

# **The Importance and Influence of Evaluation in the Early Stages of Pilot Program Design and Planning: A Case Study**

*Johna Roth, TecMarket Works, Oregon, WI*  
*Nick Hall, TecMarket Works, Oregon, WI*  
*Rick Morgan, Morgan Marketing Partners, Madison, WI*  
*Kathy Schroder, Duke Energy, Cincinnati, OH*

## **Abstract**

Evaluation professionals are typically asked to evaluate programs that are well into the post-development stages of their implementation cycle or after the program has run its course. However, conducting evaluations during the pilot stages of a program is an effective way to improve programs before they are fully implemented.

Duke Energy's low-income Payment Plus pilot program was evaluated three times while the program moved through a series of pilot program design changes. Each of these evaluations consisted of a process evaluation and an impact evaluation. The program offered a workshop on how to save energy, a workshop on how to manage a household budget, and free weatherization services for high-arrearage, low-income customers. Pilot participants were offered up to \$500 in bill credits in exchange for attending the workshops and having their homes weatherized.

These multiple evaluations conducted over a three-year period, focusing on evolving versions of the pilot program, helped to substantially improve the program before its formal launch. This paper informs the program design and delivery community of the benefits of conducting evaluations during the pilot or early implementation phases in order to fine-tune the program before it is formally offered to a wider distribution of customers. The focus of this paper is not so much on the program being evaluated, but on the ability of the evaluation effort to improve a program in its developmental and testing phase.

## **Introduction**

The Payment Plus Program is designed to provide assistance to Duke Energy's low-income customers that carry a significant (\$500 or more) arrearage. The program is now being implemented in Northern Kentucky (Newport, Covington and northern counties) within Duke Energy's service territory. Before launching into full operations, the Payment Plus Program was field-tested in five consecutive pilot programs offered between early 2002 and late 2005. These will be referred to as Pilot I, Pilot II, Pilot III, Pilot IV, and Pilot V. The program was modified in each successive pilot period based on the results of the evaluation of the previous pilot period. Throughout this process, some aspects of the program's core components did not change.

These core components consisted of a three-component service delivery approach. The first component was a workshop on energy efficiency behaviors, appliances and appliance use practices. This workshop was intended to teach participants how to manage their energy use. The second component was a workshop focused on financial management principles designed to teach participants how to manage their financial affairs so that they can develop a budget to live within their income levels and pay their bills on time. The third component was a weatherization service in which their home was weatherized to make it more energy efficient. Together the program was designed to educate low-income customers about ways to save energy and dollars on the utility bill, how to live within one's budget, and then help the home itself use less energy. The evaluations focused on how these three components were implemented and what changes

were needed to the program to improve its operations, participants' bill payment patterns, and reduce the energy burden of the homes.

Participants were required to complete the energy workshop across all phases of the program, but were not required to attend the budgeting workshop in some of the phases or to have their home weatherized. However, to obtain the \$500 participation credit the participants need to complete all three phases of the program. Less participation resulted in lower incentives paid to a participant.

As a result of the evaluation efforts, several changes to the operations of the program were made. The changes included:

#### Management Changes:

- To reduce utility labor for credit processing tasks and to make it easy for the participants, vouchers for the arrearages were eliminated and replaced with automatic internal credit processing by Duke Energy. This freed up staff labor needs during a period of increasing labor loads placed on program staff.
- Streamlined the arrearage payment process to eliminate delays for the customer to receive the arrearage reduction incentive. This change increased program satisfaction, increased participation interests, lowered complaints, reduced the need for problem resolution efforts and lower participant dropout rates.
- Changed the tracking data system to be better able to track participation, incentive payments, and status in the program service pipeline. This allowed for more accurate tracking of participants and participation status within the incentive payment process.
- Adjusted the incentives amounts from a monthly bill payment "performance" based and workshop attendance incentive to a workshop participation only incentive so that the program could reduce administrative burden but keep the incentive high enough to gain interests and hold participation while keeping within budgets.

#### Marketing Changes:

- Changed the way potential participants were targeted. This allowed the program to meet its participation objectives without resorting to other program referrals.
- Changed the presentation and wording of the marketing materials and changed the "branding" of the materials to increase interest levels. This change increased belief in the program and ultimately increased enrollment and completion rates.

#### Program Design Changes

- Expanded the locations of the classes to a broader geographic territory rather than requiring participants to travel to the classes. This change minimized travel to workshops, increased attendance and reduced attendance barriers.
- Combined three short financial workshops and their relative incentive payments into one longer workshop. This change streamlined the scheduling process and reduced participant drop out.
- Brought in the weatherization provider to the energy workshop to present the weatherization program to participants. This change overcame weatherization resistance barriers and increased the number of homes weatherized.
- Made Duke Energy more prominent in workshops and in the material provided to

participants and potential participants. This change increased trust in the program and reduced fears that the program may not be legitimate. As a result, enrollments improved and participation resistance was reduced.

The following sections of this paper discuss how evaluation findings led to these program changes and influenced the program's success.

## **Management Changes**

### **Streamlined the Payment Process**

When the Payment Plus Program began, the arrearage credits being applied to the customers' accounts were made through a voucher system. Customers would receive a paper voucher which they would include in the bill payment or when they paid in person. The accounting department would then need to make special entries into the account to reduce the arrears to that level. Many administrative problems arose with this system. The company then changed to an internal system of arrearage credit via a process in which the program managers at Duke Energy had to file a request for the reduction with the company's Customer Accounting (CA) department. This process resulted in substantially delayed payments, as the CA staff felt that processing these credits was not their primary mission, and therefore held a much lower priority for their efforts. As a result, few credits were processed in a timely way. In several cases the delayed credits resulted in electricity shut-offs or disconnect notices to participants that were not late in their payments but because the program's payment credits were not credited to their account and the CA system automatically sent out the disconnect notices and informed field staff to disconnect the power.

This situation was compounded when the program staff informed the customers that the program credits covered the past-due debts and the customer's payment would be processed against their current bill. When the credits were not posted in time to stop the disconnect notice or notice to the field crews shut-offs were made to homes without a debt problem, the participants would call the program managers, which in turn resulted in conflicts with the CA staff and a need to send the field crews back out to turn the power back on. When the evaluation reported these findings to the program manager, the payment crediting process was withdrawn from the CA department and placed in the hand of the utility's program managers. This allowed the credits to be posted to the account as soon as they were earned. This change reduced internal conflicts with the utility staff, the Community Action Program (CAP) staff, and the participants, and saved the resources not needed to make the disconnections at the home. It also lowered the enrollment dropout rate as a result of increased program satisfaction.

### **Changed the Tracking Data**

Two key issues were identified in the evaluations: 1) the need to more efficiently process incentives in a more timely manner, and 2) the need to avoid problems with customers not qualifying for incentives. As a result of these evaluation findings, the tracking system was changed. For example, when a customer is identified as a potential participant by the agency, they notify Duke who then checks the account records to confirm qualification for the program. Once the participant is confirmed, they are entered into a database and the agency is notified. This database is then used for each step of the process. The agency uses this tracking system to notify Duke that the customer participated in the workshop or weatherization. Duke then uses it for notification that the customer account should be credited, allowing credits to be posted to the account expeditiously.

### **Changed the Incentives Amounts**

Payment Plus Pilot I was implemented in the spring of 2002. In addition to the three main

components, energy education, budget management training and weatherization, the pilot included incentives to pay the utility bill on time. If the participant paid their “current usage” energy bill on time each month, they received an incentive. These incentives were:

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

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

Pilot I enrolled 55 people with a target of having 50 participate in all phases of the program. However, over half of the participants did not complete the required components and forfeited their utility bill credits. The evaluation identified several reasons for the high dropout rate. First, most enrollees thought that program participation was required in order to obtain utility bill crisis assistance to maintain their utility connection. When customers came in to the agency to obtain “crisis” help to keep their power on, they were enrolled in Payment Plus. In many cases, customers were not aware that the program was an option and was not required in order for them to obtain crisis dollars to keep their power on. This misconception caused people to enroll with no intention of following through.

Second, the requirement of monthly on-time payments was very difficult for these customers to achieve. Participants were often unable to pay their bill on time even with substantial incentives to do so. It is important to understand that many people just did not have the money to pay their bill even though they wanted to pay the bill and were trying to find ways to do so. Third, weatherization measures were difficult to install in many of these homes because landlord consent was difficult to obtain, or because customers did not want program staff in their home. The requirement for monthly on-time payment was also very labor intensive for Duke Energy and the program staff. Throughout the program, both Duke Energy and agency staff needed to repeatedly contact participants and encourage them to pay their bills to stay in the program.

Based on the above evaluation findings, Payment Plus Pilot II was redesigned. The Pilot II effort planned to serve 100 participants who had levels of utility debt greater than \$500. The primary program change was removal of the “on-time” monthly payment incentive. The incentives were restructured to reward program participation and progress. The incentives were structured as follows:

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

Under this structure, a participant could receive up to \$500 in arrearage credits (applied only to their arrearage) if their debt was at least \$500. In Pilot II, the energy education session was required. The other two components (budgeting and weatherization) were encouraged through the incentives provided. These levels of incentives have been successful at drawing customers into the program and the incentive levels have been maintained in the continuing efforts.

## Marketing Changes

### Targeting of Potential Participants

The program targeting efforts were changed to make the program more successful in gaining enrollment. Potential participants were first selected from the utility's database. Low-income customers were identified through a code placed in the account information identifying the customers who receive State & Federal bill payment assistance. These customers were further screened for having active arrears of \$500 or more. The names of selected customers were then sent to the local CAP agency contracted with Duke Energy to implement the program. The agency staff was in charge of contacting the customer, enrolling them in the program and providing the program services.

This was not as successful as first thought. Local CAP agencies are often aware of special cases or conditions that place their clients in precarious financial situations, and sometimes the CAP managers like to interpret enrollment rules more broadly than intended to help their clients when possible. As a result, the agency managers felt that they needed to enroll their financially stressed clients even though they were not specifically selected by the utility as being eligible to participate. As a result, many customers who were not eligible for the program were enrolled in the program during the first implementation cycle. The first evaluation identified the problem when the examination of billing records found that the enrolled participants did not meet eligibility requirements.

The process evaluation confirmed the results by assessing the program's enrollment process with the CAP manager. As a result, the enrollment process was changed to allow CAP agencies to suggest candidates to Duke Energy when special cases were identified; however, Duke Energy had to approve the enrollment of that individual before the CAP agency could present the program to their client. Otherwise, Duke Energy's enrollment lists were to be the primary criteria for offering the program to customers.

Another change in the process for targeting customers that occurred as a result of the evaluation effort was the elimination of the need for the potential participants to be in a "crisis" mode with the utility. The goal of the program was to target customers that would need the program the most – low income customers, with high levels of arrearage (over \$500), poor payment histories, and those having their energy utilities shut off because of lack of payment ("crisis mode"). However, targeting only these "crisis" customers had the result of enrollment numbers being lower than the capacity of the program. The program had not recognized the potential benefit of working with those that make a great deal of effort to pay as much of their utility bill as they can afford to. For example, a low-income customer that holds an average debt of \$300 is not necessarily "better off" than one that carries an average debt of \$600. Therefore, to reach enrollment targets, arrearage requirements were allowed to be adjusted downwards for customers with less than \$500 arrearage, and the focus on customers who were in the process of having their power disconnected was eliminated.

The incentive was set also so that customers only received incentives up to their arrearage totals or a \$500 max for participation. We found that customers with over \$500 in arrearage were not more motivated to attend both classes and receive weatherization services in exchange for the full credits than those with less than \$500 in arrearage. Many customers with less than \$500 in arrearage took full advantage of the program services, despite the lack of the full incentive for them to do so. Customers with less than \$500 in arrearage took advantage of the services so that they could get their homes weatherized, learn from the workshops and get their accounts paid down (by the program incentive) to a level in which they had no debt.

In fact it appears that customers who are so far in debt that the program may not help them out of that debt (some were up to \$10,000 in debt) may be less likely to take full advantage of the program than that customer with debt levels that can be erased by program participation.

These observations and resulting changes allowed the program to reduce the level of debt required to participate from \$500 to \$300, increasing participation, eliminating more debt (customer wanted to keep

their debt lower or absent after it was eliminated), and gaining more satisfied participants, since customers with no debt were more satisfied with the program for helping them get rid of all of their debt than those with only part of their debt reduced. Also as a result, more customers were served, which lowered the cost per customer served and more homes were weatherized, which increased participation.

### **Changed Wording on the Marketing Materials**

TecMarket Works was asked to review the marketing and outreach materials to determine if they were appropriate to the target market. The primary enrollment approach consisted of a program announcement letter provided on Duke Energy letterhead. The evaluation contractor analyzed the marketing letter used for recruitment to check the level of potential comprehension. This test employed the Flesch-Kincaid Readability Test. Materials having a reading score greater than 6<sup>th</sup> grade are considered too complex for low-income marketing. The review indicated that the materials were worded at too high of an educational level. The original materials registered at a 12<sup>th</sup>-grade reading level on the Flesch-Kincaid Scale.

As a result of this analysis, the Duke Energy program manager, the program design consultant and the evaluation contractor redesigned the outreach letter to have fewer words, more bullet points and a simpler description of the program. The redesign process brought the reading level down to a 6<sup>th</sup>-grade level. In addition, the evaluation contractor suggested using the CAP agency's letterhead along with Duke Energy's logo in an effort to obtain more recognition of the sponsoring and implementing organizations as the program announcement and participation letter was reviewed. Both these actions helped increase response to the recruitment mailing and were successful to the point that the program became over-subscribed after the first test mailing, rather than under-subscribed as experienced with the previous approach.

### **Program Design Changes**

#### **Expanded Workshop Locations**

The workshops offered through the program were originally offered only at a single local CAP agency office while the Duke Energy territory covered five counties. This required participants to travel to the CAP agency's office in order to participate in the required or voluntary workshops. Unfortunately, this was a significant participation barrier for many eligible customers. Low-income customers are not able to travel as easily as other customers. Many do not own or have access to private transportation, or do not have the money to put fuel in their vehicles even if they do have transportation. Likewise, public transportation is not set up for convenient travel from neighborhoods to CAP agencies and public travel between cities is almost non-existent within the time thresholds needed to attend a workshop. This placed eligible households in a position of needing to travel significant distances to attend workshops. As a result of the evaluation identifying travel barriers as a major participation barrier, the workshops were restructured and offered throughout the five counties and enrollment processes were coordinated so that distributed workshops could be planned. The use of the distributed workshops throughout the five county program territory allowed increased opportunities for travel-limited customers to participate, increasing enrollments and participant satisfaction with the program.

#### **Combine Three Workshop Sessions into One**

The original design of the financial workshop was to have three separate one-hour workshops each with a \$50 incentive to attend. This would enable customers to use the information learned at each session and then get additional coaching as time passed. While this has merit to reinforce learning, the travel issue and the issue of scheduling for attendees, let alone additional administrative expense, showed that this

strategy caused higher drop out rates and costs. Consequently, the program redesigned the finance workshop into one three-hour session and one \$150 incentive payment.

### **Brought in the Weatherization Provider to the Energy Workshop**

Weatherization to reduce the total energy use needed for the customer's home is a key element of the program. Duke Energy has a separately funded and contracted a weatherization program that operates in parallel with the U.S. Department of Energy's National Weatherization Program. Each program can piggyback services on the other, though they are delivered by different entities. The weatherization contractor is an additional partner in the Payment Plus Program and is separate from the agency providing the educational workshops. For the weatherization aspect of the program, a somewhat unexpected finding of the evaluation was the number of eligible customers who did not want to have their homes weatherized even though it was a free program service. Many customers (low income and others) do not have trusting relationships with the CAP agencies, the weatherization service providers or the sponsoring utilities, and do not want these strangers in their homes. Others are suspicious of the "real" reasons for offering the service, thinking that there may be motives other than helping the customers help themselves. Finally, others do not want people to see their living environment and prefer to keep somewhat isolated.

Regardless of the reason, a small number of participants did not want their homes weatherized and the process evaluation survey of participants and non-participants suggested that this was also a barrier to participation. The evaluation also indicated that when the workshop trainer was questioned about the weatherization component of the program without the utility or the weatherization provider in attendance to address the questions, the participants were not satisfied with the responses to their questions. This also resulted in less interest in the weatherization service. Together these issues acted as a barrier to participation. As a result of this condition, the evaluation suggested that both the utility and the weatherization provider attend the workshops and present the benefits of the weatherization efforts and address any issues or fears that may exist within the participant group. This change resulted in a substantial increase in the participation of the weatherization component of the program and it became a standard part of the service offering.

### **Made Duke Energy More Prominent in Materials and At Sessions**

Participant surveys were conducted after their participation in the Payment Plus Program. During these surveys, the participant was asked who funded and provided the program. Many of the participants thought that the program was a CAP agency program and had no connection to Duke Energy. Few of the early participants realized that the program was in fact a utility program being offered to them by Duke Energy. As a result, Duke Energy was not receiving customer recognition for the service that they were providing. The evaluation suggested that Duke Energy take a more active role in the interactions with the participants during the workshop and make sure that the service providers informed the participants that the program was being offered by Duke Energy, but that the implementation of the service was being provided through the agency.

In subsequent workshops, Duke Energy program managers attended the workshops and presented the program to the participants, so that the utility would be seen as the provider of the program. One anticipated benefit of this change was that the participants would recognize that Duke Energy was taking actions to help their valued low-income customers and as a result, the customer might place paying their bills at a higher priority than in the past. In follow-up surveys conducted on subsequent pilots, the active presence of Duke Energy did result in more participants recognizing Duke Energy as the source of funds for the workshops and their arrearage credits.

## **The Value of Pilot Programs and Studies**

The key lesson learned from this study is that by repeatedly testing various offerings and evaluating the results, the program designers, program managers, and program evaluators were able to work together to improve a program during its early phases. This process of pushing and pulling at various aspects of the program, enabled the program managers to find out what systems, methods of communication, and program details worked best for the customers and program staff before the full program was rolled out to the public.

By doing so, customer satisfaction and future enrollment will be much higher due to fewer problems with credits being applied, fewer complaints about workshop locations, and more customers signing up to receive weatherization services, and in the end, more energy savings and on-time bill payments.

In the opinion of the evaluators, this was a well-designed program from the start, but in need of minor adjustments in order for the program to be more successful than it would have been if the changes would not have occurred. The authors of this paper recommend that all newly designed or re-designed energy efficiency programs undergo this type of pilot testing that incorporates ongoing evaluations and early feedback approaches so that program problems and issues can be addressed before the program is launched to full scale.

Using this approach for program roll-out does require an increased budget, as the evaluation costs may match the program expenditure costs in the pilot phase, however the pay-off of making these changes in the pilot stages is worth the added expense because these issues do not have to be fixed once the program is fully rolled out. In addition, because of the early pilot program evaluation efforts the cost effectiveness of the pilot program can be estimated while it is still in the pilot stage, helping policy makers make the right decisions about full-scale implementation.