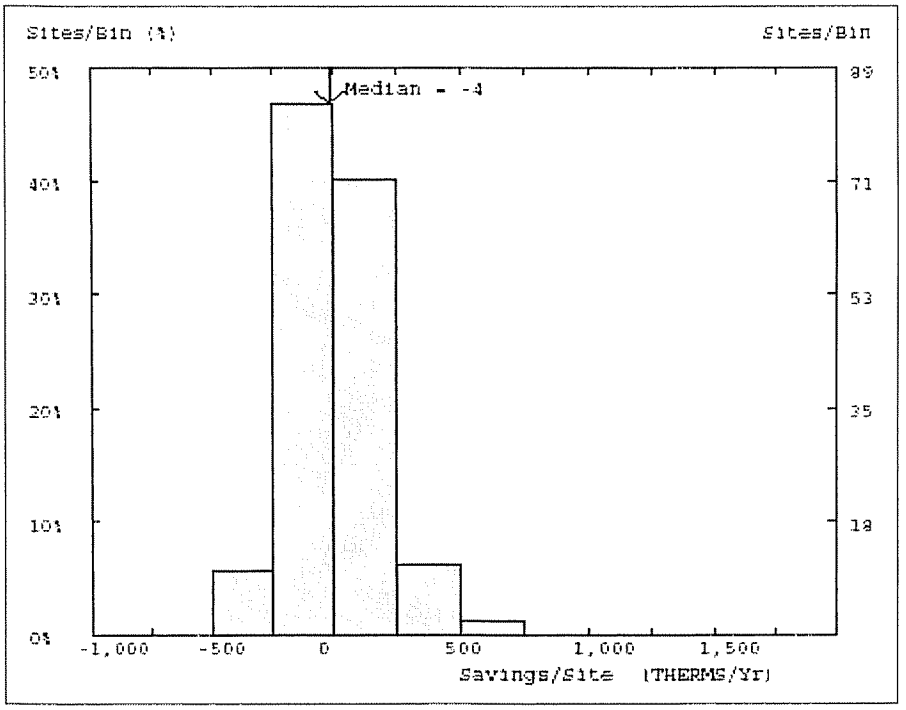

Figure 58 Annual Therm Savings for Control, Not Weatherized

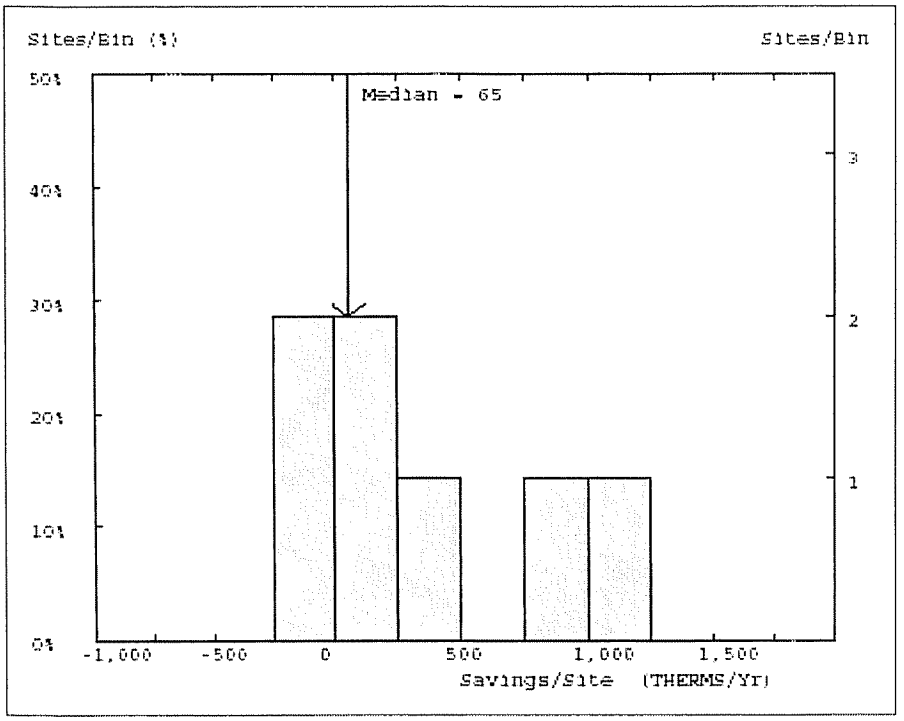

Figure 59 Annual Therm Savings for Pilot I Participants, Weatherized

Pilot I: Weatherized Participants PRISM™ Results, kWhs

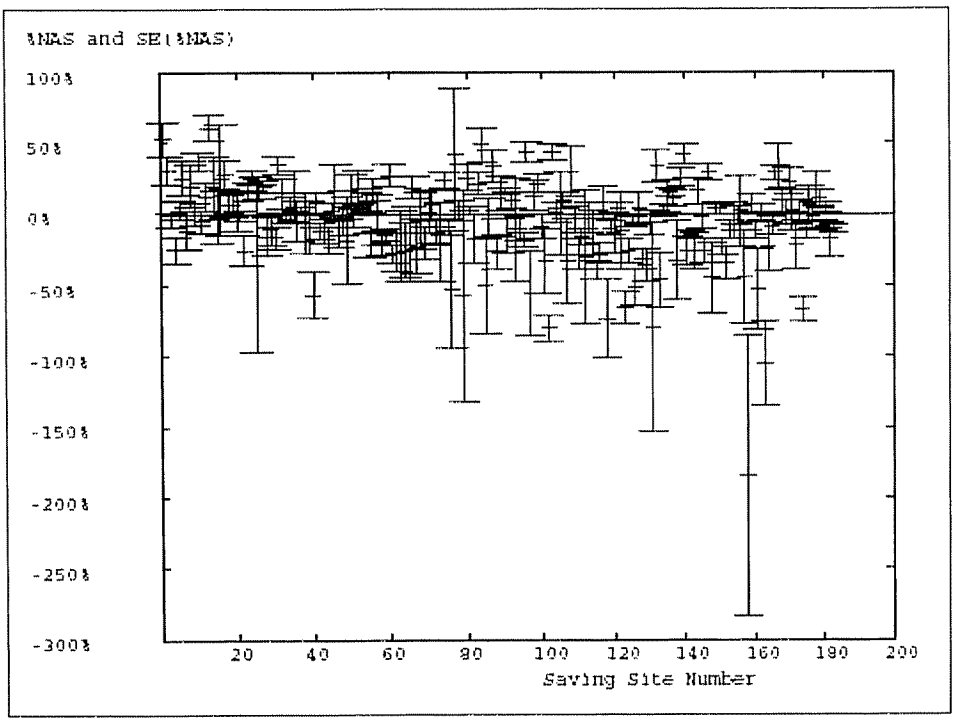

Figure 60 Percent Normalized Annual kWh Savings for Pilot I Participants (black), Weatherized, and Control (blue), Not Weatherized

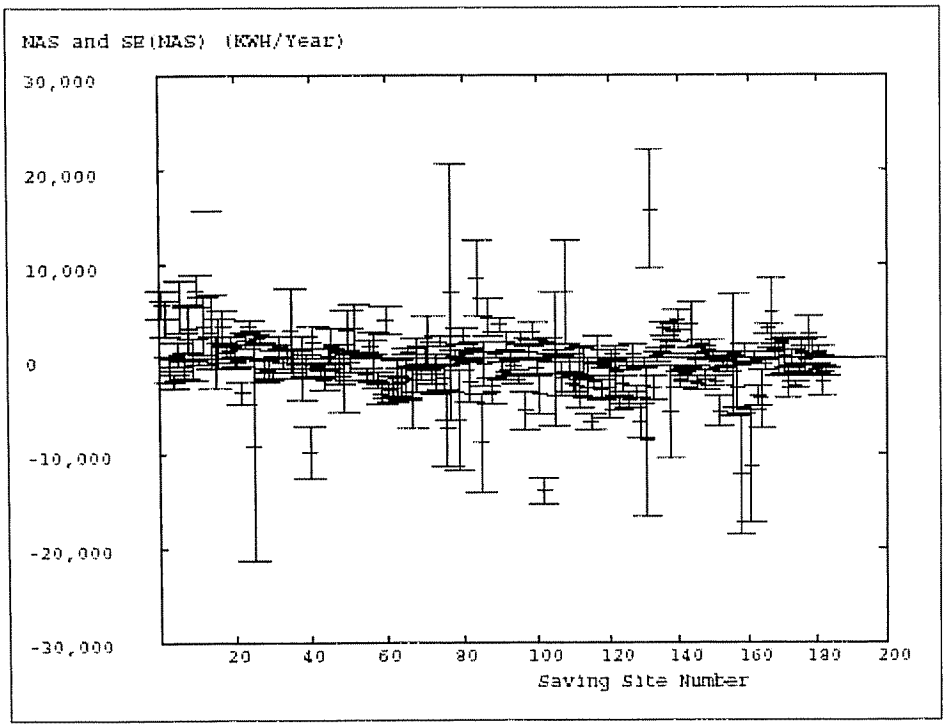

Figure 61 Normalized Annual kWh Savings for Pilot I Participants (black), Weatherized, and Control (blue), Not Weatherized

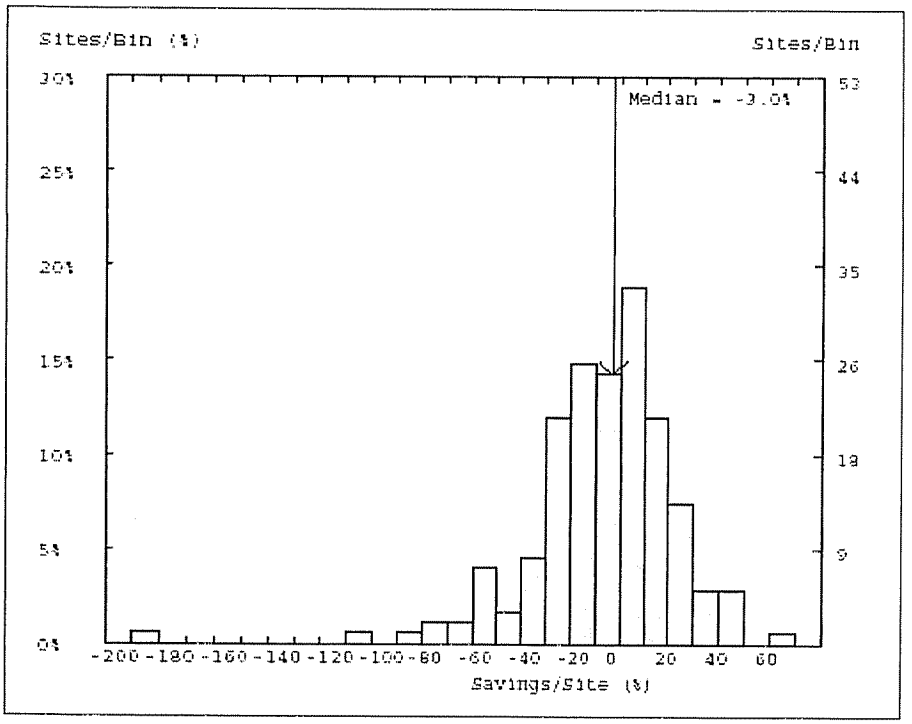

Figure 62 Percent kWh Savings for Control Group, Not Weatherized

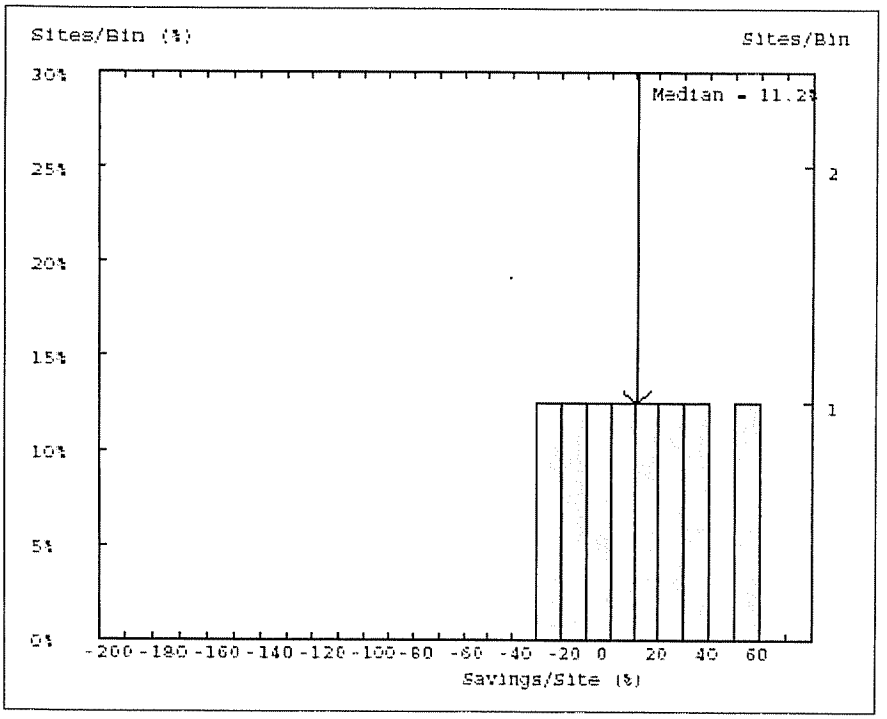

Figure 63 Percent kWh Savings for Pilot I Participants, Weatherized

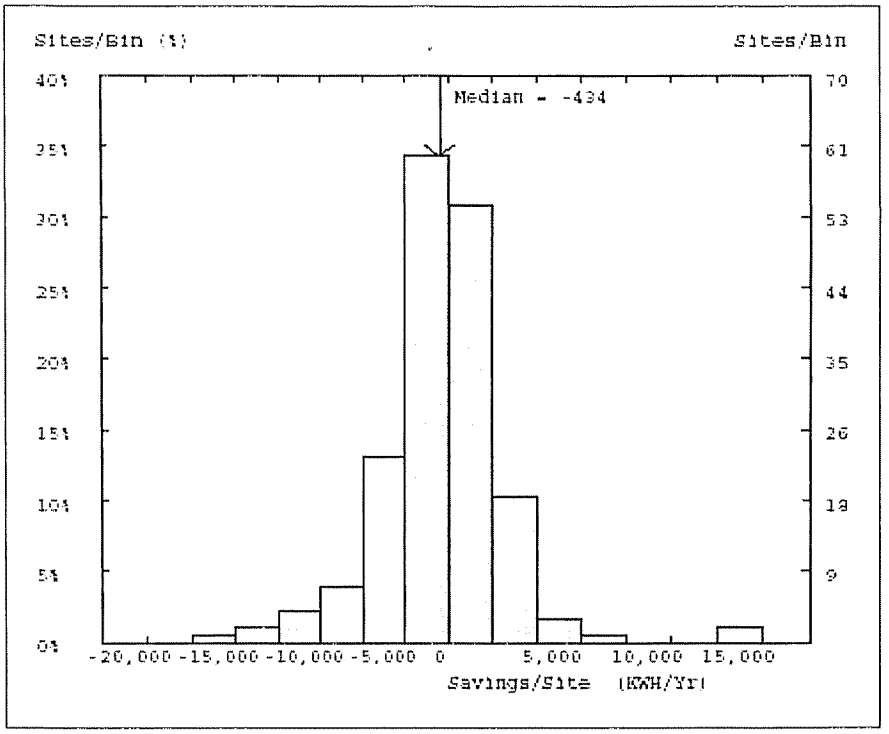

Figure 64 Annual kWh Savings for Control, Not Weatherized

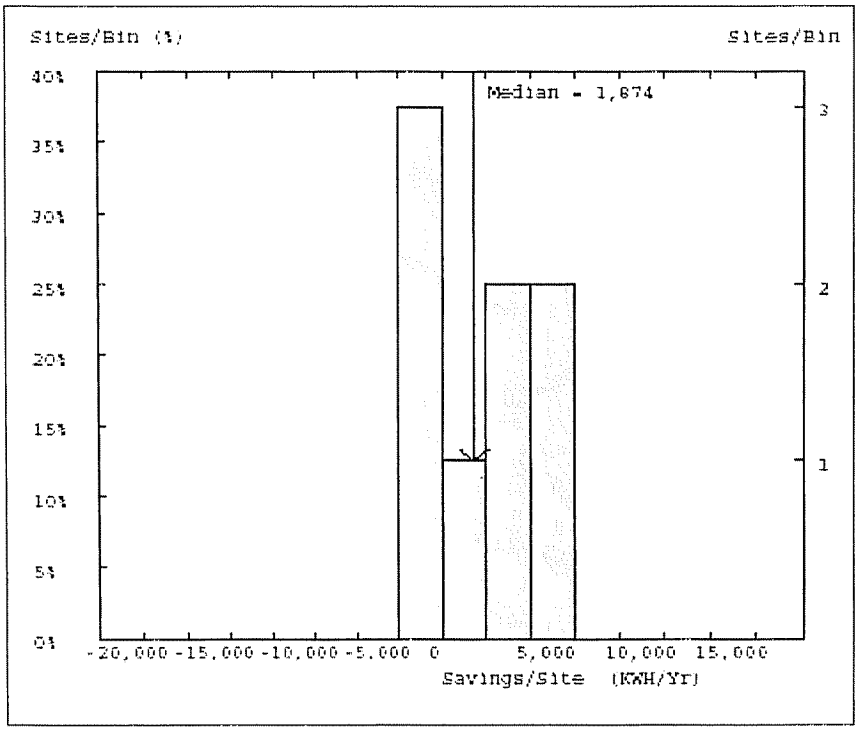

Figure 65 Annual kWh Savings for Pilot I Participants, Weatherized

Pilot I and II: Non-Weatherized Participants PRISM™ Results, kWhs

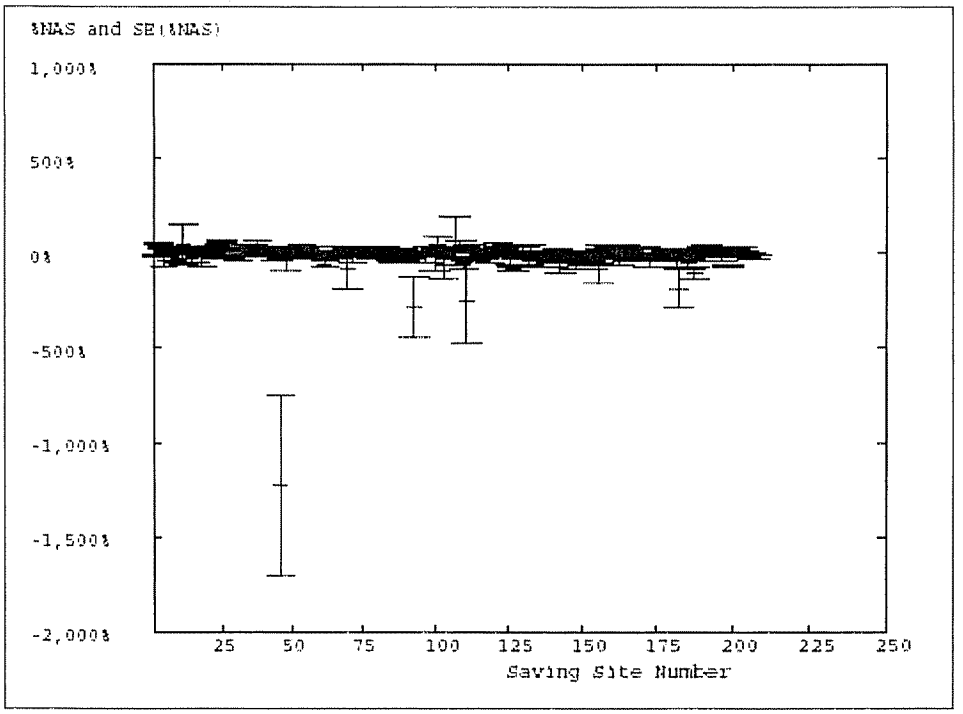

Figure 66 Percent Normalized Annual kWh Savings for Pilot I and II Participants (black), and Control (blue), Not Weatherized

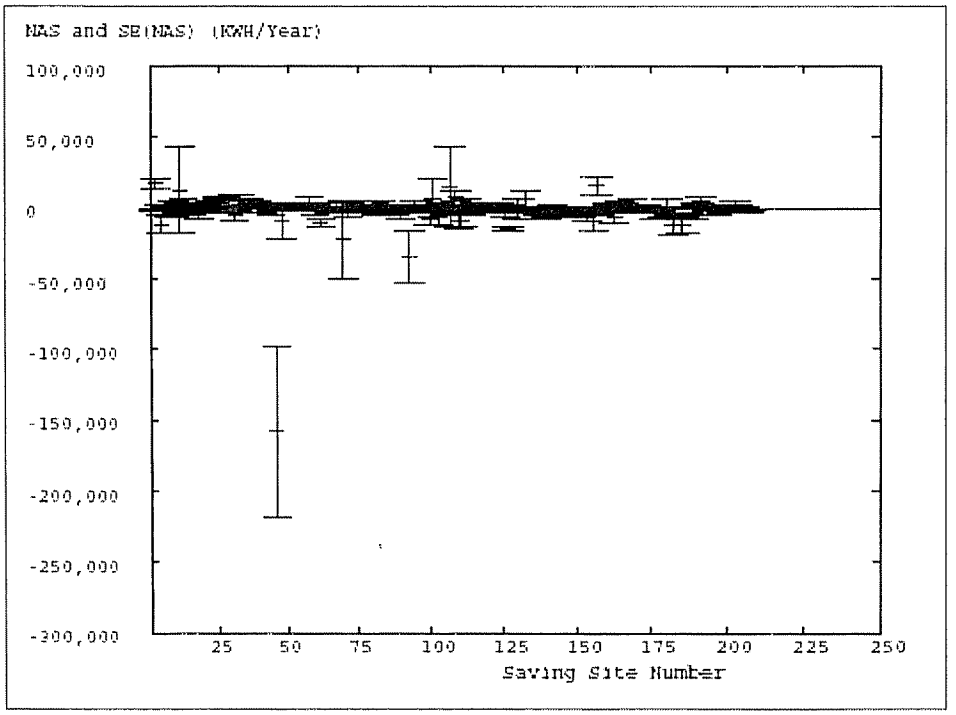

Figure 67 Normalized Annual kWh Savings for Pilot I and II Participants (black), and Control (blue), Not Weatherized

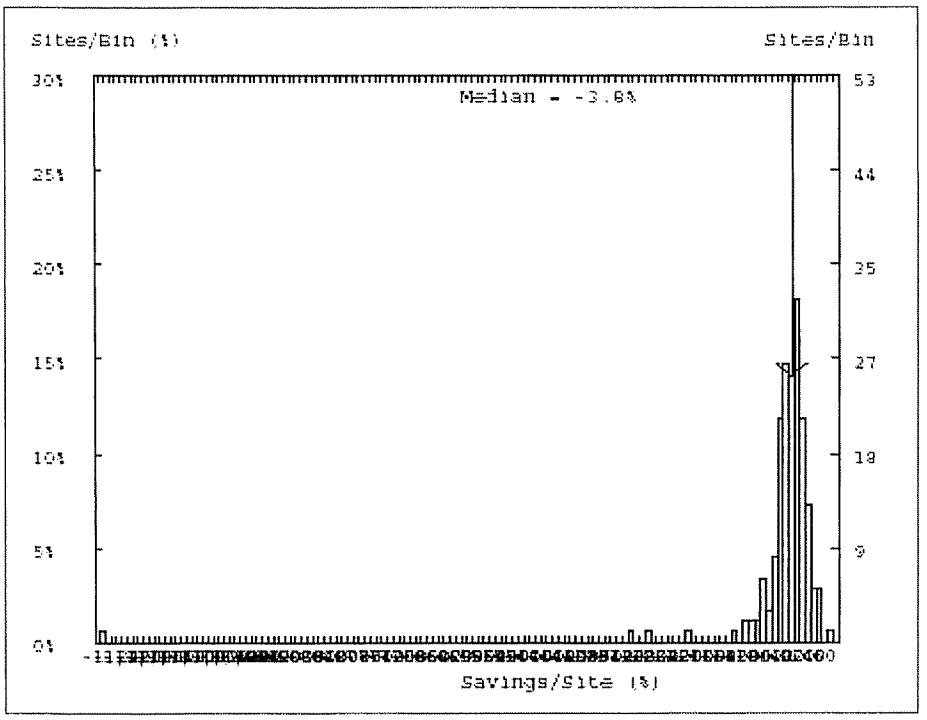

Figure 68 Percent kWh Savings for Control Group, Not Weatherized

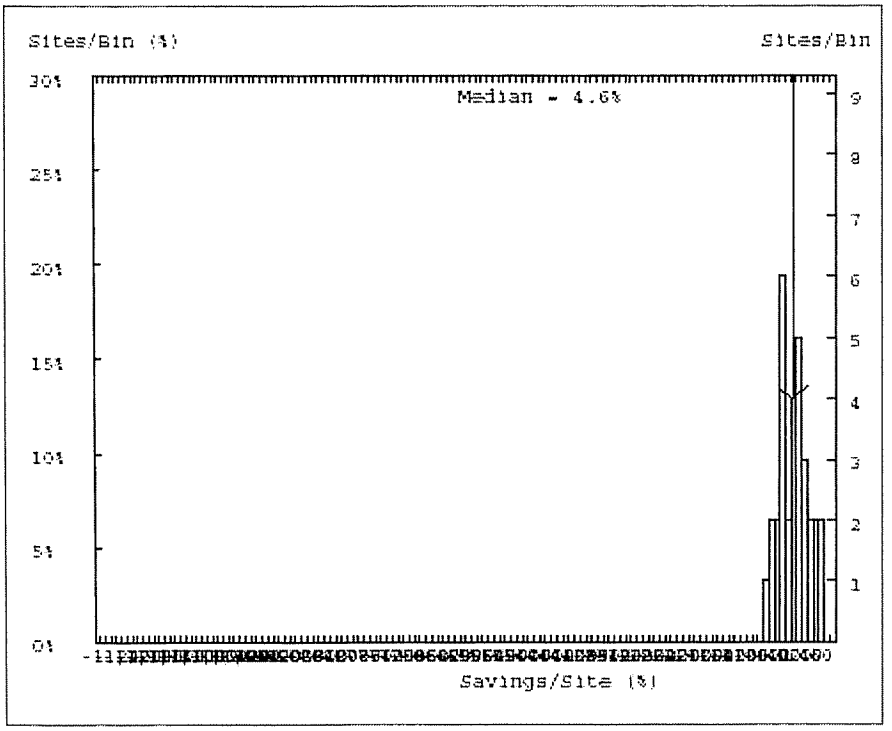

Figure 69 Percent kWh Savings for Pilot I and II Participants, Not Weatherized

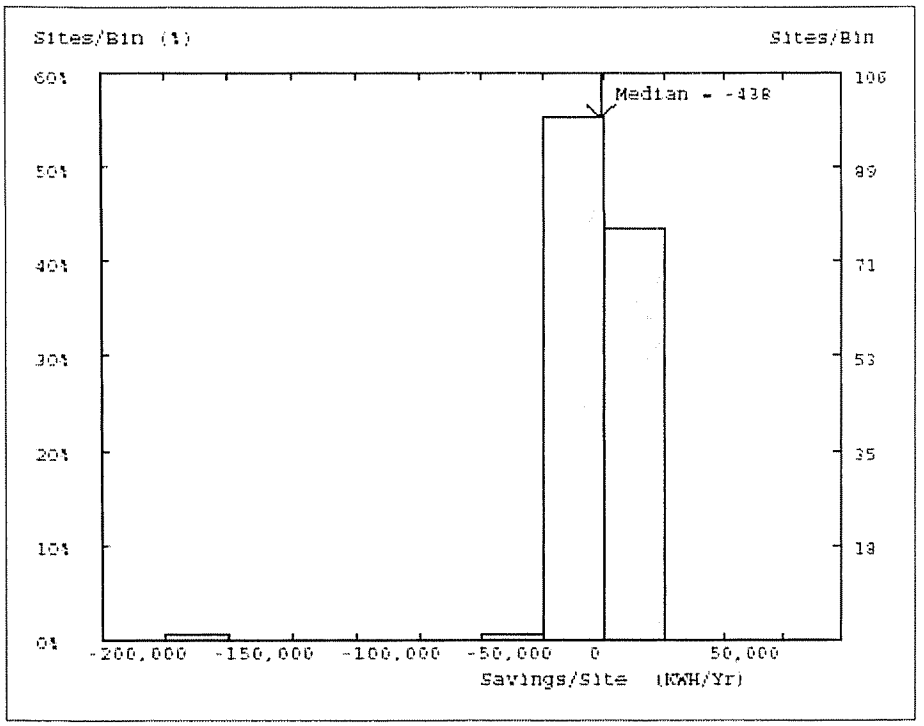

Figure 70 Annual kWh Savings for Control, Not Weatherized

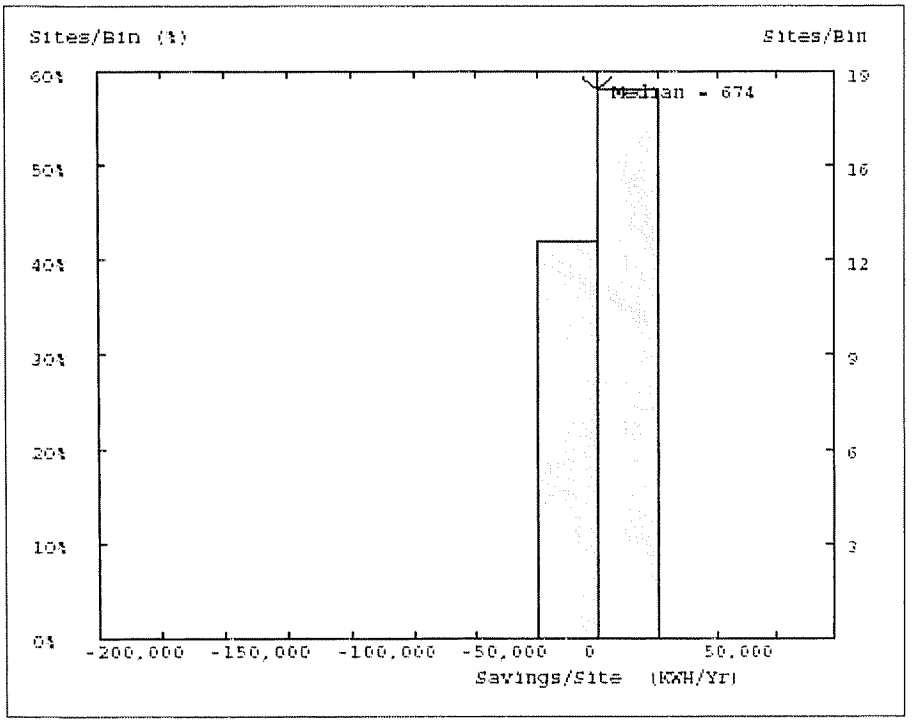

Figure 71 Annual kWh Savings for Pilot I and II Participants, Not Weatherized

Pilot I and II: Weatherized Participants PRISM™ Results, kWhs

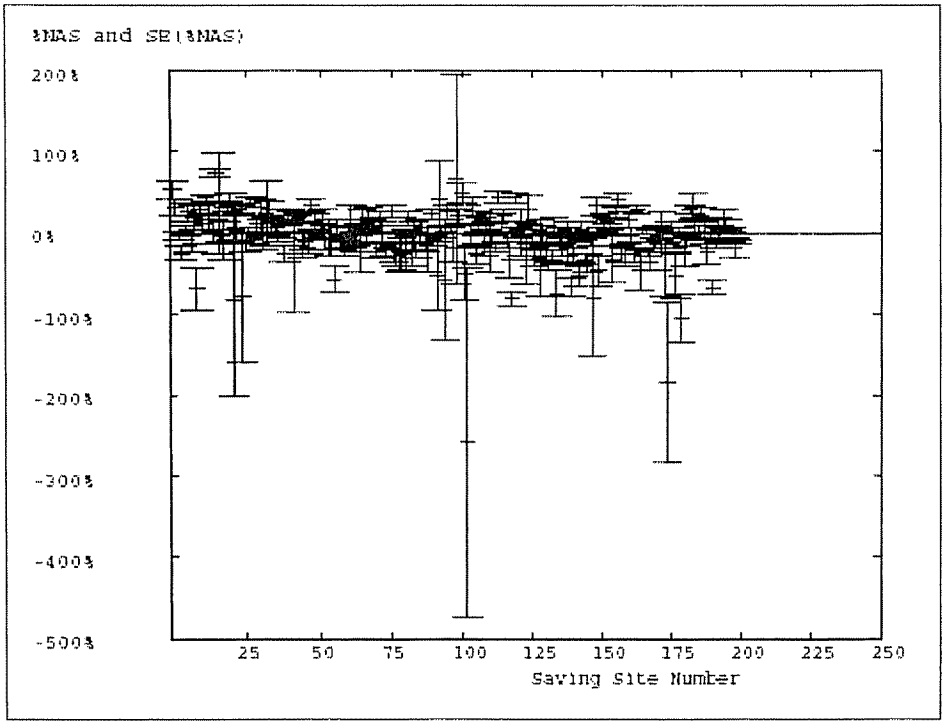

Figure 72 Percent Normalized Annual kWh Savings for Pilot I and II Participants (black), Weatherized, and Control (blue), Not Weatherized

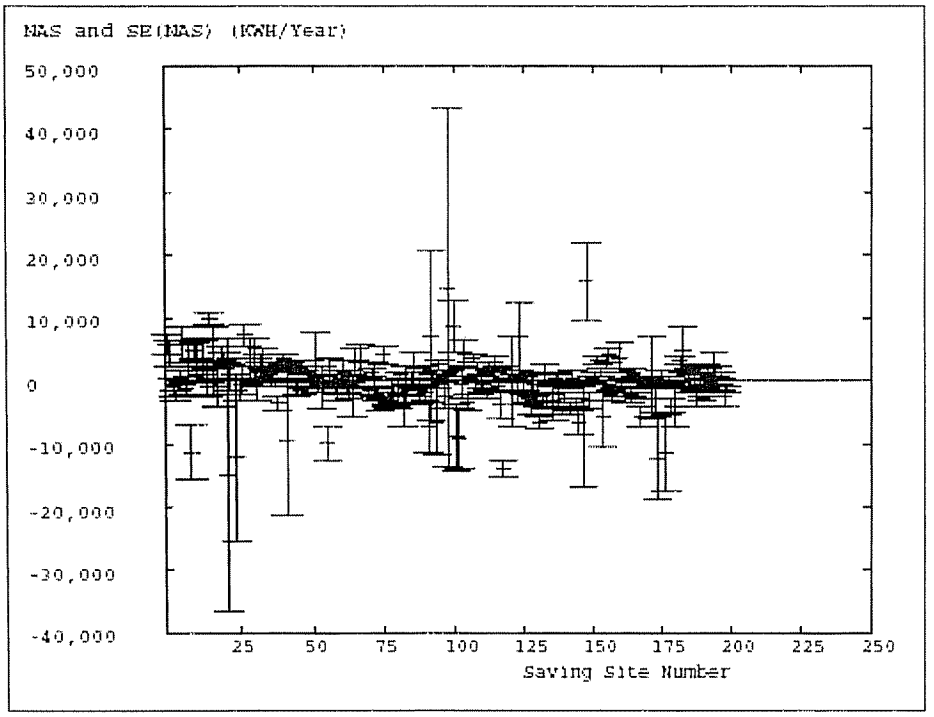

Figure 73 Normalized Annual kWh Savings for Pilot I and II Participants (black), Weatherized, and Control (blue), Not Weatherized

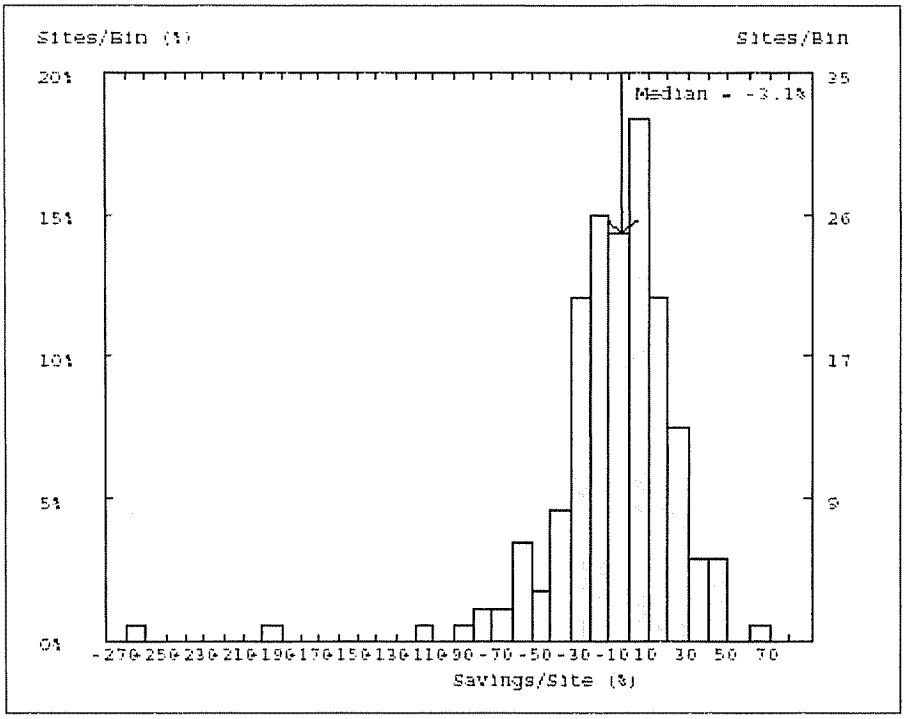

Figure 74 Percent kWh Savings for Control Group, Not Weatherized

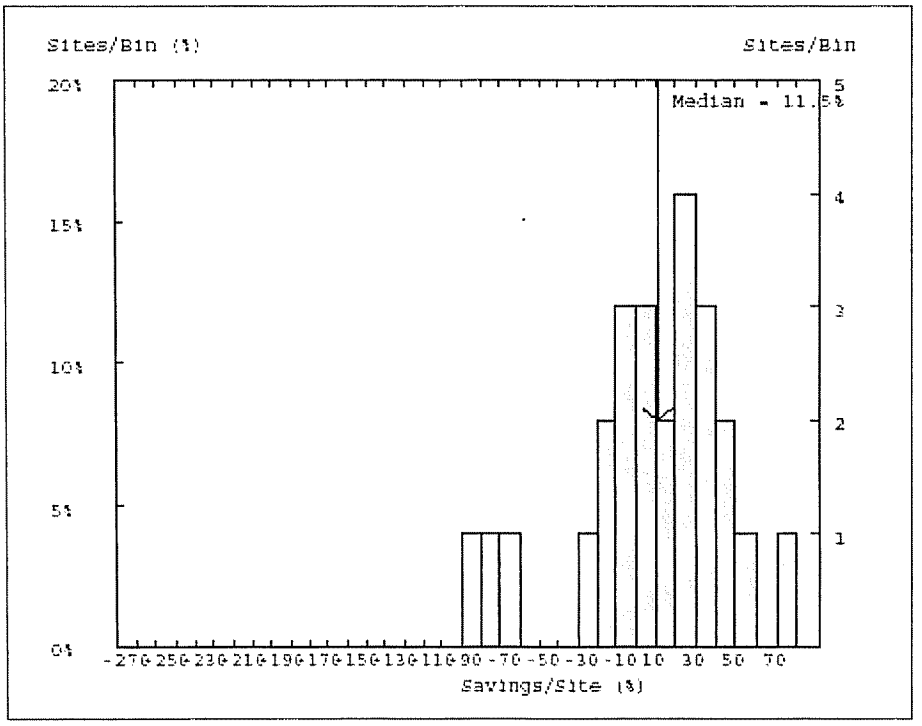

Figure 75 Percent kWh Savings for Pilot I and II Participants, Weatherized

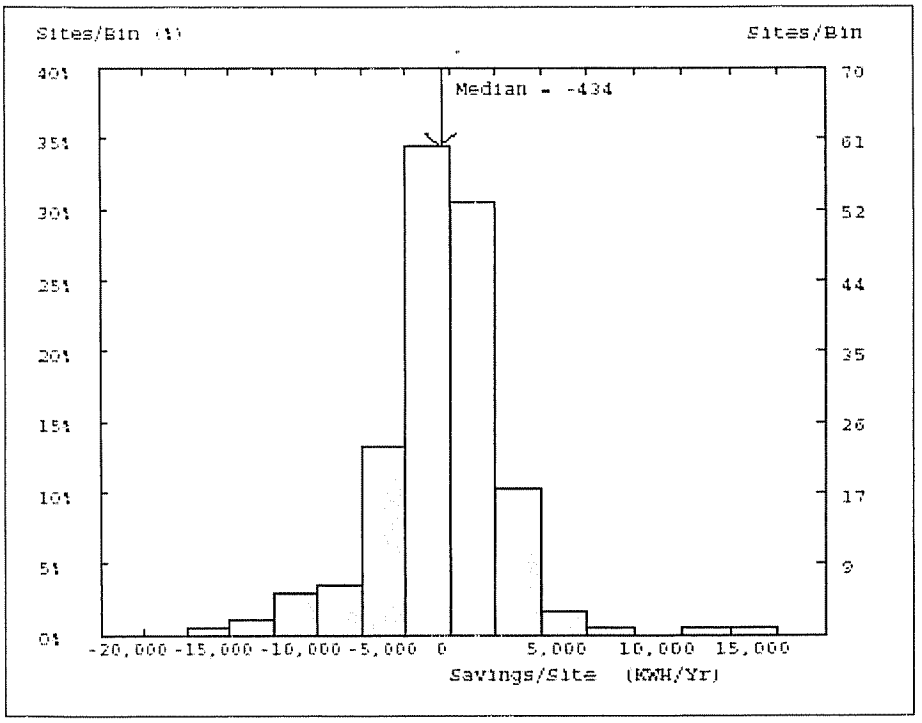

Figure 76 Annual kWh Savings for Control, Not Weatherized

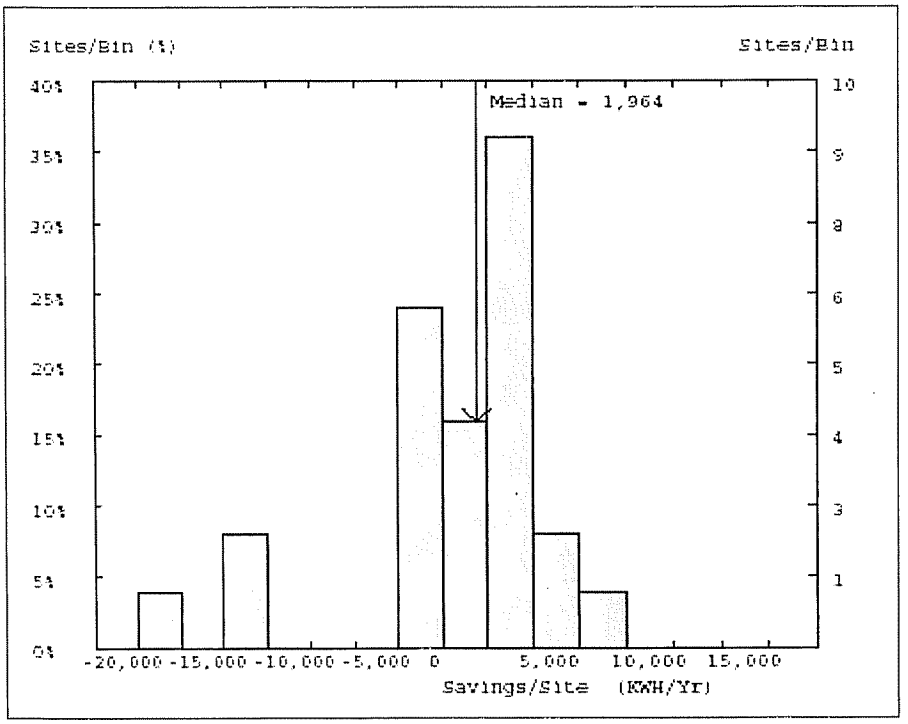

Figure 77 Annual kWh Savings for Pilot I and II Participants, Weatherized

Pilot I and II: Non-Weatherized Participants PRISM™ Results, Therms

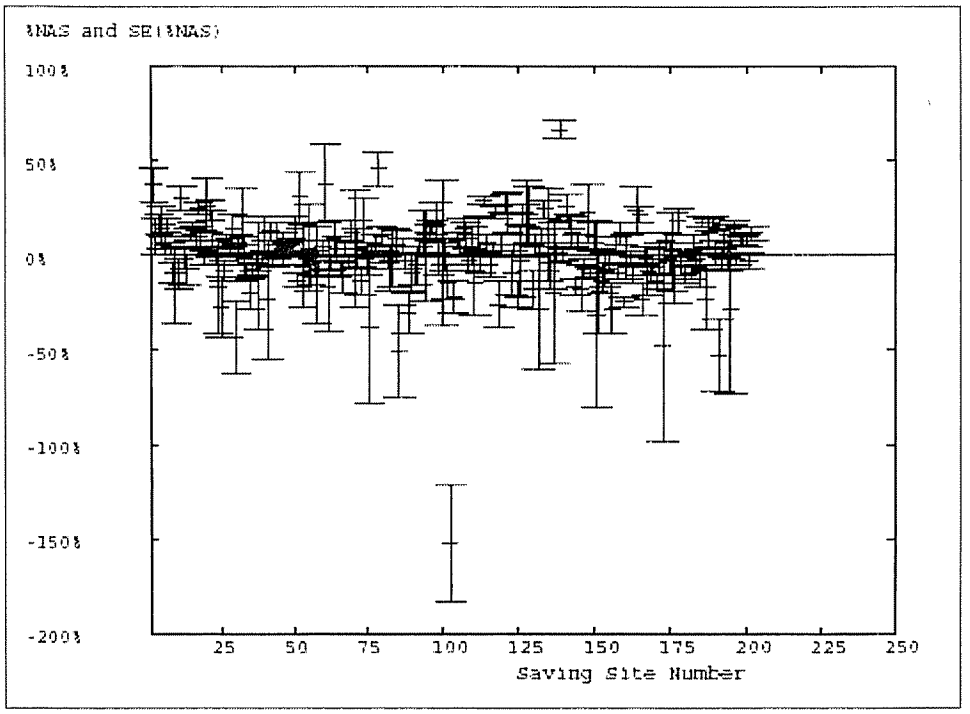

Figure 78 Percent Normalized Annual Therm Savings for Pilot I and II Participants (black), and Control, (blue), Not Weatherized

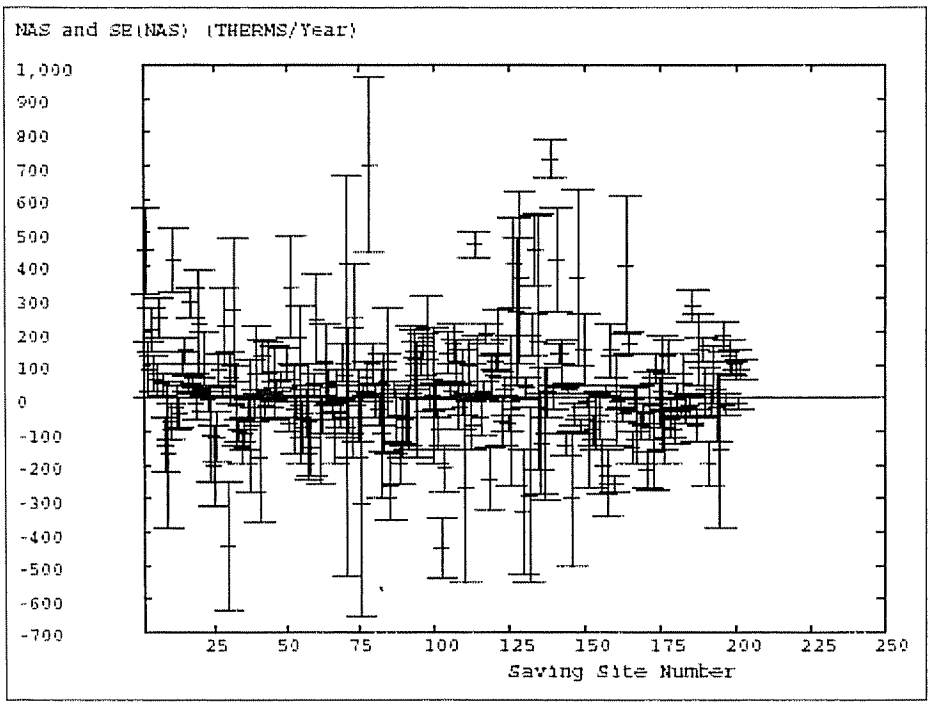

Figure 79 Annual Normalized Therm Savings for Pilot I and II Participants (black), and Control, (blue), Not Weatherized

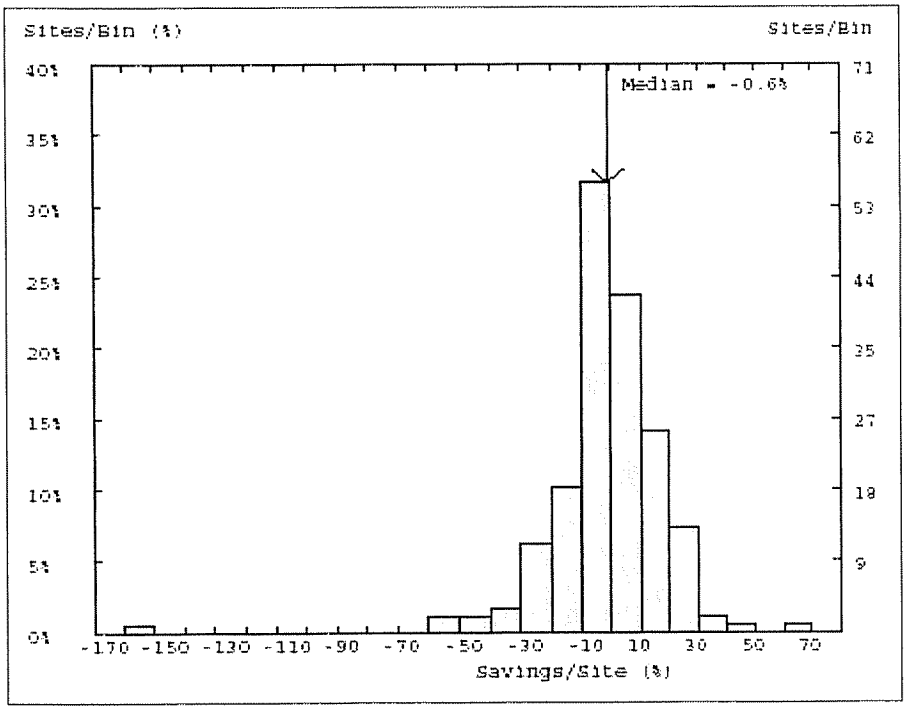

Figure 80 Percent Therm Savings for Control Group, Not Weatherized

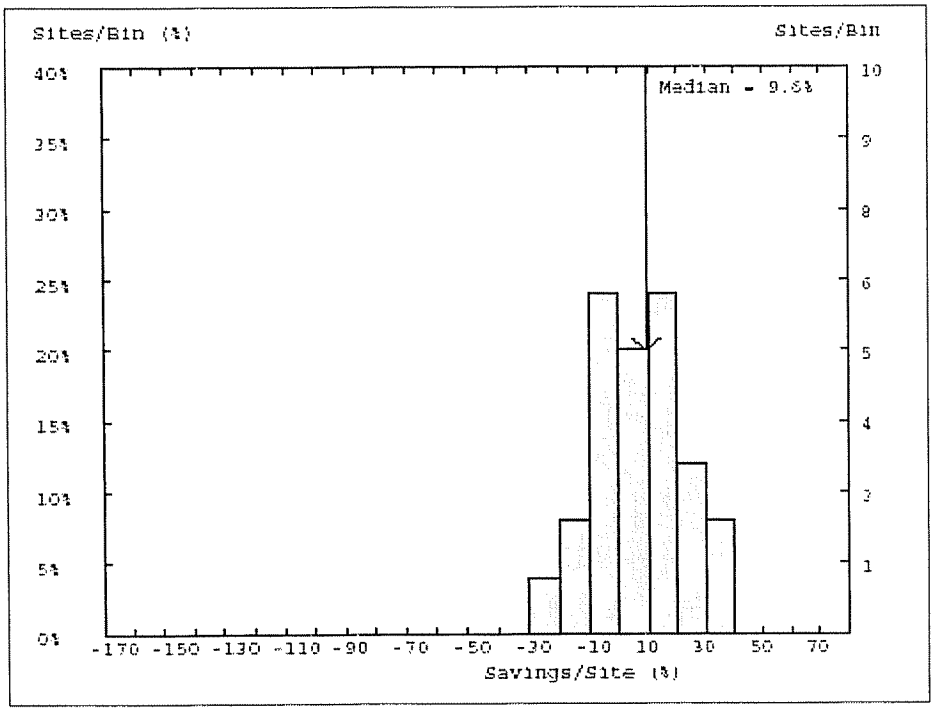

Figure 81 Percent Therm Savings for Pilot I and II Participants, Not Weatherized

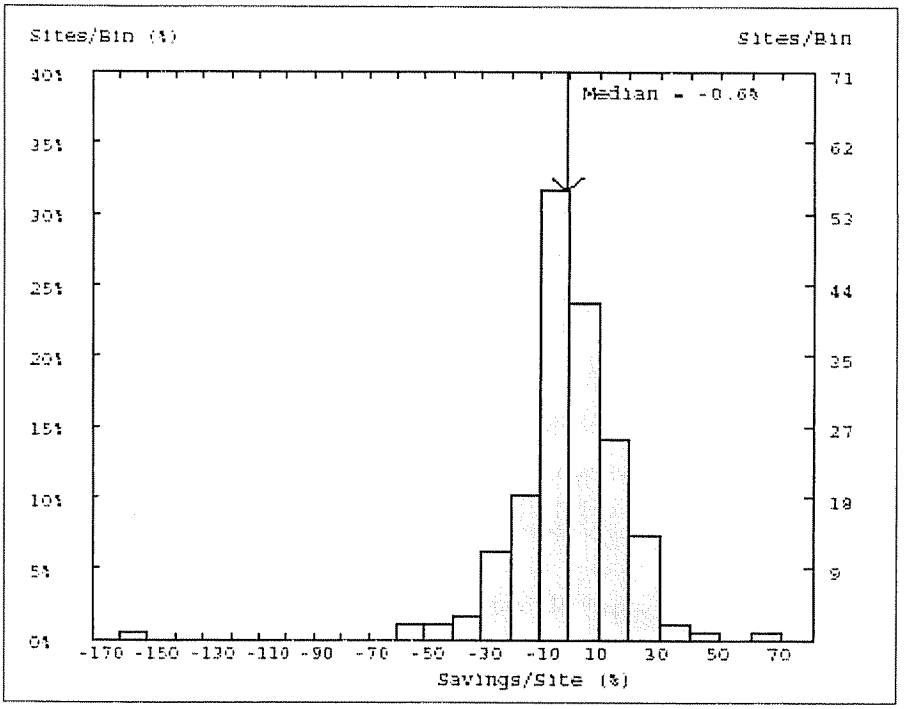

Figure 86 Percent Therm Savings for Control Group, Not Weatherized

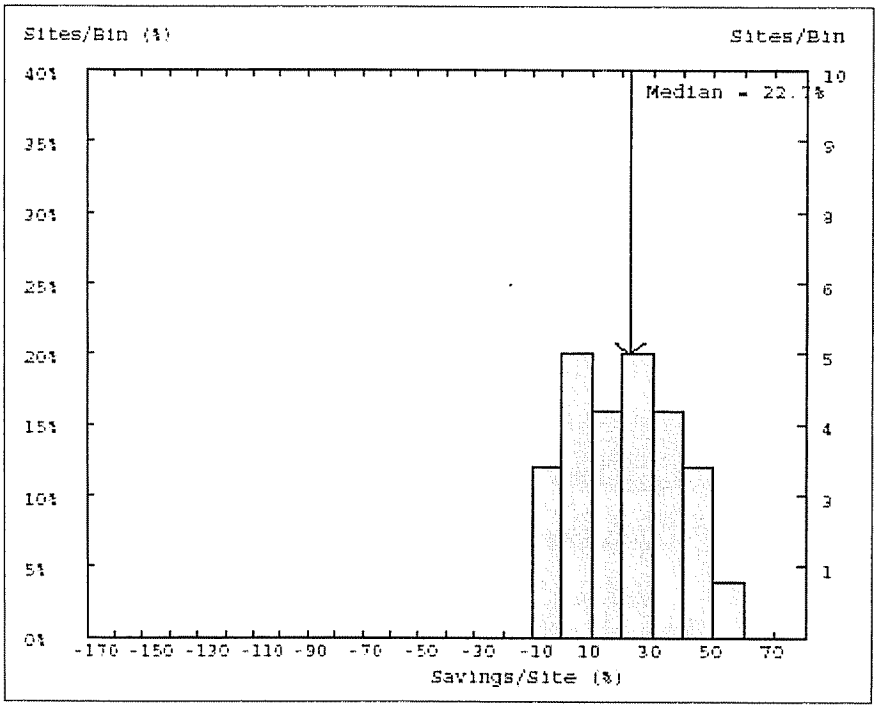

Figure 87 Percent Therm Savings for Pilot I and II Participants, Weatherized

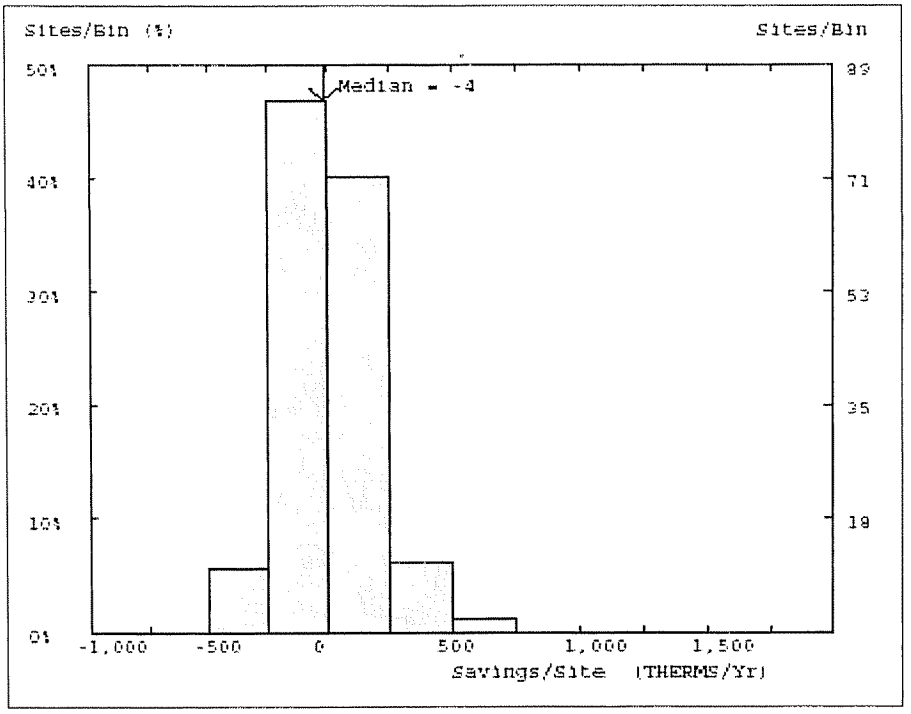

Figure 88 Annual Therm Savings for Control, Not Weatherized

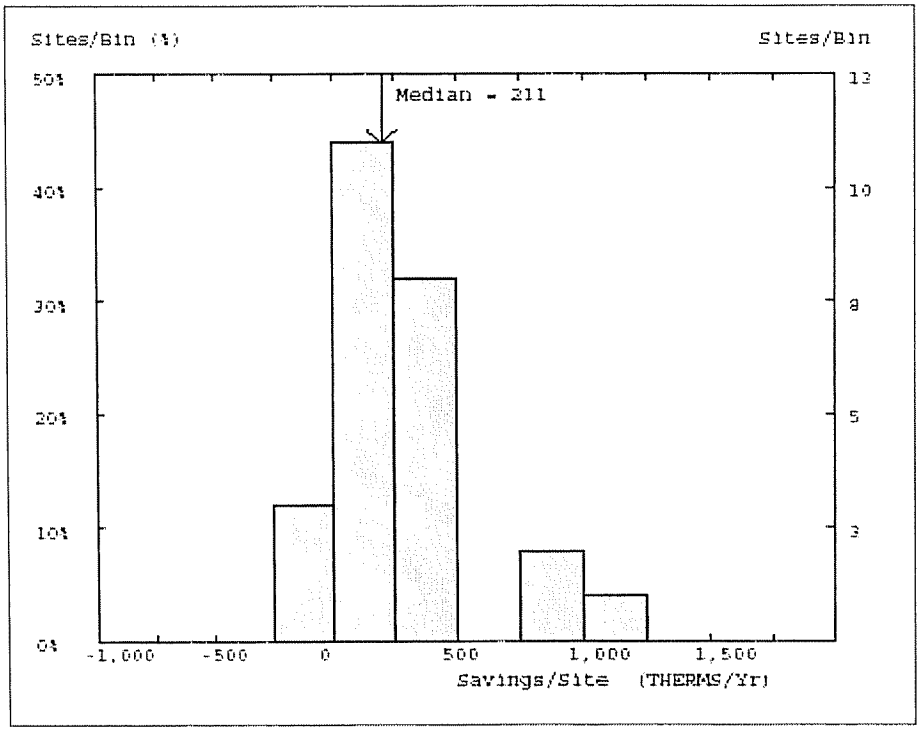

Figure 89 Annual Therm Savings for Pilot I and II Participants, Weatherized

Appendix C: Pilot Program Demographics

This appendix (taken from the April 2004 Phase I report by TecMarket Works) presents the results to the demographic questions included in the participant interview and identifies some key results of how the demographic information influences program participation decisions.

Demographic Characteristics and Participation

In examining the reasons for participation and the demographic characteristics of the participants the following findings are reported:

1. Owners are almost four times as likely to participate for the purpose of obtaining weatherization services compared to renters. These results indicate that owners, who have a vested interest in their home, view the program as a way to obtain improvements to their home. Renters, who make up a majority of participants, are less likely to see the value of weatherizing a home that does not belong to them.
2. Most people cite the bill credits as their primary reason for participation, regardless of their employment status, the number of children in the home, or the income level of the household.
3. Single women are the most likely to cite the bill credits as the main reason for participation. Seventy-two percent of these women have children at home.

Home Ownership

Just under half (44%) of the fifty participants interviewed own their homes. This is a slight shift from Pilot I where 53% owned their homes.

	Pilot I	Pilot II	Pilot II non-participants
Owners	53%	44%	14%
Renters	47%	56%	86%

Age of Participants

Program enrollees were predominantly middle aged for both Pilot I and II, but in Pilot II there is a higher percentage of participants over the age of fifty-five. This program continues to serve struggling customers with established adult lives.

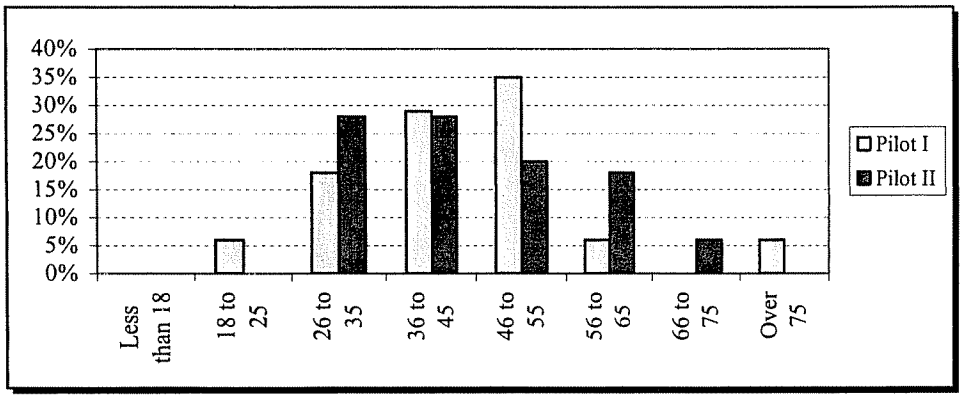

Figure 90 Age of Participants

Size of Household

Most participants of both Pilot I and II have one or two adults living in their home and most participants report having children. In Pilot II, almost half of the participants report that they are the only adult in the home. Of the households that report only one adult (the participant) living in the home, 40% have one or more children. Of those participants with two adults in the home, 48% of them have children at home. Of those with two or more adults in the home, in nine (17%) of those homes, one of the adults is disabled. Table 23 reports the number of adults in the participating households.

Table 23 Number of Adults Living in Participant's Homes

	Pilot I	**Pilot II**	**Pilot II non-participants**
One Adult (the participant)	47%	40%	57%
Two Adults	35%	48%	29%
Three Adults	0%	6%	14%
Four Adults	6%	6%	0%
Five Adults	6%	0%	0%
Six Adults	6%	0%	0%

The demographics of children in the homes of participants are very similar to those seen in Pilot I, as indicated in Table 24.

Table 24 Number of Children in Participant's Homes

	Pilot I	Pilot II	Pilot II non-participants
No children	35%	25.5%	0%
One child	12%	15.7%	29%
Two children	24%	31.4%	29%
Three children	24%	21.6%	14%
Four children	0%	3.9%	14%
Five children	6%	0%	14%
Six children	0%	0%	0%
Seven children	0%	2.0%	0%

Employment status

In Pilot I, about half of the participants came from homes in which the "head of the household" was employed full time. The other half was retired or disabled (35%), employed part-time (12%), or unemployed (6%).

In Pilot II, the employment status demographics shifted, Pilot II program enrolled more unemployed (24% versus 6% in Pilot I) and less full time employees. Table 25 presents the status of the head of the household's employment status.

Table 25 Employment Status of the Head of the Household

The Head of the Household is...	Pilot I	Pilot II	Pilot II non-participants
Employed full time	47%	28%	14%
Employed part time	12%	14%	14%
Unemployed	6%	24%	43%
Retired	35%[a]	2%	0%
Disabled		32%	29%

[a] The categories of "retired" and "disabled" were combined in the Pilot I study.

Age of Home

Thirty-five Pilot II participants were able to provide the age of their home, indicating the average age of the home is 63.3 years old. Likewise, in Pilot I the average age was 64 years. The age of the homes from both Pilots is widely distributed, and ranges from a low of 5 years old to a high of 103 years old.

Years in Home

The average number of years participants report living in their current home is about 9 years, indicating that participants are generally not highly transient. In fact, 33% have lived in their homes for five years or more. For both Pilot I and II, this group seems to be a somewhat stable group that is not moving from structure to structure every few years.

Table 26 Years in Home, and Ownership of Home

Number of years in home	Pilot I	Pilot II	Renters	Owners
Less than 1	6%	10.4%	8.3%	2.1%
1-2	12%	4.2%	2.1%	2.1%
2-5	36%	39.6%	29.2%	10.4%
5-10	24%	16.7%	10.4%	6.3%
10-15	6%	8.3%	4.2%	4.2%
15-20	6%	8.3%	2.1%	6.1%
Over 20	12%	12.5%	0%	12.5%
			=100%	

As indicated in Table 26, for Pilot II the percentages of owners increases as the number of years they have been in their homes increases. Owners move substantially less than renters.

Customers who did not participate in the Pilot II Program are primarily renters. Only one of the seven non-participants owns their home, this individual has lived there for six years.

Table 27 Non-Participant Years in Home, and Ownership of Home

Number of years in home	Pilot II non-participants	Renters	Owners
Less than 1	0		
1-2	1	100%	0%
2-5	2	100%	0%
5-10	4	75%	25%
10-15	0		
15-20	0		
Over 20	0		

Education

The educational backgrounds have remained essentially the same from Pilot I to Pilot II, with the highest percentages of participants being high school graduates. Participants in Pilot II did see a few people more people with higher levels of education, five participants had college degrees, and one had a graduate (M.A.) degree.

Participant has completed....	Pilot I	Pilot II	Pilot II non-Participants
Middle school or less	6%	6%	14%
Some high school	24%	16%	0%
High school	41%	40%	86%
Some college/technical school	24%	20%	0%
Technical school	0%	6%	0%
College	6%	10%	0%
Graduate school	0%	2%	0%

Marital Status

The marital status of participants in the Payment Plus Program has stayed relatively the same from Pilot I to Pilot II, with slightly more divorced participants.

Table 28 Marital Status of Participants

Marital Status	Pilot I	Pilot II	Pilot II non-participants
Married	47%	42%	29%
Unmarried, living with partner	0%	4%	0%
Single, divorced	24%	38%	43%
Single, widowed	12%	2%	0%
Single, never married	18%	12%	29%
Prefer not to answer	0%	2%	0%

Income

The vast majority of participants are of from low, to exceptionally low income households with half having an annual household income of less than $10,000 a year. Seventy-eight percent of the households have an annual income under $20,000. This percentage of participants in the lower levels of income are slightly higher than they were in Pilot I, indicating that Pilot II served those that are even more financially strapped than the participants of Pilot I. The program is doing very well in serving households with very low incomes.

Annual Income	Pilot I	Pilot II	Pilot II non-participants
Less than $5,000	18%	20%	29%
$5,001 to 10,000	24%	30%	29%
$10,001 to 15,000	12%	18%	14%
$15,001 to 20,000	6%	10%	0%
$20,001 to 25,000	29%	4%	14%
$25,001 to 30,000	6%	4%	0%
$30,001 to 35,000	0%	4%	0%
$35,001 to 40,000	0%	4%	0%
Don't Know	0%	2%	14%
Prefer not to answer	6%	4%	0%

Gender

Program participants, as in other low-income programs, are mostly female, with Pilot II serving a higher percentage of females. Of the non-participants that we were able to reach, all of them were women.

Gender	Pilot I	Pilot II	Pilot II non-participant
Female	65%	80%	100%
Male	35%	20%	0%

Summary and Highlights of the Demographics

As with other types of low-income program participants, the Pilot Program II participants are overwhelmingly low-income women. Other characteristics aren't as obvious. For example:

1. While there were only ten male participants, 20% of them are disabled. A review of the 40 female participants reveals that 35% of them are disabled.

2. The women tend to be more educated. Twenty-five percent of the women have some college or technical school education (many of them are currently students), while only one of the men (10%) has a degree higher than a high school diploma or GED. Of the women, 45% have a higher-level education.
3. Only seven of the thirty-eight participants with children have less than a high school degree.
4. Those participants with annual incomes of less than $5,000 are the least educated, with all ten participants in this category having a high school diploma or less. Four have diplomas, four dropped out of high school, and two never made it to high school.
5. Three of the five college graduates have an annual income of only $5,001 to $10,000.