APPRISE

Applied Public Policy Research

Institute for Study and Evaluation

Ohio EPP Interim Process Evaluation

Final Report

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Executive Summary

A. Introduction

The Universal Service Fund (USF) Electric Partnership Program (EPP) aims to reduce electric energy consumption of Percentage of Income Payment Plan (PIPP) households in order to reduce the growth of arrears for PIPP households and to reduce the USF rider. In order to accomplish this objective, the EPP provides energy services that vary with the customer's usage level, and education services that vary with the customer's usage and payment. The basis of the program is the installation of cost-effective energy conservation measures. Education is an integral component of the program in order to help customers understand the program and improve measure performance, and to take energy-saving actions.

APPRISE and Michael Blasnik and Associates were hired by the Ohio Department of Development (ODOD) Office of Energy Efficiency (OEE) to provide evaluation of the EPP. APPRISE is conducting the Process Evaluation and Michael Blasnik and Associates is conducting the Technical Process Evaluation and the Impact Evaluation.

The goal of the EPP Process Evaluation is to assess the Program's design and delivery, the usefulness and quality of services, and how the context of the delivery of services affected the impact of those services. The Process Evaluation is designed to provide both short-term and long-term feedback. Much of the information included in this report has been presented to OEE and many of recommendations have already been acted upon, but all results are included here in order to have a comprehensive statement of accomplishments and findings for initial program operations.

B. Universal Service Fund Electric Partnership Program

The Electric Partnership Program (EPP) was implemented in January 2002, and by the end of April 2002, 544 customers had been served by nine of the authorized providers. When the EPP was first implemented, it was referred to as the Targeted Energy Efficiency Program. However, it was determined that this name was not a good marketing tool and did not identify the key aspects of the program. Additionally, providers were sometimes uncomfortable telling customers that they had been "targeted" for the program. Therefore it was decided that the program would be renamed so that it referred to the electric fuel and to a key aspect of the program, the partnership. The EPP's mandate, goal, and design are described below.

Mandate and Goal

Ohio's Electric Restructuring Act passed in July 1999 created the Universal Service Fund in order to control the cost of the PIPP program for the ratepayers and to ensure access for low-income households to electric service. The Act seeks to better coordinate the Home Energy

Assistance Program (HEAP), the Home Weatherization Assistance Program (HWAP), and the Ohio Energy Credits Program (OEC), and creates a Electric Partnership Program (EPP) that provides baseload, weatherization, and energy education services. Following this Act, a set of definitions and regulations that dictate the parameters of the EPP was created by the Department of Development and adopted by the legislature. This document addressed program eligibility, program targeting, electronic data collection, performance-based funding, cost-effectiveness, and evaluation of energy savings.

The goal of the EPP is to "decrease fuel consumption of Percentage of Income Payment Plan (PIPP) participants." Such a decrease in consumption will lead to a reduction in the growth of arrears for PIPP customers and over time reduce the cost of the USF to all ratepayers by reducing the USF rider.

Program Administration

The Ohio EPP is managed by the Ohio Department of Development (ODOD) Office of Energy Efficiency (OEE). Programs are delivered by 18 authorized providers and 53 sub-agencies.

OEE has many important responsibilities in the development and implementation of the EPP. These responsibilities include program design[1], competitive selection of providers to deliver services under the program, training providers, customer screening and targeting, quality control, documentation of program procedures, and evaluation.

Providers are responsible for delivering program services. The steps involved in this process include:

1. Recruiting high use PIPP customers on the list provided by OEE
2. Scheduling a home visit
3. Conducting a home visit
4. Performing follow-up or case management
5. Conducting quality control
6. Providing OEE with electronic South Middlesex Opportunity Council Energy Reporting System (SMOC~ERS)[2] reports

Program Targeting

OEE obtains electricity usage data on a quarterly basis from the electric utilities in Ohio for all customers participating in the PIPP program. These data are analyzed to determine which customers should be served, and which customers should be targeted to baseload and weatherization services.

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[1] An important component of the program design for OEE was to allow for streamlining of service delivery to customers in order to allow for cost-effective program delivery.
[2] SMOC~ERS is the software used to implement the EPP.

After OEE targets customers for different programs, they send files to the agencies with customer information, usage data, and program targeting data.[3] As all customers on the list are PIPP participants and they have already been screened by OEE for program eligibility, the provider is not responsible for screening customers. The provider is responsible for contacting the customer and scheduling the audit and any required follow-up visits.

Energy Services

The Universal Service Fund (USF) Electric Partnership Program (EPP) has three planned levels of energy service to be provided based on the customer's electric energy consumption. The three levels of service are Baseload Efficiency, Weatherization/Moderate Use program, and the High Use program. The High Use program has not yet been implemented.

Baseload usage is defined as energy used for purposes other than heating and cooling, such as refrigerator, lighting, domestic hot water, cooking, and appliances. The Baseload Efficiency Program focuses on the provision of energy conservation measures that reduce only baseload usage. Customers with annual baseload usage over 8,000 kWh have been targeted for this program.

The Weatherization/Moderate Use program addresses heating and cooling electric usage as well as baseload usage. In addition to installing cost-effective baseload measures, this program installs weatherization measures to reduce heating and cooling usage. Customers with annual heating usage over 8,000 kWh or annual cooling usage over 8,000 kWh have been targeted for this program.

High Use services are planned to be provided to households with both high baseload and high electric heating load. Homes with annual usage of more than 22,000 kWh, baseload usage over 10,000 kWh and heating usage over 12,000 kWh will be targeted. More energy conservation measures will be cost-effective for these higher usage homes. Therefore, this program will pilot the provision of renewable and other advanced technologies. The pilot will assess whether these measures can be cost-effectively provided in lower use homes. Homes from the moderate/high use audit will be referred to this program if they have characteristics that would allow for geo-thermal heat pumps, domestic solar hot water systems, air source heat pumps, high efficiency window replacement, or Gravity Film Exchanger (GFX) waste water recovery.[4]

Customer Education

The goal of the customer education component is to reduce the electric energy use of PIPP households to a level that is affordable and to maximize the benefits of the energy conservation measures and other services received. The level of education received is planned to vary with the level of energy use and the customer's payment behavior. Four levels of education are planned: an in-home visit, in-home case management, workshop

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[3] Demographic data will also be included when this information can be obtained from the joint PIPP application.
[4] A GFX heat recovery unit is a counterflow heat exchanger that extracts heat from drain water.

participation, and home study/mail packet. To date, only the in-home visit has been implemented.

The in-home visit is designed to include an introduction to the program, an analysis of the customer's usage, an energy tour, and an action plan. In-home case management is planned to include the initial education visit, as well as another home visit and monthly follow-up by mail, phone, or in person. A workshop is planned to be offered in cases where this is the most cost-effective option, such as where many recipients live in an apartment complex, and an energy savings packet is planned in cases where the home is very inaccessible and an education visit would not be cost-effective.

In addition to receipt of one of the education programs described above, all customers will receive education follow-up of some type, by phone, mail, or in person. The purpose of this follow-up is to remind customers of their responsibilities and review the benefits of the program. The design of the follow-up contact is currently being refined.

Service Delivery Methods

There are two service delivery methods. With cost-share service delivery, the EPP is delivered in conjunction with other low-income weatherization and/or housing repair/rehabilitation programs. Because the provider can divide the cost of contacting the client, scheduling the visit, and traveling to the home between the different programs, the cost of administering the cost-share program should be lower than the cost of administering the stand-alone component. With stand-alone service delivery, the EPP is delivered on its own, and therefore, must bear all the costs of outreach and delivery. The EPP must perform stand-alone work, as the annual service delivery for this program will be much higher than the combined delivery of existing programs. Therefore, the intent of the stand-alone delivery is to address the shortfall of homes that cannot be addressed by the cost-share program.

Technology

OEE decided to utilize a new technology in the implementation of the EPP because of its potential ability to streamline program administration. This technology consists of an audit software tool, a Personal Digital Assistant (PDA) that allows the provider to collect data in the field, and transfer software that allows the provider to upload data to the desktop. The technology aims to serve many purposes, including to:

- Enable OEE to send client demographic and usage data for the targeted clients that can be easily used in the field to the providers,

- Allow providers to collect all of the information they need in the home and enter the data directly into the database,

- Allow providers to determine the components of electric usage and match the usage up with historical usage data,

- Allow providers to calculate which measures are cost-effective (those with a savings to investment ratio (SIR) of greater than one) and how much the measures should save the customer,

- Allow providers to determine which actions should be taken and how much the actions should save the customer,

- Allow providers to invoice different funding sources, which allows all measures to be identified on cost-share jobs,

- Allow providers to send all data to OEE so that OEE can pay providers for services delivered, perform quality control, and send data to evaluators for analysis purposes.

PIPP Pilot

The main purpose of the Pilot Program for "Intermittent PIPP Participants" is to test a redesign of the PIPP program that would provide customers with an incentive to reduce electric usage, pay their bills, and remain on the program year round. While customers would still have a reduced electric bill and the assurance that their service would be maintained, other aspects of the program would encourage better payment and usage behavior. The general elements of the plan are as follows:

- A payment for electric service would be negotiated with the customer. This payment would follow certain parameters, but would take the customer's ability to pay and other financial obligations into account.

- The customer would receive the EPP energy efficiency and education services.

- Incentives would be provided for customers to maintain their payments. Such incentives might include arrearage crediting or a reduced payment amount.

- Incentives would be provided for customers to reduce energy usage. Such incentives might include reduced payment amounts.

OEE and their education consultants are currently designing the PIPP pilot. The goal is for plans to be developed by the fall of 2002.

C. Process Evaluation Activities

The goal of the USF Process Evaluation is to assess the Program's design and delivery, the usefulness and quality of services, and how the context of the delivery of services affected the impact of those services. The three sources that provide the most information to furnish these assessments are the program's administrative staff, the service delivery agencies, and the program's clients. Therefore, the research activities for this evaluation are structured around those three information sources.

The Process Evaluation was designed to both provide short-term feedback on the program so that OEE can remove program implementation barriers early in the program delivery cycle, and to provide a systematic and comprehensive analysis over the longer run so that OEE can ensure that program operations are consistent, efficient, and effective. Therefore, for each information source, research was designed to furnish quick-turnaround information from a purposive sample through in-depth interviews and on-site observations, and survey research that will furnish comprehensive and systematic information on the full range of program participants through telephone interviews and database analysis. This Interim Process Evaluation Report provides feedback from most of the short-term evaluation activities. The Final Process Evaluation Report, submitted next year, will provide feedback from the more comprehensive evaluation activities.

The short term evaluation feedback activities that are included as part of this report are listed below.

1. Administration

    1.1: Attend Training Sessions
    1.2: Administrative Interviews
    1.3: Utility Interviews

2. Agencies

    2.1: Training Feedback Surveys
    2.2: Agency Visits with On-Site Observations

3. Clients

    3.1: Baseline Assessment
    3.2: Client In-Depth Interviews

4. Reports and Meetings

    4.1: Meetings
    4.2: Evaluation Plan
    4.3: Quarterly Reports
    4.4: Interim Process Evaluation Report

5. Additional Evaluation Activities

    5.1: Provider Telephone Survey
    5.2: Provider Issue Exploration
    5.3: Provider Email Survey
    5.4: Provider Forum

Michael Blasnik & Associates will be providing a Technical Process Evaluation and an Impact Evaluation, coordinated with the Process Evaluation. He will be responsible for developing quarterly performance statistics for the program. He will develop projections of savings in energy usage and bills based upon services received, and estimate normalized changes in energy usage and payment. He will oversee the technical observation and inspection of completed work.

The Technical Process Evaluation is coordinated with the Process Evaluation in that results from observations of service delivery and inspection of completed work will be included in Process Evaluation reports. This report draws upon findings from initial Technical on-site observation.

D. Overview of Process Evaluation Findings

OEE faced the difficult task of implementing the complex EPP in only six months with existing office staff. OEE made the decision to implement the EPP with current program staff, already working full time on other programs, in order to facilitate integration with the HWAP program. They also made the decision to utilize state-of-the-art technology. These decisions are expected to positively benefit the program in the long run, but made the program's implementation more complex and challenging. These decisions are also expected to increase the time to program maturation.

There are many levels of complexity and challenge in the EPP implementation. These include:

- Varying levels of service delivery
- Different mechanisms for service delivery
- Eighteen different providers
- A very restricted time period for implementation
- Limited availability of program staff

However, the program did get off the ground in January 2002. While many accomplishments were made, there are several areas of the program that need improvement and several others that have not yet been implemented.

1. Program Accomplishments are Extensive

The Process Evaluation included many activities to monitor program progress and assess program accomplishments. These activities included interviews with OEE and providers, on-site observation of service delivery, interviews with program recipients, and review of program data. These research activities furnished information on program implementation, program processes, and production rates.

OEE's accomplishments over the first several months of program operations are extensive. These accomplishments are summarized below.

- *Provider network*: OEE successfully implemented an RFQ and RFP process to obtain authorized program providers. This process resulted in coverage in all of the electric service territories for the EPP.

- *Strengthening CBO's:* By utilizing the services of Community Based Organizations (CBO's) rather than only private contractors, OEE has helped to strengthen these organizations.

- *Training system:* OEE designed a training system to train providers on program procedures, program technology, and education procedures.

- *Screening:* OEE worked with Michael Blasnik to use utility data to screen PIPP customers for baseload and weatherization programs.

- *Production:* The EPP began serving customers in January 2002, and by April 2002, 544 customers had been served by half of the eighteen authorized providers.

- *Technology*: Technology met several of the program goals. These accomplishments included furnishing customer lists to the providers; collecting data needed for invoicing, quality control, and evaluation in the field; and transferring those data to OEE so that the data could be accessed by program managers and evaluators.

- *Measures:* The program has provided replacement refrigerators to over 400 customers, and more than one refrigerator to 125 customers. On average customers are receiving 14 CFL's. These are measures that will provide PIPP customers with reduced energy usage and increase their energy affordability.

While many improvements are needed in program delivery, OEE has addressed these issues and has plans to work on making these changes. OEE has been open and eager for feedback from evaluators and consultants, and has readily acted on recommendations when feasible. OEE has sought to assist the providers by furnishing them with technical assistance with a full-time consultant working in their office, and has worked to open communication channels and seek feedback from the authorized providers through the use of provider meetings and working groups.

2. *Education Needs Improvement*

Education is an integral component of the EPP. Providers must communicate with the customer to understand usage in the home and to identify opportunities for reducing energy use. The provider must furnish the customer with an understanding of the program and the measures, and assist the customer in discovering his or her self-interest for reducing energy usage.

APPRISE undertook many research activities in order to assess the implementation of education as part of the EPP. These activities included on-site observation of service delivery and interviews with program participants. During the observations we found that education protocols were not being followed, and during the customer interviews, we found that customers did not retain information on their responsibility for reducing energy usage.

The following elements of the education implementation need to be substantially improved:

- *Program recruitment*: Customers need to receive information about the EPP at the time of recruitment, including the name of the program, who is providing the program, the purpose of the program, the benefits of the program, and what the customer should expect from the visit.

- *Program introduction*: The introduction to the in-home visit should include a description of the program, including the program name, who is providing the program, and the program's purpose. The provider should establish a partnership with the customer by eliciting the customer's goals for participating in the program. The provider should explain what the customer should expect from the visit. The provider should review the customer's bill, explaining how to read the bill, the PIPP arrears, and the seasonal usage patterns. The provider should ask the customer what he/she thinks are the big electric users in the home.

- *Action plan*: The provider should furnish the customer with options for taking actions during the walk through as well as corresponding estimates of cost savings. The provider should secure an action commitment from the customer and provide the customer with a written copy of the action plan including estimated cost savings associated with each action.

- *Program conclusion*: The visit conclusion should include a review of the installed measures, partnership reinforcement, explanation of the next steps, and a request for feedback on the materials.

- *Education materials*: Materials to assist the provider in effective education should be furnished by OEE. These materials could include an education notebook, a partnership agreement, magnetic folders that can be placed on refrigerator to hold the action plan, a clipboard that the customer can use to record actions during the walk through, and education cards.

There are aspects of the education component that are being successfully implemented. Providers are connecting with the client, the first step in being able to provide effective education. Additionally, providers are furnishing customers with information about measures and actions during the walkthrough. At the end of the visit providers are reviewing SMOC~ERS reports and providing information about installed measures.

3. *Software Needs Enhancement*

The EPP has placed great expectations on how the SMOC~ERS software will assist in program implementation. Many of these expectations have been met by the software, but many problems still need to be solved. Evaluation research on the software included review of the software, observation of service delivery, interviews with OEE and providers, and review of collected data.

Findings from evaluation research strongly suggest that many bug fixes or enhancements need to be made to the SMOC~ERS software. Most of these changes have been discussed with the software programmers, and are planned for implementation in the next few months. However, a few of the currently existing problems warrant discussion due to their importance for effective service delivery.

- *Saving calculations for actions*: One of the reasons that most of the providers are not using the selected actions in the PDA, and are not furnishing clients with an action plan, is that the cost savings estimates that result from selecting actions are wildly unrealistic. This is partially a user training issue and results from some bad defaults that users did not override and the ease of accidentally allowing an action to save one hundred percent of usage. OEE will be working with evaluators to determine how the savings calculations should be implemented in order to allow for more reliable estimates of savings.

- *Data integrity and reliability*: Many problems exist with the current SMOC~ERS data. These include the fact that important data are not saved, seasonal multiplier effects can result in appliances used for greater than 24 hours per day, and dates for measures are not recorded, except for the initial visit. The SMOC~ERS data needs to be cleaned up to allow for accurate reporting and evaluation.

4. *Field Application of Software Needs Enhancement*

Providers need to improve the way that the software is used as a tool for providing the audit. In general, providers need to recognize that the PDA is just a tool and that investigation and analysis is required as part of their job. Review of SMOC~ERS data led to the findings summarized below.

- *Bill reconciliation*: Providers are, for the most part, aiming to match up usage recorded in the home within ten percent of the customer's historical usage. However, program managers and the evaluation team agree that the load shape is more important. The audit tool is not being used in a way that discovers the biggest electric users.

- *End use estimates*: Related to the previous problem, providers are not ensuring that end use estimates make sense. One example is air conditioners. The default usage for air conditioners is off by a factor of ten in the current version of the software. However, many auditors did not adjust air conditioner usage when entering this

appliance. Another example is hot water heater usage, where many auditors are providing usage estimates that are below realistic values.

- *Measure selection*: For the most part, providers are selecting refrigerators and CFL's to be installed. For the highest usage households, there are likely to be other cost-effective opportunities that are not being identified.

5. *Planned program components have not been implemented*

Interviews with OEE staff have revealed that many program components are still to be developed and implemented. These components include the PIPP pilot program, the High Use/New Technologies pilot, case management, workshops, the energy packet, and several of the measures that are planned to be included as part of baseload services.

E. Overview of Process Evaluation Recommendations

There are many recommendations for program improvement. These recommendations, relating to program training, program administration, customer targeting, customer recruitment and outreach, technology, service delivery, and quality control, are summarized below.

Recommendations for SMOC~ERS Program Training

The goal of the SMOC~ERS training was to provide administrative, technical, operations, and field staff with the information needed to implement the USF EPP. In order to evaluate the training, APPRISE conducted a set of training feedback surveys and attended the first and last of the SMOC~ERS training sessions.

There were several recommendations for the SMOC~ERS program training including providing an improved introduction to the training, improving the training structure and content, having technology that better supports the training, providing training closer to service delivery implementation, and additional training needs. Changes were included in later training sessions.

1. *Training Introduction/Overview*

A comprehensive overview of the program, procedures, hardware, and software at the beginning of the training session would provide a context for the detailed information, and set the stage for better understanding and interest in the lengthy training. Many of the key points to be made were given at various points in the training, but would be more useful and informative prior to receiving the full set of detailed information.

2. *Training structure*

There were several recommendations for changing the training structure in a way that would provide the expansive amount of information in a more efficient manner. These recommendations are:

- Separate administrative training
- Fewer trainees in each session
- PDA's available for each participant
- Earlier and more field training

3. *Training content*

The preparation of mock audits could provide a more comprehensive and systematic approach to working with the SMOC~ERS audit. This would involve a script that addressed each field in the audit, where the trainer showed pictures of a house and had auditors take turns asking the trainer (acting as the customer) questions about the house. The trainer or a volunteer auditor would fill out the data that was projected onto the screen to ensure that all auditors were entering the same data. Such a format would give the auditors experience in asking the customer questions, as well as in using the software.

4. *Technology*

Problems with technology at the training fell into two categories: software bugs and presentation equipment. While it is recognized that some of these problems are out of OEE's control, it was recommended that bugs be worked out prior to program training and that technology be available for presenting the PDA screen in front of the training room.

5. *Timing of the training*

The length of time between the SMOC~ERS training and implementation of the program was problematic for field staff. A separate administrative training prior to the auditor training would allow administrative staff to get a head start on setting up the system, and perhaps allow for a shorter time span between auditor training and implementation. Alternatively, one-day refresher training courses could be provided to auditors just prior to the provider being ready to start work in the field.

6. *Continued training*

The following recommendations were made for continued training:

- *Practice audits*: The auditors should be required to complete a practice audit on their own (or relative's) home, and have their audit reviewed by OEE staff prior to starting in the field. This activity has not been implemented.

- *On-site review*: Don Jones will identify common misperceptions about how to conduct the audits and use the PDA during his on-site observations. These observations will be distributed to all service delivery agencies and auditors. This review has begun and problems have been found with seasonal usage matching.

- *Agency review*: Don Jones will check audits while visiting agencies to determine if there are problems that are occurring during the implementation of the protocols. These findings will be disseminated to service delivery agencies. This has not been done.

- *Database review*: Michael Blasnik will review the database in order to determine if there are common problems that are emerging, either in terms of missed opportunities or over-installation of certain measures. Findings will be disseminated to service delivery agencies. This review has been done and problems have been found with data entry and measure selection.

Recommendations for Education Training

Agencies were expected to begin service delivery following the SMOC~ERS training held in November and December 2001. Agencies received only minor instruction on the education procedures to be used while delivering services during the SMOC~ERS training. Therefore, for the first few months of service delivery, auditors relied on their previous experience and brochures provided by their agencies to provide education as part of the visit. Education training began in April 2002.

Four evaluation activities relating to the education training were undertaken. These activities included attending both phases of the education training, providing a written summary of observations and recommendations, discussing the training effectiveness during provider visits, and discussing original program findings with the education trainers.

Recommendations for education training include an increased focus on the workflow of the audit, provision of more detail on the audit components, application of communication skills and energy knowledge, and increased focus on attendee composition.

1. *Increased focus on workflow of the audit*

   Rana Belshe and Lydia Gill-Polley have developed an audit workflow outline that expertly describes the steps included in a complete implementation of the EPP, as it is currently understood. It appeared that this is a critical component for helping auditors to gain an understanding of the program. The time devoted to this component should be increased.

2. *Provision of more detailed information on audit components*

Given the fact that the EPP is a new program and that it is so focused on education, auditors may need more specific information on how to work with the customer than what was provided. Once the auditor has more experience with the program, he or she may feel more comfortable to adapt guidelines to his/her style and to specific situations that are encountered. Provision of specific information to be presented in several areas, including sample scripts, may be useful to the auditor and help increase the possibility that all important education topics are covered. The following areas should be included:

- *Introduction:* Specific information on what should be discussed at the introduction of the visit should be described.

- *Walk-through:* Some auditors may already have a method for approaching a home, but for those who do not feel comfortable with the process, a description of where in the home they may start and how this may direct the conversation about energy usage may be helpful.

- *Specific education topics:* If the auditor has a list of education topics and examples of information to present in different situations, the auditor may be more likely to provide comprehensive education on energy usage reduction.

- *Concluding education:* The customer's education at the end of the session will be based on measures and actions that have been found to be cost-effective during the audit. However, information can be provided to auditors on the types of information to be focused around each measure and action that is identified, what information should be described on reports that summarize usage, and what other concluding information should be provided

3. *Application of communication skills and energy knowledge*

Initial program results show that auditors need more information and exercises on how to apply their communication skills and energy knowledge in the delivery of program services. During future education training, it may be helpful to provide more specific information on how to discuss energy savings opportunities with the customer, as well as to provide an opportunity for the auditors to role play the delivery of education during an audit. An emphasis on specific education procedures may assist the auditors in providing education.

4. *Increased focus on attendee composition*

Increased attention on the composition of those attending each training session could improve their effectiveness. For the second phase of the education training, for example, training groups should be composed of auditors with a significant amount of field experience and who attended the same phase I education training. This would

allow for a focus on what the group needed, and sharing of experiences that were more applicable to all attending.

Recommendations for Program Administration

The goal of administration of the EPP is to efficiently and effectively perform all of the functions necessary in order to successfully implement the program. The program is implemented by OEE and a network of eighteen authorized providers and their sub-agencies. Evaluation activities relating to program administration included interviews with OEE managers and staff, interviews with provider managers and staff, the telephone provider survey, the issue exploration at Affordable Comfort, and the Provider Forum.

Recommendations for program administration include hiring additional OEE staff members, developing a policies and procedures manual, making increased use of bulk procurement, and furnishing technical support to the authorized providers.

1. Additional staff

The decision to utilize HWAP program staff to implement the EPP has noted benefits toward the long-run value of the two programs. Integration between the two programs has been facilitated by the joint use of OEE staff members. However, now that the program design has been refined and program responsibilities are fairly well understood, the addition of staff members in a few critical areas could improve program results and lead to earlier program refinement and maturation. Targeted hires in the following areas would be recommended:

- *Quality control field staff:* OEE has already hired two additional field monitoring staff. However, the monitoring requirements for the EPP at this juncture are immense. Monitors must spend substantial time on the EPP to develop a complete understanding of procedures and requirements. Additionally, they must learn to study audit data in order to determine whether the audits are being conducted properly, and they must learn what to look for in the field in terms of education and measure selection. There are 18 authorized providers and 53 sub-agencies to monitor. By hiring more auditors to perform these tasks, implementation problems will be caught and corrected earlier.

- *Office staff with software and hardware skills:* Many fixes and enhancements have been identified and have been made to the SMOC~ERS software and the PDA application. Many more enhancements have been identified recently and are being implemented. The addition of technical staff would allow OEE to test these changes, evaluate how well the software is working, and determine what additional changes should be made in a timely manner. The addition of such staff would allow program managers to concentrate on moving the program forward.

2. Policies and procedures manual

A policies and procedures manual should be developed for the EPP. OEE should use the existing one-page documents about the various aspects of the program to form the basis for this manual. The document could begin with these brief outlines and be updated as time was available to document more aspects of the program and to include more details on procedures. This manual should be thought of as a fluid document and be created in an easily updateable format so that revisions to program design and increased documentation can easily be incorporated.

3. Bulk procurement

The EPP is purchasing materials in vast quantities. In order to take advantage of the price discounts that come with such volume purchases, OEE should attempt to purchase as many materials as possible in bulk. State law prohibits OEE from procuring for the providers. However, OEE has obtained bids from refrigerator suppliers and allowed providers to either use these suppliers or obtain refrigerators at equal or lower prices. OEE may be able to obtain more favorable prices from refrigerator, CFL, and other vendors if they require providers to use these suppliers and guarantee the suppliers a minimum number of purchases.

4. Technical support

Technical support provided by ICC to OEE and the providers has been instrumental in the implementation of service delivery. Numerous providers have remarked on the timely support provided by the ICC consultant working out of the OEE office. Such support should be continued.

Recommendations for Customer Targeting

The goal of EPP targeting is to provide services to those customers who are most likely to achieve cost-effective energy usage reductions. Three main evaluation activities provided information on program targeting: Michael Blasnik's technical findings, interviews with OEE staff members, and interviews with provider staff members.

Recommendations relating to customer targeting include using conservative targeting standards, and developing better methods to target potential cost-share customers.

1. Continue to use conservative targeting standards until there is more information on the potential savings from the program

Given current concerns about the expected savings that will be achieved in the early stages of program implementation, OEE has made a good decision in conforming to recommendations for conservative program targeting. As the program matures and

more cost-effective opportunities for savings are identified in the homes, it may be possible to loosen the targeting requirements so that lower usage households are served.

2. *Continue to work on developing better methods for targeting cost-share customers*

OEE has had the foresight, unlike many other low-income program managers around the country, to recognize that there is great potential for significant synergies between various low-income energy programs. Because of this foresight, they have worked to meet all EPP management needs with current program staff. They have also worked to organize delivery methods that can benefit from synergies between the various programs. Successfully implementing the cost-share delivery mechanism will take more investment in working through barriers to such delivery. However, the integration of these programs has potentially significant benefits for program management, program budgets, and, for the clients. OEE should continue to make the possibility of cost-share delivery a priority for program improvement.

Recommendations for Recruitment and Outreach

The goal of customer recruitment and outreach is to recruit PIPP households on OEE's list of targeted customers in order to serve the greatest possible percentage of these highest use electric households. Evaluation activities included interviews with OEE staff members and review of relevant documents, provider surveys, the provider issue exploration and forum, provider interviews, and customer interviews.

Recommendations for recruitment and outreach include improving participation rates on the current customer lists, using additional customer contact sources, and providing additional information to the customers at the time of program enrollment.

1. *Improving participation rates on current lists*

In order to meet the cost-effectiveness criteria of the program, OEE must target those highest use customers for service delivery. OEE has furnished the providers with most or all of the customers meeting the high use thresholds. Providers have had a difficult time reaching many of these customers and have only served about six percent of the customers on these lists to date. At the same time, providers are requesting additional customer leads from OEE. Given the level of funding for the program, approximately 10,000 customers will be served to utilize the funding. Therefore, agencies will have to be more successful in recruiting the targeted customers, or risk running out of the highest use and potentially most cost-effective customers to serve early in the program. OEE must therefore work with the agencies to improve participation rates and withhold the delivery of additional customer lists until participation rates are higher. By sending out a letter from the Governor as currently planned, OEE may boost the recognition of the program and increase service delivery rates.

2. Use of other sources of contact information

The original contact information obtained from the utilities does not contain good phone numbers for the large majority of customers. More recently obtained phone numbers from the joint PIPP application have recently been supplied to a provider. Matching between the two databases to obtain phone numbers is a timely and difficult process, but will be continued in order to furnish more updated phone numbers to the providers. Additionally, the feasibility of obtaining phone numbers from other sources, such as those used by market research companies, should be explored.

3. Information provided at enrollment

Clients are reporting that they are not receiving much, if any, information about the program at the time of enrollment. OEE and its education consultants should work with the providers to develop marketing scripts that can be used to develop the customer's self-interest in participating in the program, as well as to fully explain the program and the benefits provided. Such a process may increase the percentage of customers that want to participate in the program, increase understanding of the program, and increase the possibility that customers will become active partners in the program and take steps to change their behavior in ways that will reduce energy usage.

Recommendations for Technology

The ultimate goal for the program technology is that it allows for efficient and effective service delivery with accurate analysis of cost-effectiveness and reduced need for administrative support services. Evaluation activities relating to technology included a review of program documents, a review of program software, attendance at the SMOC~ERS training, interviews with OEE and provider staff, a survey of the providers, on-site observation, review of SMOC~ERS data, and a customer survey.

Recommendations for technology include continuing to make enhancements to the software, and providing additional training on the use of the technology.

1. Make enhancements to the software

Many enhancements are planned for the software for the next month and for the end of the summer. These enhancements should be made and the new version of the software should be field tested prior to distribution of the new version to all of the providers.

Additionally, it must be recognized that the process of moving the software to the point where it is most effective for the providers will be an iterative process. Many rounds of version updates will be necessary over the first few years of the program. A process to provide these updates to all of the PDA's with the least disruption to service delivery should be worked out.

2. *Additional training on use of technology*

   Initial observations in the field and examination of SMOC~ERS data reveal that auditors will need additional training in order to more effectively implement the program in the field. Additional training needs to focus on identification of usage in the customer's home, matching up the customer's usage patterns, and using the action savings estimates. Providers need to understand that the PDA is just a tool to help with estimates and calculations, and that in order to effectively deliver services, they need to think critically about the customer's energy usage.

Recommendations for Service Delivery

The goal for service delivery is to use the available budget to take advantage of cost-effective opportunities that will yield energy saving and bill reduction benefits for program participants and other ratepayers. Evaluation activities relating to service delivery included interviews with OEE staff, provider surveys, provider interviews, the provider issue exploration and the provider forum, on-site observation of service delivery, SMOC~ERS data analysis, and customer interviews.

Recommendations for service delivery include additional training, and development of education materials.

1. *Additional training*

   Additional training on energy usage, the use of the software, and provision of education is needed. Agencies have already received over two full weeks of training, and it appears that the additional training needs are extensive. Therefore, it is recommended that OEE develop a training agenda that will systematically work through all of the problematic areas.

   One potential approach is to pilot the training on one or two of the more motivated agencies. These agencies can then demonstrate the potential for the program and become advocates for the approach. One possibility is to pilot the training with the same providers who are selected to implement the PIPP pilot.

2. *Development of education materials*

   Education materials should be furnished to the providers in order to increase the potential for effective education in the field. The materials that could be supplied include:

   - Education notebook
   - Partnership agreement form
   - Action plan with costs / magnetic sheets that can be placed on refrigerator
   - Clipboard

- Education cards

Recommendations for Quality Control

The four main goals of quality control are to ensure that the program procedures are being followed and that service delivery is effective, to provide training in the field, to identify the need for additional training, and to identify program procedures and software elements that need revision. Evaluation activities relating to quality control included interviews with OEE staff, on-site observation, SMOC~ERS data review, and customer interviews.

Recommendations for quality control include the development of quality control procedures, the implementation of intensive quality control, and the hiring of additional quality control staff.

1. *Develop quality control procedures*

   OEE should develop quality control procedures and goals. The procedures should focus on a few essential needs for program improvement over the first few months. Once significant improvement is seen in these areas, a new focus for quality control should be developed.

   Initial recommendations for the focus of quality control onsite include:

   - Make sure that the provider is developing and confirming the partnership with the customer.
   - Make sure that the provider is entering all major electric users in the PDA.
   - Make sure that the provider is offering the customer all potentially cost-effective measures.

   Initial recommendations for the focus of quality control on the data include:

   - Make sure that each completed customer has at least one action in his/her action plan. This is a first step in ensuring that education is occurring.
   - Make sure that the load shape of the usage that is entered in the field matches the load shape of the historic usage.
   - Make sure that opportunities other than refrigerators and lights are being found, at least for those customers with the highest usage.

2. *Implement intensive quality control*

   Intensive quality control should be implemented as soon as possible. All providers should be observed with the focus on a few major issues, and training and instruction should be provided in the field where weaknesses are observed. A sample of data should be reviewed to determine whether auditors are identifying actions for the

customers, matching the customer's load shape with the usage found in the home, and identifying appropriate opportunities, especially for the highest use customers.

3.   *Hire additional quality control staff*

The current level of field staff is not sufficient to provide the monitoring needed for the HWAP program and the EPP, at least for the short term. With more monitors, the EPP will be able to identify needs for program improvement, provide on-site training to providers, and bring the program to maturity more quickly.

Recommendations Supported by Customer Interviews

Customer interviews were included as part of the Process Evaluation in order to understand the effect of the program on the participating customers. For this interim report, APPRISE conducted in-depth qualitative interviews with twenty-five program recipients.

Recommendations supported by customer interviews include additional education training for providers, development of education materials and a program brochure, and use of a baseline assessment.

1. *Additional education training for providers*

Customer interviews support the findings from observation of service delivery that education is not effectively provided as part of the home visit. Providers should receive additional education training as part of quality control, and in formal education training sessions. These sessions should focus on the information that should be provided as part of the introduction and conclusion to the visit, and on how to form a partnership agreement with the customer and determine actions that the customer has an interest in taking.

2. *Education materials*

Education materials should be furnished to assist the providers in their education process.

3. *Program brochure*

A program brochure should be developed to explain the purpose of the program, who is providing the program, and the provider that should be contacted in the event that the customer has problems with any of the measures or has not received an expected service.

4. *Baseline assessment*

A baseline assessment process should be piloted. The baseline assessment will provide information that will assist in the measurement of the impact of the program on the customer, and may assist in focusing the provider on the areas where education can be most valuable to the customer.

I. Introduction

Ohio's Electric Restructuring Act, passed in July 1999, created the Universal Service Fund in order to ensure that low-income households retain access to electric service. The Act seeks to better coordinate the Home Energy Assistance Program (HEAP), the Home Weatherization Assistance Program (HWAP), and the Ohio Energy Credits Program (OEC), and creates an Electric Partnership Program (EPP) that provides baseload, weatherization, and energy education services.

A. Universal Service Fund Electric Partnership Program

The Universal Service Fund (USF) Electric Partnership Program (EPP) aims to reduce electric energy consumption of PIPP households in order to reduce the growth of PIPP customers' arrears and the USF rider. In order to accomplish this objective, the EPP provides energy services that vary with the customer's usage level, and education services that vary with the customer's usage and payment. The basis of the program is the installation of cost-effective energy conservation measures. Education is an important component of the program in order to help customers to understand the program, to improve measure performance, and to take energy-saving actions.

B. Evaluation

APPRISE and Michael Blasnik and Associates were hired by OEE to provide evaluation of the EPP. APPRISE is conducting the Process Evaluation and Michael Blasnik and Associates is conducting the Technical Process Evaluation and the Impact Evaluation. Findings from the Technical Process Evaluation are included in this report.

The goal of the USF Process Evaluation is to assess the Program's design and delivery, the usefulness and quality of services, and how the context of the delivery of services affected the impact of those services. The three sources that provide the most information to furnish these assessments are the program's administrative staff, the service delivery agencies, and the program's clients. Therefore, the research activities for this evaluation are structured around those three information sources.

The Process Evaluation was designed to both provide short-term feedback on the program so that OEE can remove program implementation barriers early in the program delivery cycle, and to provide a systematic and comprehensive analysis over the longer run so that OEE can ensure that program operations are consistent, efficient, and effective. Therefore, for each information source, research was designed to furnish quick-turnaround information from a purposive sample through in-depth interviews and on-site observations, and survey research that will furnish comprehensive and systematic information on the full range of program participants through telephone interviews and database analysis. This Interim Process Evaluation Report provides feedback from most of the short-term evaluation activities. The

Final Process Evaluation Report, submitted next year, will provide feedback from the more comprehensive evaluation activities.

C. *Organization of the Report*

There are six sections included in this report.

- Section I - Introduction

- Section II - Universal Service Fund Electric Partnership Program: This section provides an overview of the EPP, including a discussion of the program mandate, the program goals, and the program design.

- Section III - Process Evaluation Activities: This section provides a detailed discussion of the Process Evaluation Activities.

- Section IV - Program Training: This section discusses the SMOC~ERS training and the education training that were provided as part of the EPP.

- Section V - Program Procedures and Implementation: This section discusses the implementation and evaluation of program administration, targeting, recruitment and outreach, technology, service delivery, and quality control.

- Section VI - Client Participation and Response: This section discusses findings related to customer understanding of the program, customer actions taken to save energy, and customer satisfaction with the EPP.

- Section VII - Utility Interviews: This section discusses the utilities' low-income energy programs, and their views on PIPP program incentives.

II. Universal Service Fund Electric Partnership Program

The Universal Service Fund (USF) Electric Partnership Program (EPP) aims to reduce electric energy consumption of PIPP households in order to reduce the growth of the PIPP participants' arrears and the USF rider. In order to accomplish this objective, the EPP provides energy services that vary with the customer's usage level, and education services that vary with the customer's usage and payment. The basis of the program is the installation of cost-effective energy conservation measures. Education is an important component of the program in order to help customers understand the program and improve measure performance, and to take energy-saving actions that will achieve savings for the program.

When the EPP was first implemented, it was referred to as the Targeted Energy Efficiency Program. However, it was determined that this name was not a good marketing tool and did not identify the important aspects of the program. Additionally, providers were sometimes uncomfortable telling customers that they had been "targeted" for the program. Therefore it was decided that the program would be renamed so that it referred to the electric fuel and to a key aspect of the program, the partnership. The EPP's mandate, goal, and design are described below.

A. Program Mandate

Ohio's Electric Restructuring Act passed in July 1999 created the Universal Service Fund in order to control the cost of the PIPP program for the ratepayers and to ensure access for low-income households to electric service. The Act seeks to better coordinate the Home Energy Assistance Program (HEAP), the Home Weatherization Assistance Program (HWAP), and the Ohio Energy Credits Program (OEC), and creates an Electric Partnership Program (EPP) that provides baseload, weatherization, and energy education services.

According to the Act, "The director of development shall establish an energy efficiency and weatherization program targeted, to the extent practicable, to high-cost, high-volume use structures occupied by customers eligible for the Percentage of Income Payment Plan Program, with the goal of reducing the energy bills of the occupants. Acceptance of energy efficiency and weatherization services provided by the program shall be a condition for the eligibility of any such customer to participate in the Percentage of Income Payment Plan Program."

The annual funding for the program is $14.9 million.

B. Program Goals

The goal of the EPP is to "decrease fuel consumption of Percentage of Income Payment Plan (PIPP) participants." Such a decrease in consumption will lead to a reduction in the growth of PIPP participants' arrears and over time reduce the cost of the USF to all ratepayers by reducing the USF rider.

C. Program Design

The EPP consists of an audit component using the SMOC~ERS software, an installation of measures component, and a quality control component. Energy conservation measures are to be installed to meet Ohio Weatherization Program Standards (WPS).

This section of the report outlines the original conception of how the EPP was planned and described to Providers during the bid process. As the program has evolved, significant changes have been made to the program design, and the program has been implemented differently than initially planned. This section also documents the current status of program development and implementation.

1. Program Administration

The Ohio EPP is managed by the Ohio Department of Development (ODOD) Office of Energy Efficiency (OEE). Programs are delivered by 18 authorized providers and 53 sub-agencies.

a) Office of Energy Efficiency (OEE)

The OEE is responsible for the development and implementation of the EPP.[5] These responsibilities included an RFQ and an RFP process for selecting the agencies to provide services under the program. Agencies were selected based upon geographic area of service, cost of administering the program and serving customers, capacity, and previous experience.

The Office of Energy Efficiency is also responsible for customer screening and targeting customers into the different program components. The purpose of the screening is to target services toward those PIPP customers with the highest usage, and who therefore have the greatest potential for achieving cost-effective energy savings. The purpose of targeting is to channel customers into the services that will maximize energy savings. Once customers have been screened and targeted into the different programs, OEE sends lists of customers to the providers. These lists are provided based upon location, usage characteristics, and building type.

After agencies have served customers, they send their SMOC~ERS data to OEE. These data provide OEE with all the information needed to determine that cost-effective measures have been installed and to remit payment for the services that the agencies provided. SMOC~ERS reports also allow OEE to perform a limited amount of quality control. The following checks can be made on the data:

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[5] An important component of the EPP design for OEE was to streamline service delivery to customers in order to allow for cost-effective service delivery.

- OEE can ensure that all measures installed are cost-effective according to the SMOC~ERS software and the data entered by the provider.

- OEE can determine the extent to which providers are matching up actual usage with the usage in the PDA or from a more recent bill that was entered into the PDA, both total and seasonal.

- OEE can check that all data that should be collected are included in the SMOC~ERS data.

OEE is also responsible for training providers to deliver program services, and for documenting program procedures.

Additionally, OEE will provide in-field quality control checks, where field staff determine whether providers are finding all cost-effective opportunities for measures, as well as educating customers on energy saving actions.

b) *Provider Agencies*

Eighteen authorized providers are responsible for providing services under the EPP. Some of these agencies have sub-agencies working for them, and are responsible for reporting and invoicing for these agencies as well.

Provider agencies, as part of the RFP for program services, were asked to provide an administrative fee, a baseload only audit fee, and a moderate/high use audit fee, all for both cost-share and stand-alone delivery mechanisms.

The administrative fee, charged for each household served, includes all costs for managing the project, except the cost of auditing the home and installing measures. These costs include oversight of partner agencies and subcontractors, receiving the referral from OEE, contacting and scheduling visits with the clients and landlords, securing contributions from the landlords, processing paperwork, scheduling crews or contractors, insurance, equipment, materials management and storage, and submitting invoices. (Training is included in a separate budget item, along with software and hardware.)

The audit fee includes time and travel to conduct the audit, collect site-specific usage information, confirm installed measures, and assure customer satisfaction. This includes final quality control assessments.

Providers were also asked to bid on costs for an in-home energy analysis visit, a case management visit, a follow-up visit, a follow-up phone contact, a follow-up mail contact, an energy management workshop, and an energy savings action package.

Based upon these bids, agencies were allocated a dollar figure for the amount of services that could be performed. Agencies were told that if they utilized their allotment, they could obtain more program funds in order to serve additional customers. Based on the budgets and the provider's estimates of costs to serve customers, agencies were also provided with targets for numbers of customers to serve. Table II-1 displays provider budgets and targets for delivery by type of service delivery and visit, and by utility service territory.

Table II-1
Provider Budgets

| Service Territory | Provider | Funding | Number of Units | | | |
| | | | Weatherization Units | | Baseload Units | |
			Cost-share	Stand-alone	Cost-share	Stand-alone
FirstEnergy	Ashtubula	$411,290	0	50	0	180
	Cuyahoga	$631,713	10	0	325	325
	CHN	$1,526,154	25	25	1,000	400
	EANDC	$400,332	20	20	50	150
	Honeywell	$1,061,463	0	0	0	1500
	NHS of Toledo	$399,710	25	0	340	85
	Ohio Heartland	$254,300	20	10	110	50
	Portage	$109,233	10	0	45	25
	Wayne Medina	$164,077	20	5	30	10
	WSOS	$382,103	20	20	100	100
	YACAC	$330,094	0	10	150	150
	COAD	$134,701	0	0	80	80
DP&L	Honeywell	$449,883	0	0	0	500
	Sources	$149,579	10	10	25	25
	SCOPE	$270,598	50	0	50	25
AEP	COAD	$2,138,582	483	193	1009	600
	CMACAO	$466,023	50	0	250	250
	Honeywell	$211,761	0	0	0	200
	HHWP	$254,284	70	10	210	24
	MORPC	$61,761	0	0	100	0
	Wayne-Medina	$78,452	10	0	15	10
CINERGY	CHCCAA	$742,410	20	0	525	715
	COAD	$18,544	0	0	50	0
MON POWER	COAD	$14,786	1	0	5	6
TOTAL		$10,661,833	844	353	4389	5330

Agencies are responsible for delivering program services. The steps involved in this process include:

1. Recruiting high use PIPP customers on the list provided by OEE
2. Scheduling a home visit
3. Conducting a home visit
4. Performing follow-up or case management

5. Conducting quality control
6. Providing OEE with electronic SMOC~ERS reports

2. Screening and Targeting

OEE obtains usage data on a quarterly basis from the electric utilities in Ohio containing data for all customers participating in the PIPP program. These data are analyzed to determine which customers should be served, and which customers should be targeted to baseload and weatherization services.

Original program plans called for the following screening and targeting:

- Customers who do not use electricity for space heating, or who have low electric space heat usage will be targeted for the Baseload Efficiency program.

- Customers with a moderate electric heating load of more than 4,000 kWh will be targeted for the Weatherization/Moderate Use program.

- Customers with annual usage of more than 22,000 kWh, baseload usage over 10,000 kWh and heating usage over 12,000 kWh will be targeted for the High Use program.

However, given differences in actual administrative costs from what was originally expected, customer targeting has been more conservative. The following targeting standards have been implemented:

- Customers with annual baseload usage of 8,000 kWh or more are targeted for baseload services.

- Customers with annual heating or annual cooling usage of 8,000 kWh or more are targeted for weatherization services.

3. Outreach and Intake

After OEE targets customers into different programs, they send files to the agencies with customer information, usage data, and program targeting data.[6] As all customers on the list are PIPP participants and they have already been screened for eligibility by OEE, the provider is not responsible for screening customers. The Provider is responsible for contacting the customer and scheduling the audit and any required follow-up visits.

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[6] Demographic data will also be included when this information can be obtained from the joint PIPP application

4. Energy Services

The Universal Service Fund (USF) Electric Partnership Program (EPP) planned for three levels of energy service to be provided based on the customer's electric energy consumption.   The   three   levels   of   service   are   baseload   efficiency, weatherization/moderate use program, and the high use program. The baseload and weatherization programs have been implemented, but the high use program is still under development.

a) Baseload Efficiency

Baseload usage is defined as energy used for purposes other than heating and cooling, such as refrigerator, lighting, domestic hot water, cooking, and appliances. The Baseload Efficiency Program focuses on the provision of energy conservation measures that reduce only baseload usage.   Measures included in this program are:

Water Measures
- Hot water tank insulation
- Reducing hot water temperature
- Energy-efficient showerheads
- Energy-efficient faucet aerators
- Water line insulation
- Fuel-switching of hot water tanks

Lighting Measures
- Compact fluorescent lights
- Replacement of a Halogen torchiere lamp with a fluorescent torchiere

Refrigerator/Freezer Measures
- Refrigerator/freezer replacement
- Removal of secondary refrigerator or freezer

Waterbed Measures
- Waterbed mattress replacement
- Insulation blanket on waterbed

Other Measures
- Switching to an alternate rate or off-peak program
- Consumer education

b) Weatherization/Moderate Use Program

This program addresses heating and cooling electric usage as well as baseload usage. In addition to installing the cost-effective baseload measures included in the

list above, this program installs weatherization measures aimed at reducing heating and cooling usage. These measures may include:

- Insulation
- Air sealing
- Heating and cooling equipment repair
- Heating and cooling equipment upgrades
- Heating and cooling equipment replacements
- Distribution system repairs

Fuel switching has not yet been implemented, but is eligible if deemed cost-effective.

c) *High Use*

High use services are planned to be provided for households with both high baseload and high electric heating load. These homes will have annual usage of more than 22,000 kWh, baseload usage over 10,000 kWh and heating usage over 12,000 kWh. Because these homes have high electric usage, more energy conservation measures will be cost-effective. Therefore, in this program, the provision of renewable and other advanced technologies will be piloted, and it will be determined whether these measures can be cost-effectively provided in lower use homes. Homes from the moderate/high use audit will be referred to this program if they have characteristics that would allow for geo-thermal heat pumps, domestic solar hot water systems, air source heat pumps, high efficiency window replacement, or GFX waste water recovery. Because the audit will have already been completed, this program will not require thorough inspection and data collection. This program will instead concentrate on installing specific new technology measures.

5. Education Services

The goal of the customer education component is to reduce the electric energy use of PIPP households to a level that is affordable and to maximize the benefits of the energy conservation measures and other services received. The level of education received by the customer will vary with the level of energy use and the customer's payment behavior. There are four levels of education that may be provided: one in-home visit, in-home case management, workshop participation, and home study/mail packet. Only the one in-home visit level has been implemented to date.

a) *One In-Home Visit*

Most customers will receive one in-home visit. This visit will include an introduction to the program, an analysis of the customer's usage, an energy tour, and an action plan. It was originally planned that in homes with higher usage, the educator would not install measures, and a separate visit would be provided for

measure installation.   However, program plans have been altered to include education and measure installation in one visit for all participants.

The steps of the in-home education visit are described below.

1) Introduction: The objectives of the introduction are to set the tone for participation, explain the program, obtain client commitment, and obtain program data.

- Purpose of the visit: The provider is to explain that the purpose is to develop an action plan for the customer and what the provider will do for the customer.

- Program overview and steps: The provider is to explain the services of the program, the responsibilities of the client and the provider, and the benefits to the client and the provider.

- Partnership agreement: The provider should communicate the fact that the program is a partnership and that there are responsibilities and benefits for both the provider and the client.   The provider should review the commitments of the provider and the client.

- Action plan as goal of the visit

- Use of educator teaching notebook

2) Usage analysis: The purpose of this section of the visit is to review the customer's energy usage.

- Show the customer 12 months of usage

- Explain baseload versus heating and cooling usage

- Explain how to read the meter if the customer has estimated readings

- Educate the customer about his/her bill

- Give the customer a clipboard to write down actions that he/she will consider during the house tour

3) Conduct an energy tour: The objectives of the tour are to determine what work needs to be done in the home and to identify the 5 biggest opportunities for reducing usage.

- Review biggest user electric appliances for the household

- Estimate costs per appliance using the customer's habits

- List suggested actions

4) Action plan

- Review list of suggested actions from notepad

- Get customer's commitment for 3-5 actions

- Complete energy savings action plan

- Reinforce consequences of each action

5) Conclusion

- Complete and sign action plan

- Complete paperwork including list of measures installed

- Provide customer with folders and forms

- Give customer copies of worksheets

- Review next steps and time frame

- Provide referral information

- Establish follow-up procedures

b) *In-Home Case Management*

In-home case management includes the initial education visit described above, as well as another home visit and monthly follow-up by mail, phone, or in person. The form of this follow-up will depend on the customer's need.

The objectives of the case management energy education session are:

1) Help the customer to increase control over energy costs, decrease energy use, and improve his/her ability to pay electricity bills.

2) Develop three new actions for the customer.

An important component of the case management session is budget counseling. The goals of the budget counseling component are to:

1) Keep accurate records of income and expenses for 6 months.

2) Develop a spending plan.

3) Place the electric bill as the third or fourth spending priority.

4) Provide a payment to the electric company each month for the next year.

5) Contact the utility company if the customer needs to discuss his/her payments.

Topics covered during the budget counseling session will include income, expenses, a spending plan, the utility bill, and the benefits of paying the utility bill.

The steps of the energy case management visit are outlined below:

1) Introduction

- Purpose of the session

- Benefits of the program

- Steps of the process

2) Review action plan

3) Review energy efficiency measures

- Tour home

- Review results/benefits

- Discuss proper use and maintenance of measures

- Problem solving

4) Utility bill analysis

5) Budget counseling

6) Referrals including energy assistance

7) Update action plan

8) Discuss next steps

The case management component of the program has not yet been implemented. A working group composed of OEE staff, providers, and the education consultants is

developing a draft of procedures for case management. The goal is to implement case management in the fall of 2002.

c) *Workshop Participation*

A workshop will be offered in cases where this is the most cost-effective option, such as where many recipients live in an apartment complex.

Preparation for the workshop includes preparing a folder for each customer who will be attending the workshop. This folder will include an analysis of each customer's annual usage, baseload usage and cost, heating and cooling usage and cost, and worksheets.

The workshop will cover the following topics:

1) Introduction
2) Usage analysis
3) Space heating
4) Water heating
5) Kitchen and other big users
6) Lighting
7) Action plan

Workshops have not yet been implemented.

d) *Home Study/Mail Packet*

In cases where the home is very inaccessible and an education visit would not be cost-effective, an energy savings packet may be mailed. The mail packet will include information on energy saving actions and a required response, as well as compact fluorescent light bulbs. The energy savings packet approach has not yet been implemented.

e) *Follow-up*

In addition to receipt of one of the education programs described above, all customers will receive at least one follow-up contact. The follow-up contact can be via mail, phone, or in person, based on an assessment of which would be of most benefit to the client. The purpose of this follow-up is to remind customers of their responsibilities and review the benefits of the program. It was originally planned that for one year following the home visit, the provider would check the customer's monthly payment and usage patterns. Usage tracking was planned to determine if savings are being achieved, and discuss solutions if the projected savings are not being met. Payment tracking was planned to determine if customers are meeting their commitments to make payments, and to help the customer prioritize energy payments as the third or fourth spending priority.

Follow-up procedures are currently being refined. The goal is for procedures to be developed by the fall.

6. Service Delivery

Two methods of service delivery were planned. Cost-share and stand-alone service delivery are described below.

a) *Cost-share*

With this method of service delivery, the EPP is delivered in conjunction with other low-income weatherization and/or housing repair/rehabilitation programs. Because the provider can divide the cost of contacting the client, scheduling the visit, and traveling to the home between the different programs, the cost of administering the cost-share program should be lower than the cost of administering the stand-alone component.

b) *Stand-alone*

With this method of service delivery, the EPP is delivered on its own, and therefore, must bear all the costs of outreach and delivery. The EPP must perform stand-alone work, as the annual service delivery for this program will be much higher than the combined delivery of existing programs. Therefore, the intent of the stand-alone delivery is to address the shortfall of homes that cannot be addressed by the cost-share program.

7. Technology

OEE decided to utilize a new technology in the implementation of the EPP. This technology consists of an audit software tool, a Personal Digital Assistant (PDA) that allows the provider to collect data in the field, and transfer software that allows the provider to upload data to the desktop. The technology aims to serve many purposes, including to:

- Enable OEE to send client demographic and usage data for the targeted clients that can be easily used in the field to the providers,

- Allow providers to collect all of the information they need in the home and enter the data directly into the database,

- Allow providers to determine the source of electric usage and match the usage up with historical usage data,

- Allow providers to calculate which measures are cost-effective (those with a savings to investment ratio (SIR) of greater than one) and how much the measures should save the customer,

- Allow providers to determine which actions should be taken and how much the actions should save the customer,

- Allow providers to invoice different funding sources, which allows all measures to be identified on cost-share jobs,

- Allow providers to send all data to OEE so that OEE can pay providers for services delivered, perform quality control, and send data to evaluators for analysis purposes.

Given the products available on the market, and the requirement for the ability to bill multiple funding sources, OEE decided to purchase the SMOC~ERS software, developed and used by SMOC, an agency in Massachusetts. While SMOC had previously implemented the software on laptops, OEE decided to use PDA's in the field due to their ease of use an their increased durability over the laptop.

The PDA uses a cradle and transfer software to send the data collected in the field to the provider's desktop machine. These data are then sent to OEE each month on a disc. OEE uses the data to perform quality control, pay providers for clients served, and send data to evaluators.

8.   PIPP Pilot

As part of the Universal Service Fund program, the Office of Community Services in ODOD has become the administrator of the electric Percentage of Income Payment Plan Program (PIPP). The PIPP program provides reduced electric and gas utility bills to low-income households with income below 150 percent of the poverty level. Low-income customers who receive their primary or secondary heating source from a company regulated by the Public Utilities Commission of Ohio (PUCO) may participate in this program. Participants have an electric payment equal to 5 percent of their income if electricity is not their main heating source and 15 percent of their income if electricity is their main heating source. (Participants who have income below fifty percent of the poverty level pay 3 percent of their income if electricity if not their main heating source and 13 percent of their income if electricity is their main heating source.) They have a gas payment equal to 10 percent of their income if gas is their main source of heat. In the summer, electric PIPP customers are required to pay the greater of their PIPP payment or their actual bill. In the 1999-2000 PIPP Program year, there were 177,000 active PIPP accounts for electric companies.

Given the fact that PIPP customers are required to pay their full electric bill in the summer, there may be an incentive for customers to discontinue payment on these bills during this time in order to avoid paying these large bills. If utilities do not enforce their option to disconnect customers, the incentive for customers to pay their bills does not exist. Additionally, there may be an incentive for customers to leave PIPP and not pay their bills in the summer so that they will be eligible for Emergency HEAP. Emergency HEAP provides assistance to households that are disconnected or threatened

with disconnection. Utilities can only require customers to pay a maximum of $175 in order to have service reconnected, bringing the unpaid balance into the PIPP as pre-PIPP debt.

While PIPP customers are only required to pay a certain percentage of their income to the utility companies, they are still responsible for the portion of their bill that exceeds that percentage. This excess is added to the customer's arrearage. The customer is required to work out a payment arrangement with the utility to pay off that arrearage if the customer leaves the PIPP program. As the PIPP program has been in existence for many years, and many customers have participated in the program for a lengthy amount of time, may Ohio low-income customers owe the electric companies thousands of dollars. Due to the long tenure of these customers on the PIPP program, and the level of arrearages that these customers have built up, it is theorized that the arrearage build-up is not an incentive to PIPP customers to reduce their electric usage to a level that is affordable.

Given the current PIPP rules, there is a concern that PIPP customers do not have an incentive to reduce their energy use. Except for the summer, these customers are not required to pay their full electric bill. Required bill payments during the rest of the year do not vary with usage. Additionally, while these customers are responsible for their overage, the length of time that these customers spend on the program and the level of arrearages that have been built up over time, make the concern over ever having to pay such arrearages unrealistic to the customer. The arrearages have been building up for so long and are so high that the fact that the customer may have to pay them back may not even be comprehensible. Additionally, PIPP rules for how customers must repay these arrears are very forgiving. For the first year off the program customers continue their PIPP payment, for the second year they only pay their actual bills, and after the second year they are only required to pay $20 towards arrears each month.

Another concern with the current PIPP structure is that customers exit PIPP in the summer in order to receive emergency assistance. When they return to the PIPP program, they bring their unpaid balances back into PIPP, fueling the costs of the program.

Given the fact that 95 percent of customers in Ohio do not heat with electricity, the USF EPP is largely a baseload program, and therefore, savings are strongly affected by customer behavior. Customers have to make compromises in their use of electricity in order to reduce their bills significantly. However, the motivation to make such compromises is weak, as the only savings that accrue directly and immediately to the customer are over the three summer months, and this is only true if the customer is paying his/her bills and remaining on the program at that time.

The purpose of the Pilot Program for "Intermittent PIPP Participants" is to test a redesign of the PIPP program that would provide customers with an incentive to reduce electric usage, pay their bills, and remain on the program year round. While customers would still have a reduced electric bill and the assurance that their service would be

maintained, other aspects of the program would encourage better payment and usage behavior.

The details of the program have not been worked out. However, the general elements of the proposed program are outlined below:

- A payment for electric service would be negotiated with the customer. This payment would follow certain parameters, but would take the customer's ability to pay and other financial obligations into account.

- The customer would receive the EPP energy efficiency and education services.

- Incentives would be provided for customers to maintain their payments. Such incentives may include arrearage crediting or a reduced payment amount.

- Incentives would be provided for customers to reduce energy usage. Such incentives may include reduced payment amounts.

The PIPP pilot is currently being designed by OEE and their education consultants. The goal is for plans to be developed by the fall of 2002.

9. Material Procurement

OEE sent out an RFP for bulk procurement of refrigerators and freezers. Products available as a result of this bid process are available to all providers. Additionally, providers were given the opportunity to bid to provide refrigerators and freezers. All refrigerators and freezers are required to be recycled in an environmentally sound manner. The point of the bulk procurement process is to reduce the costs for the provision and removal of refrigerators, and to enable providers to arrange for refrigerator delivery and removal with one phone call.

Providers are responsible for procuring compact fluorescent light bulbs. Providers submitted prices for these bulbs as part of their response to the RFP for service providers.

Other measures that providers are responsible for procuring include showerheads, faucet aerators, water heater tank wraps, waterbed pads, building shell and mechanical measures, insulation measures, air sealing measures, and HVAC measures.

10. Landlord Contributions

Landlords are required to make a contribution in the form of a cash payment or in the form of an in-kind health and safety-related repair if necessary in order for conservation work to be performed. If appliances being replaced, such as the refrigerator or the water tank, are owned by the landlord, then the landlord is required to contribute 50 percent of the costs of the materials and labor.

III. Process Evaluation Activities

The goal of the USF Process Evaluation is to assess the Program's design and delivery, the usefulness and quality of services, and how the context of the delivery of services affected the impact of those services. The three sources that provide the most information to furnish these assessments are the program's administrative staff, the service delivery agencies, and the program's clients. Therefore, the research activities for this evaluation are structured around those three information sources.

The Process Evaluation was designed to both provide short-term feedback on the program so that OEE can remove program implementation barriers early in the program delivery cycle, and to provide a systematic and comprehensive analysis over the longer run so that OEE can ensure that program operations are consistent, efficient, and effective. Therefore, for each information source, research was designed to furnish quick-turnaround information from a purposive sample through in-depth interviews and on-site observations, and survey research that will furnish comprehensive and systematic information on the full range of program participants through telephone interviews and database analysis. This Interim Process Evaluation Report provides feedback from most of the short-term evaluation activities. The Final Process Evaluation Report, submitted next year, will provide feedback from the more comprehensive evaluation activities.

The process evaluation is organized in the following way:

1. Administration

    1.1: Attend Training Sessions
    1.2: Administrative Interviews
    1.3: Utility Interviews
    1.4: Economic Analysis

2. Agencies

    2.1: Training Feedback Surveys
    2.2: Agency Visits with On-Site Observations
    2.3: Agency Surveys
    2.4: Agency In-Depth Interviews and Observations (PIPP Pilot)

3. Clients

    3.1: Baseline Assessment
    3.2: Client In-Depth Interviews
    3.3: Client Survey
    3.4: Database Analysis
    3.5: Client In-Depth Interviews (PIPP Pilot)

4. Reports and Meetings

   4.1: Meetings
   4.2: Evaluation Plan
   4.3: Quarterly Reports
   4.4: Interim Process Evaluation Report
   4.5: Final Process Evaluation Report

5. Additional Evaluation Activities

   5.1: Provider Telephone Survey
   5.2: Provider Issue Exploration
   5.3: Provider Email Survey
   5.4: Provider Forum

Michael Blasnik will be providing a Technical Process Evaluation and an Impact Evaluation, coordinated with the Process Evaluation. He will be responsible for developing quarterly performance statistics for the program. He will develop projections of savings in energy usage and bills based upon services received, and estimate normalized changes in energy usage and payment. He will oversee the technical observation and inspection of completed work.

The Technical Process Evaluation is coordinated with the Process Evaluation in that results from observations of service delivery and inspection of completed work will be included in Process Evaluation reports. This report draws upon findings from initial technical on-site observation.

A. Administration

Administrative functions in the EPP are crucial to program success. This evaluation task develops a context for the program by understanding and documenting program goals and program design, as well as program costs. This set of information is attained by attending EPP training sessions, conducting administrative interviews with OEE staff, interviewing utility representatives, and conducting an economic analysis. This task includes four subtasks:

- Subtask 1: Attend Trainings
- Subtask 2: Administrative Interviews
- Subtask 3: Utility Interviews
- Subtask 4: Economic Analysis

1. Attend Training Sessions

OEE conducted training for the EPP focusing on SMOC~ERS and procedures related to using the PDA technology in November and December 2001. Attendance at one of these training sessions was planned as part of Subtask 1. However, because program procedures and software were being developed and modified right up until the first

round of training, significant changes in procedures were recommended after attending the first SMOC~ERS training session in November 2001. Therefore, an additional SMOC~ERS training session was attended in December 2001. Significant improvements were noted at this time.

OEE conducted the first phase of training for the Customer Education component in March and April 2002, and the second phase of training for the Customer Education component in June and July 2002. As part of Subtask 1, attendance at one Customer Education training session was planned. However, because the education training was implemented in two phases, each phase of the training was observed. A APPRISE staff member attended one of the first round of education training sessions in April, 2002, and one of the second round of education training sessions in June, 2002.

The purpose of attending these training sessions was to observe program performance from the initiation of the program, to interact with service providers and OEE, and to develop an understanding of the background, goals, and design of the program.

2. Administrative Interviews

OEE plays a critical role in the EPP, as they are responsible for program design, evaluation, quality assurance, and oversight of all grants and contracts associated with the programs. Therefore, in this activity we planned to conduct quarterly interviews with OEE staff to develop information on program progress. Comprehensive interviews with OEE staff were conducted for the first program quarter in order to develop a full set of information on program design, program procedures, and program implementation to date. Interviews with 10 key staff members during the first quarter of program implementation addressed the following specific topics:

- Program background
- Program goals
- ODOD/OEE responsibilities
- Program funding
- Information and reporting
- Contractor background
- Program experiences
- PIPP application process
- Cost-share/stand-alone mechanism
- Contractor assignment
- Contractor performance
- Contractor payment
- Interaction with contractors
- Materials procurement
- Supply chain
- Program monitoring

- Relevant documents

Additional interviews were conducted with a subset of program managers in the second quarter of program implementation.

A complete set of interview protocols and a list of the interviews that were conducted is included in the appendices.

3. Utility Interviews

One of the critical roles of the evaluation is to develop comprehensive estimates of the costs and benefits of the EPP. While the EPP is state-mandated and therefore requires only a limited role by utility companies, a comprehensive examination of the effect of the program on ratepayers should determine whether the program affects utility costs. Additionally, utilities have played a role in the administration of PIPP programs by choosing not to enforce their option to disconnect PIPP customers, and changes in the PIPP program may affect utility behavior or costs.

As part of this evaluation activity, we planned to conduct interviews with the five utility companies participating in the EPP. This activity was planned in order to obtain information on avoided credit and collection costs for the PIPP customers participating in these programs, to determine which other utility programs may interact with the EPP, and to determine how utilities have effectively engaged agencies in providing services in a framework other than WAP. These interviews were also planned to provide information on costs associated with the PIPP pilot program for intermittent PIPP clients, and the effect of potential utility actions on program performance. However, as the PIPP pilot has not yet been implemented, the interviews instead focused on advice from utilities on how the pilot should be structured, and on whether the utilities would be interested, and provide cooperation for the development of such a pilot.

Interviews with utilities were conducted in June 2002. The interview protocols and a list of interviews conducted is included in the appendices.

4. Economic Analysis

Any large-scale expenditure of state funds has a direct job creation impact and an indirect economic impact associated with job creation in industries that supply products used in the delivery of services. The formal economic procedure used to measure indirect economic impacts of state expenditures is called input-output modeling. A number of input-output models have been developed by economic consulting organizations and are available for use in the development of estimates of the economic benefits of the EPP. However, the cost of using these models is significant. Since expenditure multiplier estimates have been previously developed for other usage reduction programs and for other state expenditure programs, we plan to conduct a meta-analysis of such research for this evaluation activity. In this activity, we will

develop a range for the expected value of the public expenditure multiplier given the type of expenditures in the EPP and the geographic location of those expenditures. This will allow us to furnish the impact evaluation with a low, midpoint, and high estimate for the projected economic impacts.

The economic analysis was initially planned for the first year of Process Evaluation, but is delayed due to delay in the implementation of the EPP. Many of the planned measures have not yet been implemented, and therefore the economic benefits to Ohio's economy cannot be measured accurately at this point. The economic benefits will depend upon whether procurement of measures is local or statewide, and the mix of expenditures on labor and on materials. It is too early in program implementation to assess these variables.

B. Agencies

As providers of all energy and education services, the agencies play a vital role in the success of the program. Given the large number of providers, it is important to develop an understanding of who the different providers are, provider skills and weaknesses, and their impact on program costs and benefits. In this task we review intake and scheduling of clients, implementation of measure protocols, implementation of education protocols, barriers to program success, and satisfaction with program design and parameters. This task includes four subtasks:

- Subtask 1: Training Feedback Surveys
- Subtask 2: Agency Visits with On-Site Observation of Education Delivery
- Subtask 3: Agency Survey
- Subtask 4: Agency In-depth Interviews/Observation (PIPP Pilot)

1. Training Feedback Surveys

Program training sessions are a critical time to present providers with information on the background and context of the program, the design of the program, and expectations for the contractors. OEE needs to use training sessions to communicate their visions for the program and the crucial aspects of program protocols, in order to provide for the most consistent delivery of programs across grantees. In order to assess provider views on the quality of training, we planned to administer a two-page questionnaire to all participants at the conclusion of each training session. Because the format of the training was significantly changed after the first few SMOC~ERS training sessions, we altered the design of the survey to better correspond to the later training sessions. Therefore, two different survey designs were employed to measure satisfaction with the training and understanding of topics covered during the training sessions.

Topics covered in these surveys included:

- Provider profile
- Provider understanding of training topics

- Program expectations
- Provider readiness
- Satisfaction with training

Both survey instruments used are included in the appendices.

2. Agency Visits with On-Site Observations

In the implementation of the EPP, an important role of the evaluation is to provide rapid feedback to OEE to allow for ongoing program refinement. Therefore, in this task we planned to visit a sample of six agencies in order to provide rapid feedback on delivery of education services. These visits were planned to be conducted in the first quarter of 2002, to allow for sufficient time for agency learning and development, but to still provide early feedback. However, they were delayed due to the delay in education training. The first phase of education training was conducted in March and April of 2002, and the second phase of education training was conducted in June and July of 2002. Therefore, it was decided that three visits would be conducted after the first round of education training and three visits would be conducted after the second round. The first three visits provide early enough feedback to be included in this report, and the second three visits will provide feedback on provider experiences after receiving the full set of education training.

Interviews with agency managers and staff and observation of program procedures provide information on the following topics:

- Provider background
- Program goals
- Intake and scheduling
- Interaction with clients
- Data Audits
- Agency organization
- Program implementation
- Education focus

A complete set of interview and observation protocols, as well as a list of interviews and observations is included in the appendices.

3. Agency Surveys

We will conduct a survey of all of the agencies involved in service delivery during the second year of program implementation in order to answer the key evaluation questions relating to agency performance. The survey will be conducted by mail, with phone follow-up for non-response and incomplete responses. We will conduct the survey in

January 2003 to allow for initial program design changes to be implemented and to provide feedback for the final process evaluation report.

Some of the specific areas to be addressed by this survey include:

- Background/experience of energy service providers
- Program type
- Intake/scheduling
- Survey instruments
- Units assigned
- Targeting
- Referral to High Use
- Implementation of measure protocols
- Implementation of education protocols
- Shared cost versus stand-alone approach
- Materials
- Health and safety problems
- Interaction with ODOD/OEE
- Program challenges
- Program accomplishments

4. **Agency In-Depth Interviews and Observations (PIPP Pilot)**

One of the obstacles to the achievement of energy savings from the EPP is the structure of the PIPP program. Because these clients face a bill that does not vary with energy usage for most of the year, these clients lack a strong incentive to save energy. Therefore, OEE has incorporated a PIPP pilot into the project. The PIPP pilot program aims to provide incentives to customers who make regular payments and reduce energy consumption. The pilot plans to target approximately 200 clients, who will be subject to new PIPP rules, and will receive energy services and energy education. The PIPP pilot was planned for the first program year, but was not implemented due to the challenge of implementing the core EPP, obtaining commission approval for PIPP changes, and of working with the utilities to change their procedures for dealing with PIPP customers. Therefore, all evaluation activities related to the PIPP pilot have been delayed.

One of the activities planned for the PIPP pilot is to conduct interviews and on-site observation of two agencies implementing the pilot. Meetings with agency staff to discuss pilot procedures and program implementation, and observation of intake for several clients is planned as part of these visits. The observations will include observation of the payment negotiation process, as well as the delivery of energy and education services. Follow-up telephone interviews with these agencies are also planned.

Some of the specific topics to be studied as part of interviews with program managers include:

- Goals of pilot
- Client recruitment
- Comparison to standard PIPP
- Payment negotiation
- Delivery of services
- Delivery of energy education

C. Clients

PIPP clients are chosen to participate in the EPP based upon usage histories, and will be chosen to participate in the PIPP pilot based upon payment behavior. The success of energy reduction programs is always dependent on client knowledge, motivation, and behavior. In this evaluation task, we study the clients' pre-program knowledge of energy saving techniques, how this knowledge has evolved with receipt of education services, and customer motivation and energy usage behaviors. We provide OEE with rapid feedback on the customer's perceived value of the program, as well as their satisfaction with the installed measures, educational instruction, and contractor performance through an early set of client in-depth interviews. We also perform analysis of OEE databases and our survey to provide information on the demographics of the full PIPP population and those served by the EPP, client satisfaction, program educational impact, and measure persistence. There are 5 subtasks in this task:

- Subtask 1: Baseline Assessment
- Subtask 2: Client In-Depth Interviews
- Subtask 3: Client Survey
- Subtask 4: Database Analysis
- Subtask 5: Client In-Depth Interviews (PIPP pilot)

1. Baseline Assessment

In order to measure the impact of the EPP on the lives of the low-income participants, it is important to develop a picture of the clients at the time of program intake. By measuring baseline knowledge, behaviors, and comfort, we can best measure the impact of the programs on these client attributes. In order to cost-effectively obtain this information, the evaluation plan included the development of a questionnaire that would be implemented at the time of delivery of education services. This survey would have an additional benefit beyond providing evaluation data on baseline knowledge and behavior. Not only would this questionnaire help to develop baseline information on customer attitudes, knowledge, behavior, comfort, and health and safety practices, it would also guide the educator in the areas in which the customer needed the most information. By requiring the educator to first ask the customer about energy knowledge and behavior, the educator may more readily focus the education session on

the areas in which the customer has the greatest interest and need, and can most benefit from instruction.

The evaluation plan called for the questionnaire to be developed immediately at the beginning of the evaluation, prior to program training. This would allow the baseline assessment to be included as part of the educational protocol training and would allow for consistent implementation of the questionnaire across agencies and providers. The evaluation plan also assumed that these data would be included in the OEE client database.

At the time that the EPP evaluation began, the SMOC~ERS software had already been adapted for use in the program. The SMOC~ERS software, used while conducting the customer audit and energy education, collects information on appliance characteristics, energy usage, installed measures, and actions that are agreed to. However, this software does not collect information on the household's comfort level, use of unsafe energy practices, perception of need for energy measures, and knowledge of baseline energy usage and energy saving techniques.

APPRISE developed a baseline assessment tool. This tool has not been implemented as part of program procedures. Recommendations relating to the delivery of energy education will include some form of a baseline assessment tool.

2.   Client In-Depth Interviews

One of the important goals of the evaluation is to provide early feedback to OEE and providers on the EPP in order to allow for continuing modification and improvement in the program. In order to provide rapid feedback to OEE and providers on the initial implementation of the program, the evaluation plan included in-depth telephone interviews with 25 of the initial program recipients in the first quarter of 2002. As the program was only implemented in January, 2002, and a sufficient number of clients had not been served and received in the database by the end of the first quarter, these interviews were instead conducted in May and June, 2002.

While these interviews only provide qualitative information on the program, the interviews are distributed among different program types, distribution methods, agencies, and levels of services received.

These interviews addressed the following topics:

- Understanding of the program
- Interaction with providers
- Understanding of and satisfaction with energy measures
- Action plans
- Satisfaction with education
- PIPP program experiences

- Motivation for energy savings

The survey instrument is included in the appendices.

3. Client Survey

In order to obtain quantitative information on experience and satisfaction with the many different aspects of the program, the evaluation plan included telephone interviews with 500 program participants. Data obtained through Blasnik from the program database will be used to stratify the sample into five cells, in order to obtain information on all program types and service delivery mechanisms. Each program type (baseload, thermal measures, and high use) with each service delivery mechanism (shared cost and stand-alone) will contain 100 interviews (the high use is stand-alone only). As education components will be assigned according to energy use intensity, it is expected that this allocation will also provide an appropriate sampling of education methodology by the different program types and delivery mechanisms. If actual program assignment is different, sample allocation will be adjusted accordingly.

Telephone interviews will be conducted in January 2003. This timing will allow for program refinements recommended in the interim reports to be implemented prior to this survey.

The types of information obtained from these interviews will include:

- Customer motivation
- Interaction with providers
- Understanding of and satisfaction with energy measures
- Action plans
- Satisfaction with education
- Energy knowledge and behavior
- Comfort level
- Unsafe energy practices
- Receipt of other services

4. Database Analysis

In this task, we analyze both program databases received through Blasnik, and survey data. Analysis of program databases will allow us to address the demographics of the program recipients and understand whether segments of the PIPP population could not be served by any of the program approaches. Analysis of survey data will allow us to understand client satisfaction with the program, evolution of client energy knowledge and behavior, and persistence of energy measures. The database analysis will occur in April, 2003, after the survey has been completed and the data have been cleaned.

The client database will address the following issues:

- Demographics of the full PIPP Population
- Demographics of those served by the EPP
- Services received
- Energy knowledge and behavior
- Unsafe energy practices
- Comfort

In addition, the following topics will be addressed with respect to the PIPP pilot participants:

- Demographics of those served by the PIPP pilot
- Services received
- PIPP Participant retention
- EHEAP dependency

5. Client In-Depth Interviews (PIPP Pilot)

The PIPP pilot program aims to test changes in the PIPP program design that would provide greater incentives for regular payments and reduced energy usage. Because the results of this program are dependent on client motivation and behavior, it is important to understand the clients' perception of the program and the effect of program changes on client motivation and behavior. In order to address these issues, we will conduct in-depth interviews with 25 PIPP pilot program participants. These interviews were planned for the first quarter of 2002 in order to provide feedback to ODOD/OEE on desired program refinement. However, they have been delayed until the PIPP pilot program is implemented.

The following topics will be covered by these in-depth interviews:

- Program targeting
- Program understanding
- Program requirements
- Negotiated payment
- Client motivation
- Program flexibility
- Services delivered

D. Reports and Meetings

Meetings and reports are included in the evaluation plan in order to keep OEE informed of evaluation progress and findings, allow for adjustments to the evaluation plan, and allow for refinements to the program design. There are five subtasks included in this task:

- Subtask 1: Quarterly Meetings
- Subtask 2: Evaluation Plan

- Subtask 3: Quarterly Reports
- Subtask 4: Interim Process Evaluation Report
- Subtask 5: Final Process Evaluation Report

1. Meetings

Given the complexity of the EPP and the magnitude and scope of the evaluation, it is important that OEE and the evaluators communicate regularly and effectively. This is accomplished through periodic meetings. The evaluation plan included in-person meetings with OEE to plan the evaluation, and quarterly meetings once the program is under way. This frequency allows for timely feedback on evaluation findings to OEE, and timely information on program developments to the evaluators. These meetings serve a dual purpose: to update OEE as to the status of the evaluation and current evaluation findings, and to provide the evaluators with important information about program experiences.

The main purposes of these meetings are to discuss:

- *New evaluation findings:* What are the major evaluation findings, since the last quarterly meeting, as detailed in the quarterly report? What implications do these findings have for program refinement?

- *Changes in evaluation timeline or strategy:* Given program and evaluation progress, what modifications should be made to evaluation timeline or strategy?

- *Obstacles to collection of evaluation data:* What obstacles have been encountered when attempting to collect evaluation data?

The evaluation plan was discussed during the evaluation kick-off meeting held at OEE on October 22, 2001. At this time it was decided that the evaluation plan would be implemented as proposed, with some modifications in the timing of evaluation activities, given the delay in program implementation. At this time, client targeting was also discussed, and the evaluators were given an update on program implementation.

The first quarterly meeting was held via telephone on March 4, 2002. Results from the initial evaluation activities and planning for future activities was conducted at this time. Additionally, Provider forums to be held at Affordable Comfort in April, and in Columbus in June were discussed.

The second quarterly meeting was held on June 10 and June 12, 2002 at OEE. These meetings were used to finalize planning for the Provider forum, discuss the results of the forum, plan program refinements, and to plan evaluation activities.

2. **Evaluation Plan**

After the evaluation kick-off meeting with OEE, APPRISE developed an evaluation plan that built on the statement of work included in the proposal. The timing of certain evaluation activities was modified in accordance with program implementation. The evaluation plan detailed evaluation activities, the evaluation timeline, staff responsibilities, and staff hours.

3. **Quarterly Reports**

We provide OEE with quarterly evaluation reports that detail evaluation progress and findings. These reports include summaries of all evaluation activities to date. The first report was submitted in January, 2001. The second report was submitted in May, 2002.

4. **Interim Process Evaluation Report**

The structure of this evaluation provides for ongoing feedback to OEE on the EPP's achievement and obstacles that are faced. However, after approximately eight months of program implementation, it is important to take a step back and examine the overall performance of the program. The interim process evaluation report (this document) brings together results from the early activities in the Administration, Agencies, and Clients tasks to form a complete picture of the early performance of the full program.

5. **Final Process Evaluation Report**

The final process evaluation report will examine the later performance of the program in contrast with the earlier findings. This report will assist in interpretation of the impact evaluation and address many of the same issues addressed in the interim process evaluation report. Additionally, this report will provide more information on the costs and benefits of the program design.

E. *Additional Evaluation Activities*

The Process Evaluation is an ongoing source of information to OEE. In order to assist in program implementation, the evaluation has expanded to include additional data collection and meeting facilitation tasks. Four additional tasks have been conducted during the first year of the Process Evaluation:

- Provider telephone survey
- Provider issue exploration
- Provider email survey
- Provider forum

1. **Provider Telephone Survey**

During the beginning of 2002 when the EPP was first being implemented, many agencies were experiencing problems when attempting to install the SMOC~ERS software and begin service delivery. OEE was providing substantial technical assistance to many of the providers as quickly as possible given their limited staff, and was limited in their ability to assess the experience of all of the provider agencies. In order to determine which agencies had begun providing services, and the major problems that had prevented many of the agencies from beginning to serve customers, APPRISE conducted a provider telephone survey between February 21 and March 4, 2002. All of the 18 providers were contacted at this time. This survey provided a snapshot of where the agencies were in implementing the program at this point in time, and the areas that were causing the most problems for the agencies. Specific topics addressed by the survey included:

- *Level of implementation:* Had the provider begun service delivery? If yes, how many homes had been served?

- *Impediments to service delivery:* What were the main impediments to the implementation of service delivery?

- *Incomplete implementation:* For those agencies that had begun service delivery, were there any aspects of the program that had not yet been implemented?

The survey instrument is included in the appendices.

2. **Provider Issue Exploration**

Due to the many problems that agencies had experienced when attempting to implement the EPP, a meeting was organized to be held at Affordable Comfort on April 17, 2002. The purpose of the meeting was to discuss the problems that had been faced, how some of the agencies were able to overcome these problems, and the problems that still needed to be addressed by OEE managers. This was also an opportunity for OEE to furnish information to the providers on changes and improvements that had been made to program procedures. The primary issues to be discussed at this meeting included:

- Client outreach/customer lists
- Software and hardware
- Appliances and vendors
- Training
- Financial
- Communication

APPRISE provided significant comments on the original agenda for the meeting in order to create a framework that was unbiased and open to feedback from all parties.

APPRISE, as an independent contractor, was also asked to facilitate the forum. Immediately following the meeting, APPRISE provided a written summary of the key points covered during the meeting and the major decisions that had been made to all program participants.

The agenda for this meeting is included in the appendices.

3. Provider Email Survey

One of the issues that was discussed at the Provider Issue Exploration was the experience of the providers in recruiting households for the program, and in serving clients. It was determined that it would be useful to collect information on these figures from all of the provider agencies.   These data would allow an analysis of which outreach measures had been most successful, and what levels of participation could be expected from the PIPP lists. The following information would be targeted:

- Number of clients the agency had planned to serve
- Number of clients on the agency's list from OEE
- Number of clients that had been targeted with each of up to three outreach methods
- Number of clients that had been contacted with each of the three outreach methods
- Number of clients that had been served as a result of each of the three outreach methods.

In order to plan for an additional provider forum, OEE requested that information also be collected on the number of staff members in each agency providing different program functions, including program management, technical, data, operations, quality control, and service delivery. Email addresses and phone numbers were also collected for all of these staff members, as OEE had not been able to collect information on all of the provider contacts for the program.

The email provider survey is included in the appendices.

4. Provider Forum

While the provider forum held at Affordable Comfort served as a useful venue to discuss program experiences and remaining program issues, sufficient time was not available at this meeting to fully explore all of the critical program issues. It was also determined that communication channels between OEE and the providers needed to be expanded. In order to meet these needs, a second provider forum was held on June 11, 2002.

APPRISE participated in the planning for this meeting, including discussions of the program agenda, commenting on the invitation, and determining which representatives from the agencies should be invited. APPRISE again served as the facilitator at this meeting.

The agenda for the provider forum included the following:

- OEE action updates
- APPRISE preliminary evaluation findings
- Selection of topics for discussion for breakout groups
- Definition of problems and formulation of solutions by breakout groups
- Presentation of problems and solutions from each breakout group
- Wrap-up

The six topics selected for discussion were:

- Finances
- Software
- Recruitment
- Action plans/education
- Training
- Landlord issues

APPRISE provided a written summary of the findings and action items resulting from this forum.

IV. Program Training

Given the complexity of the EPP, and the fact that so many aspects of the program were new and untested, training in many different areas was required before the program could be up and running. The main areas of training included program procedures, conducting a baseload audit, using the software and hardware, and providing customer education. The decision was made to provide two sets of training sessions that covered these issues. The first set of "SMOC~ERS training" sessions would cover program procedures, baseload auditing, and use of software and hardware. The second training sessions would cover education concepts, education procedures, and baseload energy information.

A. SMOC~ERS Training

The SMOC~ERS training sessions were an introduction to the EPP for most of the training attendees. Additionally, these training sessions had multiple goals and objectives, and a vast amount of information to present.

1. Goals of the training

The goal of the SMOC~ERS training was to provide administrative, technical, operations, and field staff with the information needed to implement the EPP. This information included:

Program information and procedures

1. Program overview
2. How to conduct an audit and provide education using SMOC~ERS
3. How to conduct a weatherization audit
4. Education procedures and training
5. In-field audit

Software and hardware information

1. Loading SMOC~ERS onto the PC
2. PDA description
3. Communication between the PDA and the PC
4. SMOC~ERS reporting functions
5. Disaster recovery
6. PDA hardware
7. PDA basics
8. Printing

Technical information

1. How to use metering equipment
2. Usage disaggregation - baseload/cooling/heating
3. Talking to clients about energy usage

Administration information

1. How to bill OEE for services provided
2. PDA disaster recovery
3. How to print reports

2. **Training design/rationale**

OEE determined that it was important for all parties involved in the program to have an overall understanding of all of the functions of the PDA and the associated SMOC~ERS software.   Therefore, it was decided that one training session would be held for administrative, technical, operations, and field staff. All of the topics listed above were presented to these staff members. This led to a large groups ranging from 18 to nearly 40 agency staff attending the 5 training sessions.

The structure of the training followed, for the most part, the order that the agencies would be covering each task. For example, the training began with information about how to load the SMOC~ERS software onto the PC, followed with a description of the PDA, how the PDA and PC communicated, conducting the appliance audit and the weatherization audit, and printing. Other aspects of the training were placed in between these segments, such as an overview of the program, instructions on metering appliances, and reporting functions in SMOC~ERS.

The SMOC~ERS training included a half day of in-field training where a smaller group of field staff, each with their own PDA, practiced conducting an audit in a local home. The group was limited to a small number so that each auditor would have his/her own PDA, and so that trainers could take groups of 4-5 auditors in different areas of the home and coach them on using the PDA to enter data. The field component was held at the very end of the training to allow auditors to achieve a certain comfort level with the program and the PDA before entering the field.

3. **Goals of the evaluation**

There were several goals for the evaluation of the SMOC~ERS training. These goals included obtaining a more complete understanding of program procedures, program hardware, and program software; meeting auditors and educators who would be providing program services, understanding the level of training that the agencies had received, and providing feedback to improve future trainings and to help understand what additional training is needed. Each of these goals is explained more fully below.

a) Understanding of program procedures, hardware, and software

The EPP is a complicated program, in terms of the number of program elements and service delivery mechanisms, and the software used to implement the program. Attendance at the training provided a more complete understanding of the procedures that were to be followed by the different agency staff members, the challenges that would be faced by the agencies in implementing the program, how the software and hardware are used, and the functionality of the technology. Attendance at the training provided an opportunity for the evaluators to use the PDA and understand the responsibilities of the auditors when working with this equipment in the field.

b) Meet auditors/educators

Given the funding for the EPP, a large number of auditors will eventually be providing program services across the state. Experiences of these auditors will vary by the agency they work for, the area they work in, and the population in that area. However, the opportunity to meet and speak with many of the auditors provided for a better understanding of the knowledge, experience, and attitudes of the staff members who would be working directly with the customers.

c) Understanding of the training agencies had received

When evaluating the initial service delivery for the EPP, it was important to have an understanding of the knowledge the auditors had about program procedures, and how they had been instructed to provide services. To the extent that program procedures are not being followed, it is important to know the extent to which deviations resulted from a deficiency in the training that was provided, as opposed to a failure to implement program procedures as described.

d) Provide feedback on training

The SMOC~ERS training was provided to 5 groups of auditors on three different dates. APPRISE attended one of the two first SMOC~ERS training sessions conducted November 13 through November 16, 2001. APPRISE also attended the last training conducted December 11 through December 14, 2001. Given the fact that training was provided in groups, and that additional training would be provided to additional auditors at a later date, there was substantial opportunity to provide feedback to OEE that would be useful when implementing future training sessions. Feedback that was provided to OEE immediately following the first round of training contributed to significant improvements made in the training session.

4. Evaluation activities

There were four evaluation activities that contributed to the evaluation of the SMOC~ERS training. APPRISE first developed a set of training feedback surveys to be administered at the end of each day of training. APPRISE staff attended one of the

first and last of the SMOC~ERS training sessions and provided written feedback on these sessions. APPRISE provided an analysis of the training feedback survey data.

a) *Develop training survey*

In order to assess agency views on the quality of training, APPRISE developed a short questionnaire to be administered to all participants at the conclusion of each day of training. It was important to survey attendees at the end of each day, as different staff members were attending different parts of the training session. Because the format of the training was significantly changed after the first round of SMOC~ERS training sessions, the design of the survey was altered at this time to better correspond to the later training sessions. Therefore, two different survey designs were employed to measure satisfaction with the training and understanding of topics covered during the training sessions. Topics covered in these surveys included:

- Provider profile
- Provider understanding of material covered
- Program expectations
- Provider readiness

b) *Attend training*

Because program procedures and software were being developed and modified right up until the first round of training, significant changes in procedures were recommended after attending the first SMOC~ERS training session in November, 2001. Therefore, an additional SMOC~ERS training session was attended in December, 2002.

c) *Observations and recommendations*

A written set of observations and recommendations was provided immediately following observation of the first training session, and shortly after observation of the last training session.

d) *Analyze survey data*

APPRISE analyzed the training survey feedback data and provided a memo highlighting the findings from this analysis.

5. Evaluation findings

The EPP training provided auditors and administrative support staff with information on program goals and parameters, program protocols, and program operations. This is a vast amount of information to provide during one training. Program software was being refined up until the time of training, and many bugs were discovered during the training. Auditors had only worked with paper when providing services previously, and some

had not been involved with baseload programs. Up to 4 auditors had to share one PDA and take turns entering information during the core training. Given the large number of challenges in implementing the program and the training, the week was successful in providing auditors with an overview of the program and program protocols, and allowing auditors to experience the audit with the PDA's.

a) *Trainee profile*

Training surveys collected data on the experience and positions of the staff members attending the sessions. The main findings from analysis of these data were:

- Attendees at the training sessions had a fairly high level of experience in the field, with the mean ranging from 5 to 9 years on the different days at the different training sessions. Participants in the Friendship and Findlay groups averaged several more years of experience, than the Cleveland, Hudson, and Dayton groups.

- Agency staff members representing a wide variety of jobs attended the EPP training sessions. The majority of those attending the Cleveland and Findlay training sessions were auditors. However, the majority of those attending the other training sessions were in non-auditor staff positions, including coordinators, helpdesk, IT, intake, customer service, case manager, energy coordinator, and finance managers.

b) *Training introduction*

A comprehensive introduction to the program, procedures and systems was not included as part of the first round of training sessions, although most of the information that would be included in such an introduction was covered by the end of the training. For the second round of training sessions, an introduction to the program, procedures, and associated technology was included.

c) *Training structure*

The structure of the training could have been improved to provide information in a more efficient manner. The following aspects of the training could have been improved:

- Having a large group of attendees in one room and covering all areas of responsibility for all staff members increased the amount of time needed to cover the required material. In later rounds of training administrative and field staff were separated into groups for different areas of emphasis.

- Many of the trainees were required to share PDA's, as not enough were available at the time of the training.

- The field training of a few hours on the last day of the session was too short and too late in the training process.

d) *Training content*

The training did not provide an opportunity for all of the trainees to comprehensively and systematically review all the steps of the SMOC~ERS audit.

e) *Technology*

There were many challenges posed by the technology. These included:

- *Software bugs*: There were many bugs in the software that were discovered during the training. These bugs were created as final changes to the software were developed.

- *Presentation equipment:* There were problems with the emulator that allowed the PDA screen to be projected on the front board. Therefore, some of the presentation was made on the PC, even though the PC software is quite different from the PDA version. For later rounds of training, different hardware was purchased which allowed for better presentation of the PDA screens in the front of the room.

f) *Attendee understanding and satisfaction*

The main findings from the survey relating to understanding of topics covered and satisfaction with the training are summarized below:

- *Time spent on topics:* For the most part, trainees felt that about the right amount of time had been spent on the topics covered.

- *Understanding ratings:* Mean understanding ratings were higher for the second set of training sessions, but not as high at Dayton as at the other two locations for the second set of training sessions. The training schedule and content were clearly improved from the first set to the second set of training sessions.

- *Ratings for trainers:* The trainers received fairly high ratings in all categories at all five of the training sessions. Satisfaction with the training location was not as high at Dayton as at the other training sites.

- *Rating of ability to perform job:* For all five of the training sessions, the attendees' confidence in their ability to perform their job responsibilities increased over time. However, while on the last day of the Cleveland and

Friendship training sessions, approximately three quarters of the attendees felt prepared to carry out their responsibilities, at the other training sessions, all of the attendees felt prepared to carry out their responsibilities on the last day of training.

- *Anticipated problems with SMOC~ERS:* Fewer trainees at the Findlay and Dayton sessions foresaw problems with the SMOC~ERS software. This is expected, as training at these locations was done after many improvements were made to the software. However, all Hudson participants foresaw problems using the software. This is surprising, as this session was during the second set of sessions.

g)   *Timing of training*

The SMOC~ERS training sessions were held in November and December 2001. Due to difficulties in setting up SMOC~ERS on the providers' desktops and synchronizing data between the PC and the PDA, agencies did not implement the program until January, February, March, or even later in 2002. This represented a long lag time between training on using the software and hardware and performing audits, and the time when staff were in the field.

6.   Recommendations

The recommendations for additional training focus on the provision of a more complete training introduction and overview, an improved training structure and content, technology that better supports the training, the timing of the training, and the need for additional training.

a)   *Training Introduction/Overview*

A comprehensive overview of the program, protocols, hardware, and software at the beginning of the training session would provide a context for the detailed information, and set the stage for better understanding and interest in the lengthy training. Many of the important points to be made were given at various points in the training, but would be more useful and informative prior to receiving the full set of detailed information. The topics that could be part of this introduction and the basic points that could be made in each area are:

- *Why this program is exciting!:* Create enthusiasm for the program!
  1) This is an innovative program where all cost-effective measures can be installed
  2) You (auditors) have the tools and the knowledge to determine where energy usage is resulting from and can educate consumers how to save energy
  3) You will be using state-of-the-art software and hardware
  4) You can provide feedback to the program that can potentially impact program procedures

5) You are saving money for ratepayers (i.e., yourself) and (as with the other work you do in this area) you are saving the environment!

- *Program background:* The State of Ohio has been ordered to run the EPP that is funded by ratepayers through utility charges.

- *Program goals:* The goal of the program is to reduce energy usage by PIPP households, therefore reducing the cost to ratepayers.

- *Interaction with other programs:* Explanation of cost-share and stand-alone jobs, and how the EPP interacts with other programs the agencies may be delivering.

- *Protocols:* Using the SMOC~ERS software, account for electric energy use in the home. Try to match up the usage accounted for in the home to actual usage as provided by OEE. All cost-effective electric measures should be installed. The currently available measures are included in the software, but will be expanded to include other cost-effective measures.

- *Education:* An important part of the program is to help clients identify their self interest for reducing energy usage in the home, and showing them how this can be accomplished. Auditors will be providing this education to cost-share clients during the initial audit. Follow-up education is also part of the program. Education training will be provided at a later date.

- *Incentives:* Recognize the fact that PIPP customers not having an incentive to reduce usage, given their payment structure, is an issue. Note that a pilot is being planned where customers will be rewarded for making payments and reducing usage, and the possibility that the PIPP structure will be changed in the future.

- *Hardware:* The audit will be conducted using a PDA, that will have much of the customer information loaded into it. All data will be stored on PCs via data transfer from the PDA.

- *Software:* The audit will be conducted using the SMOC~ERS software. This software collects information on all electrical end uses, calculates annual energy usage, and determines whether measures are cost-effective.

- *Reports:* Provide copies of analysis, usage, measures, and authorization reports and provide brief descriptions.

b)   *Training structure*

There were several recommendations for changing the training structure in a way that would provide the expansive amount of information in a more efficient manner. Many of the suggestions for the training modifications listed below were made by trainees in the evaluation forms.

- *Separate administrative training:* The training plan was to expose auditors and administrators to all aspects of the program. However, given the complex program, it was difficult to present all of the information in four days. More specialization in the training agenda would allow for each group to spend more time learning their responsibilities. The administrative training covering the setup of the software, reporting to OEE, and billing could be a separate training for administrators, and perhaps supervisors. This training could also cover the basics of the program for these administrators who would not attend the auditor training. This training could be conducted in a setting where all attendees are in front of a computer and are able to experiment with the software.

- *Fewer trainees:* It is difficult to provide training on software to a room with over 50 people. Training sessions may be more effective if they are limited to auditors, with a maximum of 15 to 20 people in smaller rooms. The training sessions could be divided into groups, with each trainer going through the audit with a subset of the auditors. This would allow for the auditors to move through the software more quickly and allow for easier viewing of overheads.

- *PDA's for each participant:* The software has many pieces of information required to be entered, and requires that information be entered in a particular order. Auditors would get the most out of the training session if there was one PDA per auditor.

- *Earlier and more field training:* In-field training was held on the last day, for only one home. Auditors may get more out of the training if there was an additional in-field segment on the second or third day, right after the basics of data entry were covered.

c)   *Training content*

The preparation of mock audits could provide a more comprehensive and systematic approach to working with the SMOC~ERS audit. This would involve a script that addressed each field in the audit, where the trainer showed pictures of a house and had auditors take turns asking the trainer (acting as the customer) questions about the house. The trainer or a volunteer auditor would fill out the data that was projected onto the screen to ensure that all auditors were entering the same data. Such a format would give the auditors experience in asking the customer questions, as well as in using the software.

d) *Technology*

Problems with technology at the training fell into two categories: software bugs and presentation equipment. While it is recognized that some of these problems are out of OEE's control, the following recommendations are made:

- *Software:* The current version of the software should be tested immediately prior to the next training so that trainers will be aware of problems in the software that still need to be worked out.

- *Presentation:* Every effort should be made to display the PDA screens in front of the training room.

e) *Timing of the training*

The length of time between the SMOC~ERS training and implementation of the program is problematic for field staff. A separate administrative training prior to the auditor training would allow administrative staff to get a head start on setting up the system, and perhaps allow for a shorter time span between auditor training and implementation. Alternatively, one-day refresher training courses could be provided to auditors just prior to the provider being ready to start work in the field.

f) *Continued training*

The following recommendations were made for continued training:

- *Practice audits*: The auditors should be required to complete a practice audit on their own (or relative's) home, and have their audit reviewed by OEE staff prior to starting in the field. This activity has not been implemented.

- *On-site review*: Don Jones will identify common misperceptions about how to conduct the audits and use the PDA during his on-site observations. These observations will be distributed to all service delivery agencies and auditors. This review has begun and problems have been found with seasonal usage matching.

- *Agency review*: Don Jones will check audits while visiting agencies to determine if there are problems that are occurring during the implementation of the protocols. These findings will be disseminated to service delivery agencies. This has not been done.

- *Database review*: Michael Blasnik will review the database in order to determine if there are common problems that are emerging, either in terms of missed opportunities or over-installation of certain measures. Findings will be

disseminated to service delivery agencies. This review has been done and problems have been found with data entry and measure selection.

B. Education Training

Agencies were expected to begin service delivery following the SMOC~ERS training held in November and December 2001. Agencies received only minor instruction on the education procedures to be used while delivering services during the SMOC~ERS training. Therefore, for the first few months of service delivery, auditors relied on their previous experience and brochures provided by their agencies to provide education as part of the visit. While observations were not conducted at this time, it is expected that the level of education provided varied by the experience of the auditor and the direction of the provider.

Education is an essential component of the EPP. Customers need to be educated on the measures that the auditor installs in the home so that they understand the services and do not inadvertently impact measure persistence by removing or adjusting measures. Additionally, education is important because behavioral changes can be a large component of energy savings, especially in this program's case where most of the customers are receiving strictly baseload measures. With effective education, the customers can contribute to the reduction in their energy bill and increase the effectiveness of other program services.

The education process in the EPP is difficult for many reasons. Adults are difficult to educate, as they may be used to doing things in a particular way and resistant to being taught new skills. Participants in this program may be even more difficult to influence, as usage only affects their bills during the summer. Therefore, customers must be motivated to change their behavior through a discussion of their self-interests for taking certain actions. Providing such motivation requires effective communication and influencing skills.

1. Goals of the training

The goal of the training provided by Lydia Gill Polley and Rana Belshe was to "enhance our education and technical knowledge and skills to effectively involve these customers."

The objectives of the education training were:

- Hone listening and speaking abilities to accurately diagnose the customers' situation and to work with them as partners.

- Be able to use bill, usage history, analysis, and our insights to develop savings options.

- Prioritize strategies and options that support measures and maximize savings potential.

- Gain skills for facilitating customers' acquisition of new thinking, attitudes, and behaviors, and for securing action commitments.

- Understand EPP customer education program fully.

- Have fun!

2. **Training design/rationale**

In order to achieve these goals and objectives, the education had two main areas of focus: communication with the client, and basic electric energy concepts. The majority of the training was focused on communication. Information was presented and discussed, with most topics including trainee participation, either as a whole, or in groups of 4 or 5, one of whom later presented to the room. The main areas covered during the training were:

- Partnering with the client
- How adults learn
- Modes of communication
- Motivating the clients
- Results oriented education
- Active listening

The electric energy part of the training, which was presented in an alternating format with the communication side of the training, also provided many opportunities for participation and discussion. Participants were asked to discuss characteristics of the clients and their homes that may affect energy usage and opportunities for saving, to estimate temperatures of water in different uses, to estimate temperatures in the refrigerator and freezer, to discuss what information clients need to know about their bills, to discuss what information clients need to know about CFL's, and to discuss how much energy was used in their homes. The major topics included in the energy aspect of the training were:

- Systems approach to energy usage
- Identification of energy usage
- Baseload auditing procedures
- Electric hot water
- Electric business basics
- Lighting
- Refrigerators

A second phase of education training is also being held. APPRISE will observe this training during the June 24 to June 26 session, and provide evaluation feedback in a separate memo.

3.   Goals of the evaluation

There were several goals for the evaluation of education training. These goals included obtaining a better understanding of the program's education procedures, meeting the auditor/educators, understanding the education training that providers had received, and providing feedback on the training.

a)   *Understanding of program education procedures*

The EPP will include four possible levels of education that may be delivered to the customer - one in-home visit, case management, a workshop, and an education packet. The in-home audit involves education as an integral part of the visit. One goal of attending the education training was to learn about how education procedures are to be implemented in the field as part of the visit, and what is planned for the other types of education to be provided by the EPP.

b)   *Meet auditors/educators*

The field staff delivering the audit and education services are critically important for the success of the program in achieving behavior changes that lead to reduction in energy use. Attitudes and perceptions of the educators will have a large impact on how the program is implemented. Attendance at the education training sessions allowed for the opportunity to interact with the auditor/educators and discuss attitudes toward the program and client education as well as experiences with the program to date.

c)   *Understand what training they have received*

Education training is an essential component of the training needed to effectively provide program services.   Providers must understand how to effectively communicate with clients and to motivate them to take actions, what the procedures are for providing education in the EPP, and how to effectively provide education while utilizing the action report included in the SMOC~ERS software.   When evaluating program implementation and results, it is important to understand what information and training auditors have received. Attending the training allowed for an informed assessment of what additional training is needed.

d)   *Provide feedback on training*

The education training is being implemented in two phases in order to provide educators with information and instruction, allow them to practice the new techniques in the field, and then provide additional instruction based upon these experiences.   Therefore, there is the potential for the evaluation of the first education training to influence the structure of the second phase of education training.   Additionally, feedback on education training will provide OEE with information as to whether additional education training sessions are warranted in the near future.

4. Evaluation activities

In order to meet these goals, four evaluation activities were undertaken: attending both phases of the education training, providing a written summary of observations and recommendations, discussing the training effectiveness during provider visits, and discussing original program findings with the education trainers.

a) *Attend training*

APPRISE staff attended both the first and second phase of education training. The first phase of training was observed on April 1 through April 3, 2002 and the second phase of training was observed on June 24 through June 26, 2002.

b) *Observations and recommendations*

Shortly following the training session, a written summary of the training, along with recommendations for future education training was provided. A written evaluation of the second phase of education training will be provided during the beginning of July 2002.

c) *Interviews with provider managers*

During our provider visits, we are interviewing program managers about experiences with the EPP. Included in these interviews is a discussion of the education training, including who attended the training, how helpful the training was for the educators, and what additional training is needed.

d) *Discussions with education trainers*

During initial program observations and client interviews, APPRISE has found that the intensive education planned as part of the EPP is not being implemented according to protocols. Therefore, it was determined that the education trainers should be consulted in order to discuss the deficiencies that have been observed and potential means of remedying the deficiencies in the upcoming Phase II education training sessions. During discussions with the education trainers, it was determined that the program introduction and conclusion presented at the site visit needed to be strengthened. Providers need to ensure that a partnership is being formed at the beginning of the visit, and that actions are being committed to at the end of the visit. Additional elements of the client education that should be reinforced were also discussed.

5. Evaluation findings

a) *Training method was well received*

The method of training that was utilized by the education trainers, allowing and encouraging participation by all attendees, seemed to be very well received by the group attending the Phase I education training in Independence on April 1 through

April 3, 2002. Observation of the training and discussion with participants provided the assessment that attendees were very enthusiastic about the training, about the information being presented, and about having the opportunity to participate and share ideas. Participants appeared to enjoy the opportunity to discuss education issues among themselves, come up with solutions to problems such as how to motivate the client, and present the material in front of the larger group.

b) *Brainstorming was effective*

Involving participants in brainstorming about how to solve challenging program issues was very effective. One exercise that addressed a need for additional information was a brainstorming session on potential benefits to the client from participating in the EPP. OEE, agency program managers, and auditors have expressed concerns about the fact that clients do not have an incentive to participate in the program and to reduce their energy usage due to the structure of the PIPP payment arrangement. However, there are many potential motivating factors for the client to participate in the program that were discussed during the session. Some of these factors include the energy efficient lights and refrigerators that the customer may receive, the fact that energy usage has an impact on the environment, the fact that bills received for the non-heating season can be reduced, and the possibility that customers on the borderline may be brought off the PIPP program. However, the training did not provide additional reinforcement of the importance of eliciting the customer's self-interest for participating in the program and saving energy, and stressing this benefit throughout the audit visit.

c) *Workflow outline provided during the training is essential to program training and implementation*

As part of the education training, Lydia Gill-Polley and Rana Belshe provided a draft of a detailed outline for the workflow process. Their outline is included in its entirety below, as the outline is an excellent depiction of the workflow, and an essential element of program training and implementation.

1. OEE Referral
   - Customers with >8000 kWh annual baseload usage
   - Electronic transfer of data to the PDA
2. Letter from OEE to PIPP customers
   - Describes EPP as partnership
3. Intake
   - Introduce EPP as partnership
   - Facilitate Customer saying "yes" to being Partner
   - Assign to staff
4. Schedule home visit
   - Confirm partnership
   - Reason customer wants to be in the EPP

- Our expectations for home visit
- Their responsibilities for Home Visit
- Negotiate best time and confirm

5. Home visit
   - State purpose of the EPP
   - Review partnership mutual benefits and responsibilities
   - Identify customers' real self benefit(s)
   - Interview, metering, and house tour
   - Data entry/analysis
   - Measure selection/installation
   - Discuss measure responsibilities and potential benefits for meeting self benefit
   - Discuss potential action options for meeting self-benefit
   - Develop action plan
   - Express gratitude for working as our partner
   - Explain possible next step(s)
   - Ask for feedback on the visit

6. Customer home visit assessment
   - How we did
   - Customer response
   - Needs and possibilities
   - Decide next steps
   - Follow up or case management referral
   - Order refrigerators and other measures

7. Follow-up or
   - Options: phone call, letter/card, or visit

8. Case management
   - Referrals
   - Additional home visit/education

One of the most significant contributions of the outline is its repeated reference to the program partnership. The partnership is referenced three times prior to the first home visit, as well as during the home visit itself. The discussion of the program partnership in the letter, the introduction and facilitating of the partnership agreement during intake, and the confirmation of the partnership during the scheduling make possible a focus on the partnership, in addition to the current focus on receipt of refrigerators and light bulbs.

While the workflow outline copied above was briefly referred to and included in the training materials, it was not discussed or explained in detail during the training.

d) *Training did not focus on application of concepts*

One topic that the first phase of the education training did not cover was how to concretely apply the concepts and information included in the training as part of a customer audit, either through the use of role-playing, or though concrete examples.

e) *Providers did not comply with Phase II education training requirements*

The purpose of the second phase of the education training is to work with the providers after they have had a chance to test some of the new education methods they had learned during the first phase of the education training. Therefore, it is important that all participants in the second phase of education have field experience. Based on information provided to the trainers prior to the first session of the second phase of education training, there were ten participants who had not yet conducted audits, and there were two participants who had not attended the first phase of education training. Other differences among these participants included a wide range in the level of experience in the EPP (ranging from 1 to 105 site visits) and variety in which of the phase I education sessions they attended. Having auditors from different phase I education sessions attend the second phase of training is problematic because the trainers targeted each phase I training session to the participants in that session. Therefore, participants in different phase I training sessions had different training experiences.

6. Recommendations

a) *Increased focus on workflow of the audit*

Rana Belshe and Lydia Gill-Polley have developed an audit workflow outline that expertly describes the steps included in a complete implementation of the EPP, as it is currently understood. This workflow process should be discussed extensively in future education training sessions, and problems involved with any of the steps should be resolved.

b) *Provision of more detailed information on audit components*

Given the fact that the EPP is a new program and that it is so focused on education, auditors may need more specific information on how to work with the customer. Once the auditor has more experience with the program, he or she may feel more comfortable to adapt guidelines to his/her style and to specific situations that are encountered. Provision of specific information to be presented in each area, including sample scripts, may be useful to the auditor and help increase the possibility that all important education topics are covered. The following information may be useful:

- *Introduction:* Specific information on what should be discussed at the introduction of the visit should be described. These elements include:

- Name of program
- Who is providing the program
- Purpose of the program
- Establishing the partnership
- Identifying the customer's self-interest
- What to expect from the visit
- Reviewing the electric bill
- What the customer thinks are the big electric users

- *Walk-through:* Some auditors may already have a method for approaching a home, but for those who do not feel comfortable with the process, a description of where in the home they may start and how this may direct the conversation about energy usage may be helpful.

- *Specific education topics:* Given the initial emphasis on technology and the collection of data in order to calculate cost-effectiveness of measures, there is tendency for auditors to concentrate on collecting hours of use for each light bulb and television, and to neglect educating the customer on how to reduce usage in the context of the audit. If the auditor has a list of education topics and examples of information to present in different situations, the auditor may be more likely to provide comprehensive education on energy usage reduction. The education cards that Rana and Lydia have used for other programs may be helpful.

- *Concluding education*: The customer's education at the end of the session will be based on measures and actions that have been found to be cost-effective during the audit. However, information can be provided to auditors on the types of information to be focused around each measure and action that is identified, what information should be described on reports that summarize usage, and what other concluding information should be provided. Information discussed should include:

  - Review of measures
  - Securing action commitment
  - Partnership reinforcement
  - Explanation of next steps
  - Request for feedback on visit

c) *Application of communication skills and energy knowledge*

Initial program results show that auditors need more information and exercises on how to apply their communication skills and energy knowledge in the delivery of program services. During future education training, it may be helpful to provide

more specific information on how to discuss energy savings opportunities with the customer, as well as to provide an opportunity for the auditors to role play the delivery of education during an audit.   An emphasis on specific education procedures may assist the auditors in providing education.

d)   *Use of mock audits and case studies*

Auditors could be given the opportunity to practice their education skills. Scripts could be developed that provide different home and energy usage characteristics, and auditors could be provided with a set of instructions on how to discuss energy usage with customers. The auditors would then have an opportunity to provide education in different settings. The role-playing could first be done without the PDA, and then with the PDA if there is sufficient time.

e)   *Increased focus on attendee composition*

Increased attention on the composition of those attending each training session could improve their effectiveness. For the second phase of the education training, for example, training groups should be composed of:

- Auditors who had a significant amount of field experience
- Auditors who had attended the same group for the first phase of education training

This would allow for a focus on what the group needed, and sharing of experiences that are more applicable to all attending.

V. Program Procedures and Implementation

This section of the report describes evaluation, findings, and recommendations relating to program administration, targeting, outreach and recruitment, technology, service delivery, and quality control.

A. *Program Administration*

OEE and their provider agencies have many responsibilities in administering the EPP. This section of the report addresses how OEE and the providers have fulfilled these responsibilities, and what affect their decisions have had on the success of the EPP.

1. Goals

The goal of administration of the EPP is to efficiently and effectively perform all of the functions necessary in order to successfully implement the program. The program is implemented by OEE and by a network of 18 authorized providers and their sub-agencies.

2. Design/rationale

OEE is primarily responsible for the administration of the EPP. Their responsibilities have not changed from the initial program design. However, given staffing constraints, OEE has increasingly relied on contractors to provide program services. While the use of contractors frees up OEE staff to spend more time on other aspects of the EPP, the management and interaction with these contractors is also a time-consuming process.

As planned, OEE procured bids for delivery of EPP services through a competitive bid process. In this bid process, OEE first used an RFQ, where they requested that the providers describe their capabilities and capacity for performing the required services under the program. Following the RFQ process, there was an RFP process where a more developed version of the program design was provided to the proposers who had qualified through the RFQ. OEE selected 18 provider agencies to deliver services under the EPP. Providers were chosen based upon their costs for providing services, their service territories, and their experience.

Most of the providers selected to implement the EPP are Community Action Agencies that provide HWAP. Some of these agencies also have experience providing services under utility contracts, including the provision of baseload electric programs. In addition to the CAA's selected as providers under the EPP, Honeywell DMC was selected as an authorized provider. Honeywell offered a lower service delivery price than the other agencies, and had the ability to achieve the large capacity required by the

EPP. Honeywell's price for stand-alone visits was lower than many of the other agency's prices for cost-share.

3. Goals of the evaluation

The goals of the evaluation of EPP administration are to determine whether the program administration is facilitating efficient and effective program delivery, and to determine whether changes in program administration could improve the efficiency or effectiveness of service delivery.

a) *Determine the extent to which OEE program administration facilitates efficient and effective program delivery*

OEE, in its management of the EPP, must ensure that all aspects of the program are working effectively and that all necessary actions are being taken. In order to ensure that the office supports the program in every area, communications between OEE and providers, contractors, and other program actors must work well. Additionally, OEE must be responsive to all requests from program partners. The evaluation will determine whether OEE is effectively providing the support needed to ensure that program delivery is as efficient and effective as possible.

b) *Determine the extent to which provider program administration facilitates efficient and effective program delivery*

Providers must perform many administrative tasks to ensure that they are serving customers on their OEE targeted list. These included managing data received from OEE, assigning jobs to auditors, determining whether the jobs were completed or whether the required number of contact attempts were made, and making sure that OEE receives all required data. The evaluation will determine whether the authorized providers are effectively administering the EPP.

4. Evaluation Activities

There are several activities that provided information on the administration of the EPP. These include interviews with OEE managers and staff, interviews with provider managers and staff, the telephone provider survey, the issue exploration at Affordable Comfort, and the Provider Forum.

a) *OEE administrative interviews*

Interviews with ten key members of OEE provided information on how responsibilities are divided between these staff members and what barriers have been faced in administering the program.

b)   *Provider interviews*

Interviews with three of the providers provided information on the variety of ways that agencies have organized to provide the EPP, and what advantages and disadvantages these models have for effective delivery. These interviews have also provided information on how well the OEE administrative structure is supporting the providers in their implementation of the program.

c)   *Provider telephone survey*

The provider telephone survey addressed problems that had prevented providers from beginning service delivery, and barriers that active providers were still facing. These interviews shed light on the effectiveness of OEE program administration, as well as agency approaches to managing service delivery.

d)   *Provider issue exploration*

At the provider issue exploration meeting at Affordable Comfort, providers discussed the problems that they had been facing in implementing the EPP. These discussions shed light on program administration.

e)   *Provider forum*

The provider forum gave the providers the opportunity to articulate the barriers they were facing and to develop plans to overcome these barriers. These discussions also provided important information on the effectiveness of program administration.

5.   Evaluation Findings

The main evaluation findings relating to OEE program administration are that staffing and time constraints have adversely affected initial program implementation, a policies and procedures manual is needed, and that OEE has been very receptive to evaluation feedback and has acted on recommendations. The evaluation also found that a bulk procurement process has not been completely implemented and the information from the joint application is not in a form that OEE can access. In terms of agency administration, the evaluation has found that agencies have had problems with the fee-for-service nature of the contracts, SMOC~ERS setup has delayed implementation of the program, and that SMOC~ERS is working well as an invoicing and reporting tool.

a)   *The level of OEE staffing has created great challenges for the program*

One of the major influences on the administration of the EPP has been the number of staff members available to design, implement, and manage the program. At the time that the EPP began, OEE staff members were managing to meet the responsibilities of the HWAP program, as well as of other OEE assignments. When OEE was presented with the responsibility for developing the EPP, the conception was that this

program was a minor add-on to the currently running HWAP program, and that additional staff members would not be hired.

One of the reasons for the resistance to hire new staff to develop the EPP was the long-run vision of an integrated HWAP/EPP. There was a concern that the creation of a parallel staff and bureaucracy to run the EPP would negate this possibility. Therefore, with few exceptions, current OEE staff members were assigned the responsibility for the EPP. While this decision has resulted in an extremely overextended staff, and delays in program implementation, it should ultimately lead to a more integrated set of programs that benefit OEE and its clients.

Another reason that OEE has been prevented from hiring additional staff has been the state budget crisis. Despite the legislative mandate and immense funding for the EPP, the state budget situation has made it very difficult to add staff members to the department.

The long-run benefit of an integrated set of programs is an important outcome that will be well served by the decision to utilize existing staff for the EPP. However, it must be acknowledged that there have been significant adverse short-run impacts on the administration of the program due to understaffing.

One of the areas in which the program is lacking is that there is an absence of an overall program manager. OEE staff members repeatedly requested that a new staff member be given the sole responsibility of managing the EPP. However, the objective of keeping the two programs united was perhaps most clearly met by not hiring a new program manager. OEE was given the opportunity to hire a temporary consultant to manage the EPP, but in the end this decision was not implemented. Instead, eight to ten OEE staff members were assigned specific tasks and met periodically to discuss program design and implementation issues.

In addition to the lack of staff to provide overall program management, OEE has a need for technical staff who can proactively work to improve the SMOC~ERS software and to improve how that software interfaces with the PDA. Due to a lack of staff members who had enough time, knew enough about the EPP, and knew enough about software and hardware to thoroughly test the system, many critical changes to the system were not identified prior to program implementation. The needed improvements were identified after the evaluators had the opportunity to observe visits, speak with program recipients, and study the SMOC~ERS data resulting from the visits.

OEE is also lacking the capacity to investigate the addition of important new measures to the program. While OEE staff have the experience and skills to conduct the necessary research to add these measures to the program, these staff are already overextended in their other tasks. As a result, many potential measures that would increase the cost-effectiveness of the overall program have been indefinitely

delayed. Such measures include fuel switches, air conditioners, motion detector outside lights, and the high use/new technology pilot.

While OEE has hired some of the most skilled and well-respected education consults in the industry, OEE has not had the time to focus the necessary attention on working with these contractors to develop essential education materials. Both the education contractors and the authorized providers have requested education materials to use as part of the audit/education process. Contracts for such materials are being discussed at the present time.

In addition to these examples, there are other short-run impacts of the lack of staff on program development and implementation. These include:

- Delay in the implementation of the PIPP pilot that will test a new program design aimed to provide PIPP participants with the incentive to conserve energy and pay their bills in the summer.

- Delay in the implementation of case management that will work to bring new or marginal PIPP clients off the program.

- Delay in the development of a policies and procedures manual that will guide agencies in program procedures and responsibilities.

b) *The schedule for program implementation has limited short-run program accomplishments*

OEE has faced an unrealistic timeframe for developing and implementing the EPP. While initial discussion of the program began in September 1999, OEE did not begin to put the program description together and come up with the materials to support the RFQ/RFP process until the summer and fall of 2000. Due to industrial customers suing the PUC over rate increases associated with the USF legislation, OEE was then delayed from developing written program materials for six months. It was only in the spring of 2001 that OEE received a green light to begin program development. At this time OEE began to look for software products, refine program design, and develop the RFQ. OEE was then told that the program needed to be implemented in September 2001. Therefore, OEE had a window of less than six months to develop and implement the program. This short time period was inadequate to design, develop, and implement such a complex program, especially given the staffing constraints that OEE faced.

c) *A policies and procedures manual has not yet been developed*

A policies and procedures manual has not yet been developed for the EPP. This is due to staffing constraints and the belief that the program was evolving and many decisions had not yet been made. However, OEE does have several one-page write-ups about the different aspects of the EPP.

d)   OEE staff have been extremely receptive to evaluation feedback

OEE has involved evaluators from the beginning of the program and has actively sought and acted upon recommendations based on evaluation findings.   This propensity to proactively work to improve the program will lead to a shorter than otherwise expected time to program maturation and goal fulfillment.

e)   Many agencies have had difficulties with the fee-for-service nature of the EPP contracts

All of the authorized providers, with the exception of HWDMC, are HWAP providers as well. Under the HWAP program, agencies are funded at the beginning of the program year with the funds to serve a targeted number of clients. Agencies therefore have the cash flow needed to purchase materials and pay staff members. Under the EPP, agencies only bill for services once these services are provided. They are therefore required to provide an outlay in order to purchase materials and to pay staff for services delivered. Agencies have made repeated requests to OEE to provide advances for materials and to purchase materials needed to administer the program.   OEE has tried to accommodate agencies by providing limited advances for refrigerators. However, OEE sees this as a one-time procedure in order to help the agencies get started with the program.

f)   SMOC~ERS office set-up procedures caused delays in program implementation

Many agencies experienced significant difficulties when attempting to set up the SMOC~ERS software on the desktop and to enable the communication between the PC and the PDA. The office setup was a complicated process that was covered quickly in the extensive SMOC~ERS training provided in the end of 2001. Agencies, however, noted the timely helpfulness of the OEE staff and ICC consultants. Many providers noted that they received a great deal of assistance from OEE, both through phone conversations and in visits to their offices. These OEE and ICC staff members showed extreme investment and dedication to the program in the way they approached and met these initial program challenges. OEE also showed the foresight to procure the full-time use of an in-office ICC consultant to work with the agencies and provide the much-needed support.

g)   SMOC~ERS is working well as a reporting and invoicing tool

In the short time that the program has been actively running, SMOC~ERS has successfully served its purpose as a reporting and invoicing tool for the program, and shows even greater promise for the future when planned enhancements are made. The following administrative requirements have, for the most part, been successfully met by the software:

- *Sending data on targeted clients to agencies:* The SMOC~ERS software has allowed OEE to successfully transfer data on fifty thousand customers, including usage histories, to the authorized providers.

- *Invoicing:* Agencies have, for the most part, been able to utilize the system, as planned, to provide OEE with the information necessary to be compensated for their services. While many agencies did face challenges in getting the system to work, a few months into the program the system appears to be functioning well. It should be noted that this is not without exception. As of mid-May, Cuyahoga County reported that they had not yet been able to run a monthly report from SMOC~ERS, and therefore had not yet received any payment for their audits done to date.

- *Quality control:* OEE is currently using the SMOC~ERS reports to ensure that all selected measures have an SIR ratio of greater than one. With additional knowledge and training, they will be able to perform more sophisticated quality control checks on the data that allow for the determination of how well the work is being performed.

- *Evaluation:* The SMOC~ERS data have already provided extensive data to the evaluation team. While these data are messy due to bug fixes and enhancements that need to be made, as well as due to incorrect use of the software, they have served many evaluation purposes. These include early feedback on program problems that otherwise would not have been found until much later in the evaluation.

h) *Bulk procurement process is not widely implemented*

OEE has not effectively taken advantage of the magnitude of the EPP to obtain materials at significantly reduced prices. Authorized providers are responsible for purchasing most of the required materials, including light bulbs. Given the volume of CFL's purchased across the program, the use of bulk purchasing through OEE may significantly reduce the price of these products. OEE did attempt to obtain bulk procurement of refrigerators. However, the refrigerator bid process was not very successful. There was only one statewide bid, and only for 2 refrigerators (and no freezers.) Therefore, many of the agencies have relied on their own local sources to procure refrigerators and freezers. OEE is in the process of a new statewide RFP to obtain more refrigerator/freezer vendors.

i) *Joint application process*

The joint HEAP/PIPP application process has not yet had an effect on the administration of the EPP. The joint application program data is not in a form that OEE staff can work with, so OEE has not had the ability to work with these data. Michael Blasnik, however, has been able to use these data to provide updated contact information on a sample of the targeted households.

6.   Recommendations

Recommendations for program administration include hiring additional staff in targeted areas, developing a policies and procedures manual, increasing the use of bulk procurement, and continuing to have technical support from ICC.

a)   Hire additional staff

The decision to utilize HWAP program staff to implement the EPP has noted benefits toward the long-run value of the two programs. This integration has been well served by the initial use of these staff members. However, now that the program design has been refined and program responsibilities are fairly well understood, the addition of staff members in a few crucial areas could improve the early program results and lead to earlier program refinement and maturation. Targeted hires in the following areas are recommended:

- *Quality control field staff*: OEE has already hired two additional field monitoring staff members. However, the monitoring requirements for the EPP at this juncture are immense. Monitors must spend substantial time on this program to develop a complete understanding of procedures and requirements. Additionally, they must learn to study audit data to determine whether the audits are being conducted properly and they must learn what to look for in the field in terms of education and measure selection. There are 18 authorized providers and 53 sub-agencies to monitor. By hiring more monitors to perform these tasks, implementation problems will be caught and corrected earlier.

- *Office staff with software and hardware skills*: Many fixes and enhancements have been identified and have been made to the SMOC~ERS software and the PDA application. Many more enhancements have been identified recently and are being implemented. The addition of technical staff would allow OEE to test these changes, evaluate how well the software is working, and determine what additional changes should be made in a timely manner. The addition of such staff would allow program managers to concentrate on moving the program forward.

b)   Develop a policies and procedures manual

A policies and procedures manual should be developed for the EPP. OEE should use the existing one-page documents about the various aspects of the program to form the basis for the document. The document could begin with these brief outlines and be updated as the time was available to document more aspects of the program and to include more details on procedures. This manual should be thought of as a fluid document and be created in an easily updateable format so that revisions to program design and increased documentation can easily be incorporated.

c) Increase the use of bulk procurement

The EPP is purchasing materials in vast quantities. In order to take advantage of the price discounts that come with such volume purchases, OEE should attempt to purchase as many materials as possible in bulk. State law prohibits OEE from procuring for the providers. However, OEE has obtained bids from refrigerator suppliers and allowed providers to either use these suppliers or obtain refrigerators at equal or lower prices. OEE may be able to obtain more favorable prices from refrigerator, CFL, and other vendors if they require providers to use these suppliers and guarantee the suppliers a minimum number of purchases.

d) Technical support should be continued

Technical support provided by ICC to OEE and the providers has been instrumental in the implementation of service delivery. Numerous providers have remarked on the timely support provided by the ICC consultant working out of the OEE office. Such support should be continued.

B. Targeting

The goal of the EPP is to provide cost-effective energy efficiency services and education. In order to provide services cost-effectively, the program must target services to those customers who are most likely to achieve significant energy savings.

1. Goals

The goal of EPP targeting is to provide services to those customers who are most likely to achieve cost-effective energy usage reductions.

2. Design/rationale

Program targeting was changed significantly from original program design due to higher than expected provider administrative costs for supplying program services. OEE had modeled the initially planned targeting based on the expected administrative costs. When the costs were significantly higher than originally anticipated, the models were re-examined and usage thresholds were set higher than originally planned. The following program targeting was implemented:

- Baseload program: Customers with annual baseload usage of 8,000 kWh or higher were targeted for baseload services.

- Weatherization program: Customers with annual heating or cooling usage of 8,000 kWh or higher were targeted for weatherization services in addition to the baseload services.

OEE is currently preparing a spreadsheet which will allow them to review all bids from authorized providers against targeting data to determine what level of usage will be cost-effective for each provider. The hope is that this process will provide additional customers to those agencies that bid lower administrative costs and that provide service in territories with higher electric prices.

3. Goals of the evaluation

The two main goals for the evaluation of targeting are to determine the extent to which targeting facilitates cost-effective service delivery, and to determine the extent to which OEE can effectively target potential cost-share delivery customers.

a) *Determine whether targeting will facilitate cost-effective delivery*

Given the requirement that the EPP provides cost-effective service delivery, targeting those clients with the greatest potential for savings is extremely important. The evaluation will study whether the current targeting procedures can facilitate this goal.

b) *Determine how well customers are targeted into cost-share delivery*

Cost-share delivery is less expensive because agencies can reduce time for scheduling and for traveling to the customer's home. However, cost-share delivery must be targeted to those clients that have the potential to receive other program services. The evaluation attempts to determine how well OEE can target customers to cost-share delivery.

4. Evaluation Activities

Three main evaluation activities provide information on program targeting: evaluation technical findings, interviews with OEE staff members, and interviews with provider staff members.

a) *Evaluation technical findings*

Savings from previous programs have helped to determine the level of savings that can be expected from EPP measures. Research on the EPP, as well as on previous baseload programs, allows for an analysis of targeting procedures.

b) *OEE interviews*

Interviews with OEE have provided information on current procedures and future plans for targeting clients into different program and service delivery types.

c) Provider interviews

Provider interviews have provided information on the procedures for targeting clients into cost-share delivery.

5. Evaluation Findings

The main findings from the evaluation of targeting are that providers have not received the number of targeted customers that they feel is needed, and that it has been difficult to effectively target customers into cost-share delivery.

a) Targeting of clients into baseload and weatherization services has resulted in fewer than expected leads for the providers

Agency bids were higher than originally anticipated, and therefore OEE decided to target customers with higher usage than originally anticipated. Therefore, the number of customers that have been sent to some of the agencies to serve has been lower than what was originally anticipated. Because of the problems that providers have faced in recruiting customers to participate in the program (as will be explained in the following section), providers have placed pressure on OEE program managers to create more flexible targeting guidelines. Given estimates for savings and initially seen program results, program managers are reluctant to significantly change the targeting criterion. The next step that will be taken is to analyze specific agency costs along with territory-specific electric rates, and to determine what loosening of targeting criterion may be appropriate.

b) Targeting of clients into cost-share services has been difficult

OEE does not have a significant base of information upon which to decide whether customers should be targeted into cost-share services. They have provided agencies with information on whether customers have been recently weatherized, with the implication that those customers who have not recently been weatherized may be good targets for cost-share delivery. However, OEE has acknowledged that this may not be a very effective approach. First, HWAP does not have much overlap with the EPP in terms of the scope of the services provided. For baseload EPP clients, the majority of the clients served to date, the Weatherization treatments do not overlap with the EPP treatments. This means that the economies of scale are limited to the appointment scheduling and the traveling to the visit. The WAP treatments require an independent audit and add time to an already long visit. Therefore, it will be challenging for agencies to jointly provide these two programs. Second, there are several utility programs that have much greater overlap with the EPP in terms of the scope of the services provided, and which may present more feasible opportunities for cost-sharing, but OEE does not have the data available to identify participants in these programs.

OEE has recognized the benefit that the cost-share delivery provides for the program, allowing for lower administrative costs and greater potential for cost-effective

delivery, and has acknowledged the difficulties that agencies are facing in trying to deliver cost-share services. They have noted that working on how to facilitate agencies to effectively provide cost-share delivery is one of the program priorities.

Cleveland Housing Network, one of the larger providers with many sub-contractors, has taken the approach that any customer who has not previously received all other services that may be useful, should be targeted as a cost-share customer. In order to do a stand-alone job, their auditors must prove that the clients have received services from four other programs. If there is a question as to whether the client should have been cost-share, the CHN program manager or one of the program monitors will be sent to the customer's home. Most of the cost-share conducted by CHN is with HWAP, but this depends on what the auditor finds in the home.

In the short-run CHN will not be able to serve many of these customers in the true cost-share paradigm, where one visit with only one contact and one trip is required. If the auditor who is providing EPP services is trained to provide the Housewarming and HWAP programs, and if the client needs these services, then the auditor will provide all of these services while in the home. If the auditor is not trained to provide the other services, then the auditor will refer the client and another auditor trained to provide those services will return at another time. Auditors have an incentive to provide all the programs that the client needs, because they are paid separately for each program. The long-term goal for CHN is that all cost-share jobs will receive all services in one visit.

CHN has made use of many available databases to determine whether customers may be served in the cost-share mode. CHN has every unit that was served by the Housewarming program since the early 90's on their web site, so they can check if the client has been served by the program. Some of the clients can be checked in the CHN database or the city database to see if they have been served by HWAP.

6. Recommendations

Recommendations for targeting include the continued use of conservative targeting by usage, and the continued exploration of ways to improve targeting of cost-share delivery.

a) *Continue to use conservative targeting standards until there is more information on the potential savings from the program*

Given current concerns about the expected savings that will be achieved in the early stages of program implementation, OEE has made a good decision in using conservative program targeting. As the program matures and more cost-effective opportunities for savings are identified in the homes, it may be possible to loosen the targeting requirements so that lower use households are served. Additionally, it may

be found that lower usage customers should be served with other planned mechanisms such as a workshop or an energy packet.

b)   *Continue to work on developing better methods for targeting cost-share customers*

OEE has had the foresight, unlike many other low-income program managers around the country, to recognize that there is the potential for significant synergies between various low-income energy programs. Because of this foresight, they have worked to meet all EPP management needs with current program staff. They have also worked to organize delivery methods that can benefit from synergies between the various programs. Successfully implementing the cost-share delivery mechanism will take more investment in working through barriers to such delivery. However, the integration of these programs has potentially significant benefits for program management, program budgets, and, for the clients. OEE should continue to make the possibility of cost-share delivery a priority for program improvement.

C. Recruitment/outreach

Recruitment of low-income customers for program participation is always a difficult prospect due to the transient nature of this population, general hesitation to have strangers enter one's home, and wariness of marketers presenting services as "free". This section addresses the challenges of recruiting customers for the EPP, and how OEE and providers have met these challenges.

1.   Goals

The goal of customer recruitment and outreach is to recruit PIPP households on OEE's list of targeted customers in order to serve the greatest possible percentage of these highest electric use households.

2.   Design/rationale

According to program design, the SMOC~ERS software will facilitate the recruitment of customers by providing agencies with the list of customers to be served, contact and demographic information, and usage information. Agencies can use these data to recruit households for the program, and obtain the background information necessary to serve the client. SMOC~ERS data includes usage data and contact data that OEE obtains from the utilities, and will eventually include contact and demographic data from the joint PIPP/HEAP application.

3. **Goals of the evaluation**

    a) *Determine the outreach/recruitment procedures that are used by OEE and how these procedures affect the providers*

        While agencies have the majority of the responsibilities in this area, program procedures call for OEE to supply providers with the data needed to contact the targeted customers. One goal of the evaluation is to determine how this transfer of information is facilitating the recruitment process.

    b) *Determine the outreach/recruitment procedures used by providers*

        Providers have many different options for marketing the EPP to the targeted customers. These include phone calls by the program administrative staff, phone calls by the service delivery staff, informational mailings that precede a follow-up phone-call, and mailings including an 800 number for the customer to call if he/she is interested in receiving program services.

    c) *Determine the barriers that providers face when recruiting customers*

        As noted above, the recruitment process for low-income programs is challenging. The evaluation documents the particular challenges faced by providers working to recruit customers for the EPP.

4. **Evaluation activities**

    Several evaluation activities provided information on the implementation of recruitment and outreach, and on the challenges that were faced. These activities included interviews with OEE staff members and review of relevant documents, provider surveys, the provider issue exploration and forum, provider interviews, and customer interviews.

    a) *OEE interviews and document review*

        Interviews with OEE staff members and review of documents supplied information on the design of the EPP recruiting procedures and how the procedures were implemented.

    b) *Provider surveys*

        The first provider survey obtained information on barriers that providers had faced when implementing the EPP. Several of these barriers were related to program recruitment. The second provider survey obtained information on the types of outreach used and the levels of response received from these outreach methods. Providers also furnished information on some of the barriers that were faced in the recruitment process.

c) *Provider forums*

Recruitment and outreach was one of the main topics discussed at the provider issue exploration session held at the Affordable Comfort conference. Providers were most concerned about program issues relating to the recruitment of program participants. This forum provided information on the problems that the providers were having when trying to serve households under the EPP, and the solutions that certain agencies had worked out.

d) *Provider interviews*

Interviews with program providers discussed the methods that the providers utilized to reach targeted customers, and the problems that the providers had experienced with the list of targeted customers.

e) *Customer interviews*

During interviews with the customers, we discussed the experiences they had while being recruited for the program, including how the customer originally heard about the program and how the customer signed up for the program. The interviews also addressed the information that was provided to the customer prior to the time of the first in-home visit.

5. Evaluation findings

Evaluation findings on outreach and recruitment are related to problems with customer data, increasing the number of customers who can be served, OEE communication, and provider survey and customer interview findings. Findings related to data are that the telephone numbers sent to the providers are old and are usually incorrect, and that the usage data is out of date. Findings relating to increasing the number of customers who can be served are that OEE is working to address limits that SMOC~ERS requirements have placed on the number of customers targeted by the program. OEE is also working on a procedure for giving providers permission to serve customers who are not on the targeted list. In terms of communication, providers have requested that OEE market the program with an initial letter, and that OEE provide information about the program to utility companies. The provider survey furnished information on methods of outreach used by providers and on participation rates, and the customer survey furnished information on the customers' perception of outreach and recruitment.

a) *Customer contact data are not accurate*

One of the overwhelming barriers to recruiting clients to participate in the EPP has been the quality of the contact data that was supplied by OEE to the providers. The source of the contact information that was furnished to the providers was utility data, which may have been collected at the time that the customer first signed up for an account many years ago. Given the transience of this population, many of the customers had moved or had changed phone numbers.

Many providers lamented that they could only reach about ten percent of the customers by phone. Additionally, providers noted that many households had unlisted phone numbers or only had cell phones, so that they could not obtain a new phone number. Providers have complained that they cannot obtain a response to mailings either, so they have no way of reaching these customers.

One solution that Michael Blasnik worked with OEE to develop was to search the data from the joint application and match to the targeted customer lists. As customers are required to fill out these applications each year, these applications should have updated telephone numbers. However, only a limited number of these customers could be matched, and of those that could be matched, only a limited number were found to have a different phone number on the joint application. This database search resulted in updated phone numbers for about 2,000 of the original 30,000 targeted customers.

Some of the agencies also protested that the lists of customers that were provided to them did not contain a sufficient number of households, as such a low percentage of these customers could be reached. Providers do not seem to understand why customers with usage over 8,000 kWh are being targeted by the program and repeatedly request the entire list of PIPP customers, referring to the withholding of data as a "bureaucracy" that should be eliminated.

In addition to the approximately 30,000 targeted customers that were sent to the providers in December 2001, OEE sent a second list of 19,000 customers who also met the 8,000 kWh annual baseload usage criteria in May 2002.

b) *Usage data are out of date*

Another problem with the data obtained from the utilities was that the usage information was close to two years old. As providers are attempting to match historical usage to the usage recorded in the home, such aged data can be problematic. In order to address this problem, some of the providers are asking customers for a recent bill (that contains monthly data for a full year) and entering the more recent data into the PDA. Others are requesting information on recent changes in household composition or energy usage.

More recent usage data through December 2001 has been obtained and was supplied to the providers with the second round of targeted customers. Updated usage data will be furnished to the providers for the first list of targeted customers once a method can be developed for overwriting the old usage data without losing completed units.

c) ***Program specifications have limited the number of customers targeted by the program***

OEE program managers requested that the SMOC~ERS software require monthly data in order to serve educational purposes. As a result, if a month of data is not available, that month is counted as having zero usage, and the seasonal usage estimates are thrown off. Therefore, the software configuration has eliminated the potential for serving many customers who have moved into their homes in the past year and who do not have a full year of usage data.

Michael Blasnik uses another procedure to disaggregate baseload, heating, and cooling usage that does not require 12 months of data. OEE is planning to work with Michael Blasnik and SMOC to allow the software to input disaggregated data, and therefore adequately deal with usage histories with fewer than twelve months of data. This change would add a significant number of additional customers to the targeted lists.

d) ***OEE is developing procedures to allow providers to serve customers who are not on the targeted list***

Providers have also been requesting a means to serve customers who are not on the targeted list but who have requested services because they heard about the program through friends and relatives. At the beginning of service delivery implementation, OEE required that the providers concentrate on serving the large list of high use customers that had already been provided. They asked that the providers create a list of customers who requested service, and indicated that a means to add customers to the program recruitment list would be developed.

OEE has recently established a customer referral process. Under this process, the agencies will be asked to send a request form to OEE and include the customer's usage history. OEE hopes to be able to provide an answer on whether these customers can be served within 30 days. If approved, OEE will load the customer into SMOC~ERS and transfer data to the provider. OEE plans to implement these procedures in July.

e) ***OEE marketing is requested by providers***

Providers have requested that OEE send a letter to all targeted customers. Education consultants have recommended that such a letter be sent, including a description of the program as a partnership. This letter would serve to "break the ice" with the customer, provide information on the purpose of the program, and to notify the customer that the program is legitimate. OEE has worked with the education consultants to design a letter, and this letter is currently being reviewed by the Governor's office. This letter, signed by the Governor or by the ODOD director, will be sent to all targeted customers, will explain the EPP, and request their participation.

f)   ***OEE plans to initiate needed communication with utilities***

Providers have complained that wary customers have called their utilities to find out if the EPP is a legitimate program, only to be told that the utility has not heard anything about such a program.   OEE has made it a priority to improve communication about the EPP so that such a situation can be avoided. They have planned to notify the utilities, OCC, and the PUCO about the EPP.

g)   ***Methods of outreach used by providers***

The second provider survey requested specific information from the providers regarding the outreach methods that were used and the number of customers who were contacted and served as a result of this outreach method. The only provider who did not respond to the survey was Youngstown.

Table V-1 displays the initial outreach methods used by the authorized providers, the number of customers targeted by the outreach method, the number able to be contacted by the method, the number responding to the outreach method, and the number served as a result of the outreach. This table shows that fifteen of the seventeen responding providers had at least begun one method of outreach for the EPP as of mid-May 2002. Of these providers, eight attempted to contact the clients via telephone, four by mail, two through a combination of phone and mail, and one through networking. Several of the initial phone campaigns were fairly successful. Ashtabula served 121 of the 420 customers that they targeted, CHN served 102 of the 600 customers they targeted, and CMACO served 146 of the 1011 customers they targeted. A total of 441 customers were served by the first outreach method.[7]

Table V-1
Providers' Initial Outreach Methods and Results

| Provider | Initial Outreach | | | | |
	Method	Number Targeted	Number Contacted	Number Responding	Number Served
Ashtabula County Community Action Agency	Phone	420	47		121
Cincinnati-Hamilton County Community Action Agency[8]	Not yet started				
Cleveland Housing Network	Phone	600	120	102	102

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[7] Honeywell reported only 3 customers being served through the first outreach method, and reported no other outreach methods. When summing their total number of customers served in the next section, we use the number they served from the SMOC~ERS data.

[8] Planning to begin recruitment the week of 5/12/02

| Provider | Initial Outreach | | | | |
	Method	Number Targeted	Number Contacted	Number Responding	Number Served
Columbus Metropolitan Area Community Action Organization	Phone	1011	231	231	146
Community Action Council of Portage County	Phone	10	10	10	1
Community Action - Wayne/Medina	Phone	29	6	4	4
Corporation for Ohio Appalachian Development (COAD)	Phone	824	155	72	19
Cuyahoga County Department of Development	Mail	450	400	40	20
East Akron Neighborhood Development Corporation	Networking	Akron	?	12	0
HHWP Community Action Commission	Mail	25	Not yet available		
Honeywell DMC	Mail/phone	1027	3	3	3
Mid-Ohio Regional Planning Commission (MORPC)	Phone	30	20	11	11
Neighborhood Housing Service of Toledo	Phone	Not yet available			
Ohio Heartland Community Action Commission	Phone/mail	100	20	20	7
SOURCES Community Network Services	Mail	41	34	1	0
Supporting Council for Preventive Effort (SCOPE)	Not yet started				
WSOS Community Action Commission	Mail	45	10	10	7
SUM		4612	1056	516	441
MEAN		271	62	30	25

Table V-2 displays the second method of outreach used by the providers as well as their results. Seven providers attempted to contact targeted customers through a second method of outreach. Some of these providers were reaching out to the same group of households targeted by the first method, and some were reaching out to a

different group of households. Three of the providers used the phone, one used a mailing, and three used a combination of phone and mail. A total of 79 customers were served through the second outreach method.

Table V-2
Agencies' Second Outreach Methods and Results

Agency	Second Outreach				
	Method	Number Targeted	Number Contacted	Number Responding	Number Served
Cleveland Housing Network	Mailing/ follow-up call	1000	Not yet available		
Columbus Metropolitan Area Community Action Organization	Mail	1000	123	123	53
Cuyahoga County Department of Development	Phone	380	100	45	0
East Akron Neighborhood Development Corporation	Phone	75	21	14	14
Ohio Heartland Community Action Commission	Mail/phone	100	15	5	5
SOURCES Community Network Services	Phone	12	6	6	2
WSOS Community Action Commission	Phone/mail	70	10	5	5
SUM		2637	275	198	79
MEAN		155	16	11	4

Table V-3 shows that three agencies utilized a third method of outreach. The outreach methods used were walk-ins and add-ons, mail, and the HEAP list. A total of 47 customers were served through the third outreach method.

Table V-3
Agencies' Third Outreach Methods and Results

Agency	Third Outreach				
	Method	Number Targeted	Number Contacted	Number Responding	Number Served
Columbus Metropolitan Area Community Action Organization	Walk-ins and add-ons	133	47	47	25
East Akron	Mail	1134	1007	39	20

Agency	Third Outreach				
	Method	Number Targeted	Number Contacted	Number Responding	Number Served
Neighborhood Development Corporation					
WSOS Community Action Commission	HEAP list	12	3	2	2
SUM		1279	1057	88	47
MEAN		75	62	5	2

h) *Participation rates*

Table V-4 displays the number of clients that the provider received on the list from OEE, the total number of clients served to date in the EPP, and the percent of clients on the list whom have been served. This table shows that most providers have served fewer than ten percent of the targeted clients. Ashtubula has served eighteen percent of the customers on their list, and Honeywell has served fourteen percent of the customers received on their list. Of the thirteen providers who have begun service delivery, the mean participation rate is six percent. Some of these providers have only recently begun recruiting and delivery efforts, and may be able to reach much higher levels of participation, but others have warned that they are near the point of exhausting their lists. Given that the highest service rate is only eighteen percent, providers will need to work harder to reach the clients on their current lists.

Table V-4
Participation Rates

Provider	Number of Clients		Percent on List Served
	On List from OEE	Served	
Ashtabula County Community Action Agency	673	121	18%
Cincinnati-Hamilton County Community Action Agency	880	0	0%
Cleveland Housing Network	2200	102	5%
Columbus Metropolitan Area Community Action Organization	2594	224	9%
Community Action Council of Portage County	358	1	0%
Community Action - Wayne/Medina	220	4	2%
Corporation for Ohio Appalachian Development (COAD)	10,000	19	0%
Cuyahoga County Department of Development	465	20	4%
East Akron Neighborhood Development Corporation	1134	34	3%
HHWP Community Action Commission	925	0	0%

Provider	Number of Clients		Percent on List Served
	On List from OEE	Served	
Honeywell DMC	1500	212[9]	14%
Mid-Ohio Regional Planning Commission (MORPC)	700	11	2%
Neighborhood Housing Service of Toledo	1439	0	0%
Ohio Heartland Community Action Commission	256	12	5%
SOURCES Community Network Services	41	2	5%
Supporting Council for Preventive Effort (SCOPE)	0	0	0%
WSOS Community Action Commission	196	14	7%
Mean	1387	78	6%[10]

i)   *Clients perception of recruitment and scheduling*

Overall, customers report that they are very satisfied with the recruitment and enrollment process. Customers described the process as "easy", "good", and "excellent".

However, it appears that providers are not providing much information to customers about the program at the time of enrollment. Over half of the clients interviewed stated that there was no information provided at the time of enrollment that they could remember. A few clients noted that they were told appliances would be monitored or that the program would help them save money on their bills. No clients mentioned a discussion of the partnership nature of the program. Table V-5 displays the responses to the question about what information was provided at the time of enrollment in the program.

Table V-5
Information Provided at Enrollment

Information Provided at EPP Enrollment	Number of Responses
None	13
Appliances would be monitored during the visit	3
Program will help customer to save money on bills	3
Client could receive a new refrigerator	1

6.   Recommendations

Recommendations for outreach and recruitment include that OEE should work with providers to improve participation rates, providers should try to use other sources of

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[9] HDMC reported serving only 3 clients in the May provider survey. However, analysis of SMOC~ERS data for jobs submitted by the end of April show a total of 212 jobs.
[10] This number is the mean for those thirteen providers who have begun service delivery.

contact information, and providers should furnish customers with more program information at the time of enrollment.

a) *OEE should work with providers to improve participation rates*

In order to meet the cost-effectiveness criteria of the program, OEE must target the highest use customers for service delivery. OEE has furnished the providers with most or all of the customers meeting the high use thresholds. Providers have had a difficult time reaching many of these customers and have only served about six percent of the customers on these lists to date. At the same time, providers are requesting additional customer leads from OEE. Given the level of funding for the program, approximately 10,000 customers will be served in order to utilize EPP funding. Therefore, agencies will have to be more successful in recruiting the targeted customers, or risk running out of the highest use and potentially most cost-effective customers to serve early in the program. OEE must therefore work with the agencies to improve participation rates and withhold the delivery of additional customer lists until participation rates are higher. By sending out a letter from the Governor as currently planned, OEE may boost the recognition of the program and increase service delivery rates.

b) *Providers should look for other sources of contact information*

The original contact information obtained from the utilities does not contain good phone numbers for the large majority of customers. Michael Blasnik has supplied some more recently obtained phone numbers from the joint PIPP application to one of the providers. Matching between the two databases to obtain phone numbers is a timely and difficult process, but Michael will continue to work to provide more updated phone numbers to the providers. Additionally, the feasibility of obtaining phone numbers from other sources, such as those used by market research companies, should be explored.

c) *Providers should furnish customers with more information at enrollment*

Clients are reporting that they are not receiving much, if any, information about the program at the time of enrollment. OEE and its education consultants should work with the providers to develop marketing scripts that can be used to develop the customer's self-interest in participating in the program, as well as to fully explain the program and the benefits provided. Such a process may increase the percentage of customers that want to participate in the program, increase understanding of the program, and increase the possibility that customers will become active partners in the program and take steps to change their behavior in ways that will reduce energy usage.

D. Technology

OEE decided to utilize a new technology in the implementation of the EPP. This technology consists of an audit software tool, a Personal Digital Assistant (PDA) that allows the

provider to collect data in the field, and transfer software that allows the provider to upload data to the desktop. The SMOC~ERS audit software tool was developed by SMOC, an agency in Massachusetts, and used in their program. However, the software was implemented on a laptop. In the EPP, OEE decided to implement the program on a PDA. The transfer of the software to the PDA and the use of the PDA has created many challenges for the program.

1. Goals

There are many goals for the technology. These goals include:

- The technology enables OEE to send client demographic and usage data for the targeted clients to the providers in a format that is easily accessible and utilized.

- The technology allows providers to collect all of the information they need in the home and enter the data directly into the database.

- The technology allows providers to determine the sources of electric usage in the home and to match the usage with historical usage data to ensure that usage is accurately accounted for.

- The technology allows providers to calculate which measures are cost-effective (those with a savings to investment ratio (SIR) of greater than one) and how much the measures should save the customer.

- The technology allows providers to suggest actions that will reduce the customer's energy usage and to provide information on how much the actions should save the customer.

- The technology allows providers to invoice different funding sources, which allows all measures to be identified on cost-share jobs.

- The technology allows providers to send all data to OEE so that OEE can pay providers for services delivered, perform quality control, and send data to the evaluators for analysis purposes.

By fulfilling all of these functions, the ultimate goal is that the technology allows for efficient and effective service delivery with accurate analysis of cost-effectiveness and reduced need for administrative support services.

2. Design/rationale

OEE was under a tight deadline to implement the EPP once they were given the go ahead to work on program development. Software packages were researched and the advantages and disadvantages of these products were analyzed. Of those packages that

were analyzed, SMOC~ERS was the only one that allowed for the billing of multiple funders. Because OEE had a long-run vision that the technology would be used to manage data for cost-share jobs that involved two or more programs and funding sources, this was an important trait, and one of the ultimate reasons that SMOC~ERS was chosen to be used for the program.

SMOC~ERS had previously been used by SMOC for a baseload program that they implemented. However, SMOC used the software on laptops in the field. OEE made the decision to implement the software on PDA's due to the fact that they are easier to use and carry around in the field than laptops, and that they are more durable.

3. Goals of the evaluation

There are three main goals of the evaluation. These goals are to understand the technology and how it is supposed to work in the EPP, to determine the barriers that were faced in implementing the technology, and to determine whether the technology is able to meet the many goals and expectations that have been set for it.

a) *What is the technology and how is it supposed to work*

As stated above, there are many goals for the technology and many roles that the technology serves in the EPP. One of the goals of the evaluation was to determine exactly what the functions of the technology are in the program, and what the expectations are for how the technology will meet the requirements of the program.

b) *What were the barriers to implementation of the technology*

When implementing a new technology with as many functions and parts as the one used in the EPP, there are bound to be barriers that must be overcome in order to successfully implement the program. Another goal of the evaluation was to determine the barriers that were faced when beginning the program implementation, and whether and how these barriers were overcome.

c) *Does the technology meet all of the goals*

The evaluation will also determine whether, at five to six months into the implementation of the program, the technology is meeting the many goals that have been set. To the extent that the technology is meeting the goals, we will determine whether there are any improvements that could be made. In the areas where the technology is not meeting the goals, we will determine what changes need to be made in terms of programming the software, training auditors, or other assistance that could help to attain these goals.

4. Evaluation activities

Several activities were undertaken in order to meet the evaluation goals. These activities included a review of program documents, a review of the SMOC~ERS

software, attendance at the SMOC~ERS training, interviews with OEE and provider staff, a survey of the providers, on-site observation, review of SMOC~ERS data, and a customer survey.

a) *Document review*

Several documents were reviewed in order to understand how the technology is supposed to work and to support the functions of the program. These documents included a SMOC~ERS description, SMOC~ERS manuals, and documents that described program procedures.

b) *SMOC~ERS review*

In order to understand how the software works, it was important to use the software. Evaluators were provided with desktop copies of the software. Additionally, APPRISE staff were given the opportunity to use the software on the PDA while attending the SMOC~ERS training. This experience allowed for an understanding of the benefits and challenges of the technology used in the program.

c) *SMOC~ERS training*

APPRISE staff attended two SMOC~ERS training sessions. While attending these sessions, evaluators were able to understand what instruction the providers received on utilizing the technology, and to obtain a better understanding of how the technology is supposed to work. One day of the training was in-field, and evaluators were given the opportunity to experience entering data into the PDA while in a "customer's" home.

d) *OEE interviews*

Interviews with OEE staff members and managers shed light on the expectations for the program, problems that had been experienced with the technology, and planned solutions to those problems.

e) *Provider interviews*

Interviews with providers supplied information on how well the technology was meeting the providers' needs, both in the office and in the field. These interviews also provided information on the barriers that the providers faced when attempting to set the system up in their office, transfer data from the desktop to the PC, and transfer data to OEE. Providers supplied information on how they overcame these barriers and the assistance that was needed and received from OEE and its contractors.

f) *Provider survey*

A telephone provider survey addressed the barriers that the providers were facing that prevented them from beginning implementation of the program, and the barriers that were still being faced after the program was implemented.

g) *On-site observation*

On-site observation of service delivery allowed for an evaluation of how the technology was being used in the field, what problems were faced when using the equipment in the field, and whether auditors were using the technology in a way that complied with program procedures.

h) *Review of SMOC~ERS data*

Michael Blasnik has been conducting a review of the SMOC~ERS data. This review allows for an understanding of whether the auditors are utilizing all of the functions of the software in accordance with program procedures. It also allows for the determination of whether the auditors are accurately matching usage in the home to historical usage data, whether the auditors are finding ways to reduce usage in these high-use homes, and whether the data will adequately serve the evaluation needs.

i) *Customer interviews*

The customer interviews provided information on the customer's perception of the auditor's use of the technology. Interviews with the customers also provided information on how well the technology facilitated customer education.

5. Evaluation findings

Reviewing the goals that are listed for the technology at the beginning of this section reveals the high expectations that are held for the way that the technology will serve the program. While many challenges have been faced during program implementation, and many of the goals have not been attained, it is important to recognize that the technology is successfully serving many of its expected functions. These include sending lists of customers to the agencies, allowing for data entry in the customer's home, and transferring data to OEE. Below we discuss initial barriers related to the technology, and how well the technology is meeting each of the goals.

a) *Initial barriers*

At the time that the decision was made to use a PDA instead of a laptop to implement the program in the field, OEE staff did not realize the extent to which the software would need to be reprogrammed for the different operating system. The amount of programming needed meant that the PDA version of the software was being developed right up until the SMOC~ERS training, and there was no time to test the software. As a result, many bugs in the software were not discovered

until the time of the SMOC~ERS training. This caused difficulty and confusion in the training session. Additional bugs were identified when auditors began to implement the program in the field.

Another major barrier that was faced was a delay in the receipt of the PDA's. This equipment is not as readily available as are laptops, and the desired number of PDA's was not available at the time of the SMOC~ERS training. This resulted in several auditors sharing a PDA during the training sessions, and a reduction in the effectiveness of the training, as each auditor was limited in the amount of time that he or she had to practice on the PDA. Additionally, OEE staff did not have PDA's in the office. Therefore, it was often very difficult for OEE staff to assist the providers when they called with a PDA problem they were experiencing. The additional PDA's were not received until late in April.

b) *Setting up the software in the providers' offices required assistance from OEE*

The providers were required to follow a complicated set of instructions in order to get the system up and running. They were required to install SMOC~ERS on their desktops, enter information about their specific prices for the measures, install the software that allowed them to synchronize data between the PC and the PDA, and establish relationships between the PCs and the PDA's. Many of the providers had problems with one or more of these steps, and were therefore delayed in the implementation of the program. Most of the providers called OEE who provided assistance over the telephone, and in many cases, visited the provider to assist with installation or to work out bugs that had been encountered. There were many problems with the software that allowed communication between the PDA and the PC, and providers were instructed to download a new version of the software from the internet.

c) *Software bug fixes and enhancements are needed*

Many bugs and needed enhancements have been identified in the SMOC~ERS software during the first few months in the field. SMOC and ICC have been working to address these issues and have provided OEE with a new version of the software that addresses most of the important early identified problems. OEE was planning to have this modification out to the agencies after testing by the end of the June or the beginning of July. Then another update, which included more enhancements that were requested, was expected for the end of the summer.

At the recent provider forum, a number of additional, very important, enhancements were identified by the providers. Some of these were determined to have very high priority, and SMOC and ICC are going to work to address many of these in time for the early release. However, given the number of additional changes, and the need to thoroughly test the software after these changes have been made, getting the updated version of the software to the providers may be further delayed. OEE is planning on asking a few of the agencies to test the new version of the software before it is distributed to all providers.

SMOC~ERS and ICC have been very responsive and accommodating to OEE needs in terms of making changes to the software in order to best serve the program. They are making plans to work with the providers to determine which of the newly recommended enhancements are most necessary and will positively benefit the program.

d)   *SMOC~ERS is furnishing providers with data for targeted customers*

The current formulation of SMOC~ERS has signification requirements for the data that restrict the number of customers who can be served. Due to a decision by OEE, the software requires all customers to have 12 months of usage data. If a customer is missing a month of data, that month is counted as having zero usage, and the usage estimates are thrown off. Michael Blasnik is planning to work with SMOC~ERS and OEE to develop a plan whereby customers with fewer months of usage data could be served.

Despite these impediments, the SMOC~ERS software is working well as a tool to send the providers a list of the targeted customers, along with contact and usage information. The data that providers receive from OEE is in the form required by SMOC~ERS and can be loaded right into the database. These customers can then be transferred to the PDA.

e)   *SMOC~ERS is facilitating data entry in the customer's home*

The technology is functioning fairly well in terms of allowing the providers to enter the data into the PDA while in the customer's home. Some of the providers originally used paper forms to collect the data, and then took a few minutes to transfer the data to the PDA while in the customer's home. Paper was used because the providers were not comfortable with the software at first, and because there was a fear that data would be lost. Paper was also used because it was sometimes difficult to figure out the total number of each type of bulb that was needed, and where the bulbs were to go in the customer's home. Enhancements have been made to the software that allow providers to view both the measure and the appliance that the measure is associated with. For example, providers will be able to determine which room each light is associated with when looking at the measure list.

One barrier that has been faced has been the slow speed of the PDA when entering data in the customer's home. The several second delay after entering data items was noted when observing in the field, and was commented on by several of the providers. Because of the configuration of the database in the PDA, the PDA works very slowly when any significant amount of data is stored on the PDA. ICC has identified modifications to the system configuration that should allow for increased data entry and processing speed.

f)   Providers have focused on matching usage in the home with historical usage

One of the functions of the software is to account for all usage in the customer's home and match that usage with the historical usage in the PDA in order to ensure that all usage is properly accounted for and that the components of high usage are properly identified. The goal of this exercise is to target potential actions and custom measures that can have a large impact on energy usage.

The purpose of matching the customer's usage patterns with the historical usage data was explained at the SMOC~ERS training sessions. The importance of examining seasonal usage and investigation for additional uses when the match was not close was described. The trainer was reluctant to provide a numerical target for how close the usage measured in the home should be to the historical usage. However, after several requests for guidance, the trainer said that, in general, the usage should be within ten percent of a match.

Observation in the field and discussions with providers has revealed that the ten percent number was taken as a rule rather than as a guide. One manager noted that this ten percent differential was used as a quality control check, and that usage must be within that range or there would be a quality control visit and the work would be redone. Providers in the field work to match up the usage within that guideline, playing with the numbers until they are able to get the match. It has also been noted that there is not a focus on the seasonal nature of the usage, and of matching up the seasonal totals. This has often resulted in inaccurate accounting of customer usage.

One problem that has been observed with the technology is that it results in many providers expecting that they don't need to investigate and think about why the customer is a large electric user. The PDA takes away the provider's incentive to really understand the usage in the home and to develop the skill of putting costs on energy use behaviors. Providers must be trained that the technology is only a tool, like a calculator, that assists them in adding up the usage in the home. Providers must still act as a detective, searching for the waste and the opportunities for saving in the home.

g)   Cost-effectiveness of measures and energy savings have not been calculated accurately

Software issues have also affected the cost-effectiveness estimates of the measures. The SMOC~ERS software was developed for a Massachusetts program. In Massachusetts the SIR calculation included a 75 percent environmental adder to include the effect of reduced energy usage on the environment. This should not be part of the calculation in the Ohio EPP. This adder will be removed in the next version of the software received by the providers. Additionally, the software has used a two percent discount rate, lower than the generally accepted two and a half percent discount when adding in the value of future benefits.

These two factors have a large effect on the calculated SIR, and therefore on the decision of whether or not to install a measure. Table V-6 shows the SIR calculated in SMOC~ERS and the SIR that is calculated when the 75 percent environmental adder is removed and when the discount rate is changed from two percent to two and a half percent. Overall, the SIR is reduced from 3.18 to 1.31, only 41 percent of the original estimate.

Table V-6
SIR for Installed Measures

Provider	SMOC~ERS SIR	Revised SIR[11]
ACCAA	1.73	0.73
CHN	3.27	1.15
CMACAO	3.21	1.41
EANDC	2.87	1.10
HWDMC	3.65	1.58
MORPC	2.77	1.27
OHCAC	2.53	1.06
SOURCES	1.49	0.68
WSOS	3.48	1.43
Mean	3.18	1.31

h) *Customer action plans are often not developed*

The software is supposed to facilitate action plans for the customer because it can calculate changes in energy usage and reductions in costs based on the customer's usage for each appliance. In order for savings estimates to be accurate, providers must understand how to change defaults in order to come up with the correct estimates for savings. The way that the SMOC~ERS software was designed was to allow for the most flexibility, so that providers can change all parameters related to usage. However, auditors have not understood how to make these changes in a way that yields sensible savings estimates. Therefore, many have not used the action plan reports that are created by the SMOC~ERS software.

The next version of the SMOC~ERS software that is released will use a different methodology for entering data to obtain savings estimates, with the expectation that this procedure will be easier for the providers to use. Several possibilities have been discussed including only allowing the provider to change one parameter to come up with the savings estimate, putting in a five percent savings default for most of the actions, or having a standard action table that comes up with generalized estimates of savings that customers can then choose from.

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[11] Removes the 75 percent environmental added and changes the discount rate from two percent to five percent.

i)   *SMOC~ERS reports are facilitating customer education at the end of the home visit*

The SMOC~ERS software is designed with features that are intended to enhance the customer education process. Reports printed at the end of the visit to facilitate the education process include:

- *Appliance Usage Analysis:* This report provides a bar graph of the customer's top ten appliance electricity users, and the annual cost of these appliances. The report also shows the customer's per day kWh usage and the monthly cost for the average month, for spring and fall, for summer, and for winter.

- *Electricity Usage Estimates by Appliance:* This report shows the annual electric use, the annual electric cost, and the percent of total usage for each appliance in the order of descending usage.

- *Appliance Usage Energy Saving:* This report displays, for both actions (if actions are selected) and installed measures, the estimate of the annual electricity savings in kWh and in dollars, the new hours of usage, and the SIR.

These reports are effective education tools if the auditor has done a good job of estimating end use consumption and discusses the reports in detail with the customer. Initial observations show that providers are using the appliance Usage Analysis Reports and the Appliance Usage Energy Saving Reports to effectively educate the customer, but that they are not including actions in the energy saving reports.

As part of the hardware package, providers were presented with a printer that receives data from the PDA via an infrared signal. Providers are experiencing some difficulties when attempting to print these reports, including slow printing speed and crashing of the PDA. A solution to these problems was explained to the providers at the SMOC~ERS training and will be disseminated again to make sure that it is understood by all of the providers.

j)   *SMOC~ERS function that allows for invoicing different funding sources is not being used at the current time*

One of the reasons that SMOC~ERS was the audit tool chosen for the EPP was that it can bill multiple funders for different aspects of a job site. The capability to use the PDA for other programs that may be cost-sharing with the EPP is not currently existing in the SMOC~ERS software, but is an enhancement that could be added once the current program is worked out and if other program managers agree to utilize this technology.

CHN is planning to do many cost-share jobs and is very interested in the possibility of using the SMOC~ERS software for other programs and eliminating the paperwork required for these programs.

k)   *SMOC~ERS is facilitating transfer of data to OEE*

Providers are currently sending monthly reports with data on customers served and invoicing data to OEE via disk or email. This system appears to be working well, with the exception of a couple of agencies who have not been able to run the required reports. OEE is receiving the data needed to pay the providers, to determine if installed measures have an SIR of one or greater, and to furnish the evaluators with the data that they require.

There have been a few problems with the system. One barrier that has been encountered is the State requirement for an actual paper signature on each invoice. While not a big deal for the providers, it is another step required, and another step away from a paperless system.

Another problem that has been experienced is occasional inconsistencies between SIR's that are calculated on the PDA, those then seen on the provider's desktop, and those then seen by OEE when they pull up the data. Currently the cause of these discrepancies is not known, but the problem is being investigated by ICC. For the short term OEE has been accepting the measures if the provider sends a printout from the PDA that shows the SIR greater than 1.

Evaluators have been making use of the data contained in SMOC~ERS for many aspects of the evaluation. The data has allowed the evaluators to sample customers to be interviewed; to study production statistics by agency, type of job, and type of service; to examine installed measures and selected actions; and to analyze cost-effectiveness of the measures.

l)   *Data quality and integrity needs improvement*

Initial study of the data has revealed problems with SMOC~ERS data quality and integrity. These problems include that some of the important data is not stored, and inaccuracies between data appearing in different tables.

One problem with the SMOC~ERS system is that data entered for refrigerator metering inputs and all of the domestic hot water detail inputs (laundry, shower, sink use, and tank temperatures) is not stored in the database. Therefore, the evaluators cannot examine the factors related to the usage estimate such as the amount of time the refrigerator was metered, whether the air temperature default was changed properly, and other factors that would allow more detailed analysis of the usage estimates.

The SMOC~ERS data have also been found to have values that do not make sense. Hours of use for some appliances exceed 24 hours per day due to seasonality factors.

Demographic data will eventually be retrieved from the joint PIPP/HEAP application and sent to the agencies along with contact and usage information. However, this process has not yet been worked out, so providers are required to obtain this information during the visit and enter it into the PDA. Examination of the SMOC~ERS data shows that in many instances the providers are not supplying these data.

6.   Recommendations

Recommendations for technology improvements including making enhancements to the software, providing additional training on how to use the software, conducting quality control checks on the data, and developing a policies and procedures manual.

a)   *Make enhancements to the software*

Many enhancements are planned for the software for the next month and for the end of the summer. These enhancements should be made and the new version of the software should be field tested prior to distribution of the new version to all of the providers.

Additionally, it must be recognized that the process of moving the software to the point where it is most effective for the providers will be an iterative process. Many rounds of version updates will be necessary over the first few years of the program. A process to provide these updates to all of the PDA's with the least disruption to service delivery should be worked out.

b)   *Provide additional training on how to use the software*

Initial observations in the field and examination of SMOC~ERS data reveal that auditors will need additional training in order to more effectively implement the program in the field. Additional training needs to focus on identification of usage in the customer's home, matching up the customer's usage patterns, and using the action savings estimates. Providers need to understand that the PDA is just a tool to help with estimates and calculations, and that in order to effectively deliver services, they need to think critically about the customer's energy usage.

c)   *Focus for quality control*

Review of SMOC~ERS data also shows that one aspect of quality control should focus on data checks. Areas of focus for the data review should include the seasonal data match-up, whether usage estimates make sense, and whether actions are selected for each customer. Such quality control should begin as soon as possible.

d) *Develop a policies and procedures manual*

As discussed previously, OEE should work to develop a policies and procedures manual. This manual could serve as a guide for using the SMOC~ERS software and remind auditors of several areas of focus and of their responsibilities while conducting the audit.

E. Service Delivery

Service delivery consists of providing the customer with baseload and/or weatherization services either alone or in combination with other programs, and in providing the customer with comprehensive education so that the customer understands the program and recognizes his or her self-interest in reducing energy usage.

1. Goals

The goal for service delivery is to use the available budget to take advantage of cost-effective opportunities that will yield energy saving and bill reduction benefits for program participants and other ratepayers. In order to serve clients cost-effectively, providers must accurately identify enough cost-effective measures and motivate customers to take enough energy-saving actions to cover the provider's administrative and audit fee. While specific goals for units served have not been set, a budget has been set for the program. In order to spend this budget in a cost-effective manner, the program managers estimated that they must serve more than 10,000 customers over the 21-month period ending June 30, 2003. However, due to the fact that actual cost for service delivery is higher than initially thought, a lower number of customers is targeted.

2. Design/rationale

Service delivery in the EPP consists of an introduction to the program, a home-walk through and recording of energy use in the home while educating the customer, and a conclusion where measures and actions are discussed and confirmed and required authorization forms are signed.

Education is an integral part of the process, occurring throughout the visit. According to program procedures, the provider must do all of the following:

- Elicit the customer's self-interest for participating in the program and reducing energy usage

- Confirm the partnership with the customer

- Describe the program including its name, purpose, and sponsor; and what the program will entail

- Discuss all electric energy usage with the customer and account for electric usage in the PDA, while educating the customer about how to save energy

- Discuss measures with the customer that have been found to be cost-effective and determine whether the customer is interested in having these measures installed

- Install the agreed upon measures in the home, and educate the customer about how to care for the measures.

- Discuss energy saving actions that the customer has recorded and how much these actions can save the customer.

- Obtain a commitment from the customer on actions that he/she will try to take.

- Print out and discuss the SMOC~ERS reports and leave a copy for the customer.

- Discuss what the customer should expect from the program in the future and obtain any feedback from the customer.

The customer is an integral part of a baseload audit. First, without the customer, the provider cannot determine how energy is used in the home and how energy usage can be reduced. Second, behavioral changes can have a large impact on baseload usage. Therefore, good communication with the customer is an integral part of the visit.

3. Goals of the evaluation

There are three main goals for the evaluation of service delivery, to determine how program production compare to plans, to identify barriers to service delivery, and to compare service delivery implementation with program procedures.

a) *Analysis of program production*

The EPP has high production targets. The evaluation will examine program production statistics for the first four months of operation in order to determine which agencies are serving clients, which agencies are succeeding in increasing production over time, and what types of services are being provided. This analysis will also shed light on the measures that are being installed and the actions that are being selected, as well as the cost-effectiveness of these measures.

b) *Identification of barriers to effective delivery*

Looking at program production statistics will reveal the agencies that have been successful in serving customers. However, in order to provide cost-effective services, providers will need to identify the cost-effective savings opportunities and educate customers. The evaluation will determine whether there are barriers to

effectively serving customers, and make recommendations on how these barriers can be overcome.

c) *Comparison of program implementation with program procedures*

The EPP designers and managers have identified a set of program procedures that are thought to provide cost-effective service delivery. The evaluation will determine the extent to which these procedures are being followed. In the event that procedures are not being followed, the evaluation will determine whether the procedures should in fact be followed as prescribed, and what actions should be taken to achieve compliance. In some cases it may be determined that there are other more beneficial procedures that can be used in addition to or instead of the initially documented procedures.

4. Evaluation activities

Several evaluation activities have provided information on the implementation of service delivery. These activities include interviews with OEE staff members and managers, two provider surveys, provider interviews, the provider issue exploration and the provider forum, on-site observation of service delivery, SMOC~ERS data analysis, and customer interviews.

a) *OEE interviews*

Interviews with OEE staff members and managers have provided information on the implementation of service delivery.

b) *Provider survey*

The provider surveys provided information on barriers to service delivery and how service delivery was implemented.

c) *Provider interviews*

Provider interviews furnished information on barriers to service delivery, service delivery experiences, and recommendations for program procedure modification.

d) *Provider issue exploration and provider forum*

These provider meetings supplied information on barriers that the providers were facing and recommendations for how to overcome these barriers.

e) *On-site observation*

On-site observation of service delivery by APPRISE and Don Jones allowed for an analysis of the measures and education that were being provided. Evaluators were able to observe how program procedures were implemented.

f)   *SMOC~ERS data analysis*

Analysis of SMOC~ERS data provided information on production statistics, measure installation, action selection, and usage accounting.

g)   *Customer interviews*

Customer interviews provided information on the satisfaction of customers with the services received, customers' understanding of measures installed, and actions that had been agreed upon to reduce energy.

5.   Evaluation findings

Evaluation findings relate to production statistics, costs, and expected savings from the SMOC~ERS data. The evaluation found need for improvement in the introduction to the site visit, education provided throughout the visit, selection of measures, and the conclusion to the visit. Other findings included that providers are making use of customer bills to update usage data in the PDA, client interaction is positive, and health and safety problems are not preventing work from being done.

a)   *Production statistics*

Providers began service delivery in January 2002. During this month, five providers began serving customers for a total of 109 customers served. In February, a high of seven providers served customers, for a total of 213 customers served. As of April, only half of the eighteen providers had served customers. More disappointing is the fact that of those providers who had begun serving customers, a steady increase in the number of customers served was not observed. ACCAA, one of the earlier producers, reduced the number of customers served each month after January, and served no customers in April. CMACAO served 89 customers in February, and no customers after that time, although this apparent lack in production may be due to problems with reporting. HWDMC did show an upward trend in production between January and April.

Table V-7
Provider Production Statistics

Agency	2001	2002				Total
	December	January	February	March	April	
ACCAA	1	26	20	18	0	65
CHN	0	33	36	15	31	115
CMACAO	0	0	89	0	0	89
EANDC	0	4	7	15	7	33
HWDMC	0	36	54	40	82	212
MORPC	0	0	0	0	11	11
OHCAC	0	0	0	0	2	2
SOURCES	0	0	2	0	0	2
WSOS	0	10	5	0	0	15

Agency	2001	2002				Total
	December	January	February	March	April	
Total	1	109	213	88	133	544

b) *Service delivery referrals*

OEE sends providers a referral type code with the customer list. The referral code for the customers served is shown in table V-8. This referral code indicates whether the customer is targeted for baseload services, if baseload usage is greater than 8,000 kWh or for weatherization services, if heating or cooling usage is greater than 8,000 kWh. The referral code also indicates whether the customer has recently been weatherized, as an indicator as whether the customer should be targeted for cost-share delivery. However, these codes do not determine the type of service that the customer actually receives. Honeywell, for example has only contracted to provide baseload, stand-alone services, but the table shows that they served customers of all four referral types.

As expected, the vast majority of customers who are served are targeted for baseload service delivery. Most of the customers have not recently been weatherized and therefore are targeted as candidates for cost-share service delivery.

Table V-8
Production Statistics by Referral Type

Agency	Referral Type				Total
	Baseload		Weatherization		
	BL	BLH	TEE	TEEH	
ACCAA	50	2	12	0	64
CHN	103	6	4	1	114
CMACAO	76	4	7	1	88
EANDC	27	4	2	0	33
HWDMC	195	13	2	2	212
MORPC	8	0	2	1	11
OHCAC	2	0	0	0	2
SOURCES	2	0	0	0	2
WSOS	9	3	1	2	15
Total	472	32	30	7	541

Given the small percentage of customers in Ohio who heat with electricity, and the fact that agencies have expressed a desire to begin serving baseload only companies, it is expected that most of the customers served to date are baseload only jobs. Additionally, nearly half of the customers were served by Honeywell, a provider that only furnishes baseload services.

c)   Service delivery mechanisms

Table V-9 displays the number of stand-alone and cost-share units served by each provider. This table shows that about 128 out of 544 units, or about one quarter of the units, were served under the cost-share delivery mechanism. Given the difficulties with providing services under this method, and the fact that one of the largest providers, HWDMC, is not providing cost-share delivery, this is a high percentage. Fifty-five percent of the homes served by CHN and forty percent of the homes served by CMACAO were cost-share jobs. Additionally, all of MORPC's eleven units and two thirds of WSOS's fifteen units were cost-share.

Table V-9
Production Statistics by Service Delivery Type

Agency	Stand Alone	Cost Share	Unknown	Total
ACCAA	63	0	2	65
CHN	41	63	11	115
CMACAO	49	36	4	89
EANDC	25	8	0	33
HWDMC	212	0	0	212
MORPC	0	11	0	11
OHCAC	2	0	0	2
SOURCES	1	0	1	2
WSOS	3	10	2	15
Total	396	128	20	544

Providers have noted that they face difficulty when attempting to provide cost-share service delivery. Community Action Council / Portage noted that they are only doing cost-share jobs, but have found that many of their referrals received HWAP in the last program year. Cuyahoga County noted that they cannot schedule cost-share delivery for their units because the HWAP priority system does not allow them to serve EPP clients before the already approved higher priority HWAP clients.

d)   Service Delivery Costs and Predicted Savings

Table V-10 displays the mean costs and mean predicted savings for each agency. Mean total costs range from a low of $847 for HWDMC to a high of $1570 for CHN. Although CHN's audit and administrative costs are about 63 percent higher than HWDMC's, this difference is largely due to greater measure costs, rather than to greater audit and administrative fees. The average total cost for all jobs is $1077.

Mean annual kWh savings for all measures range from 1402 kWh for ACCAA to 3947 kWh for CHN. The mean total measure savings for all units served is 2513 kWh. At $.10 per kWh this would represent an annual savings to the customer of $251. Given an average total cost of $1077 for the units served, this represents a simple payback of 4.3 years. However, the simple payback for some of the

agencies with higher costs and lower savings estimates is considerably longer. For example, ACCAA has a total average cost of $1069 and an average annual measures saving of 1402 kWh. At $.10 per kWh, this represents a simple payback of 7.6 years.

Estimates of actual savings to investment rations will depend upon the actual kWh rate in the utility service territory being served, and the inclusion of a discount rate that discounts the value of future benefits. Additionally, the above calculations are based upon predicted savings, rather than on actual savings.

Table V-10 also shows estimated savings from selected actions. Only four of the agencies selected actions and have estimated savings, and these savings are unrealistic due to the defaults that have been used.

Table V-10
Mean Costs and Mean Predicted Savings

Agency	Mean Service Delivery Costs			Mean Predicted Savings (kWh/year)			
	Measures	Audit/ Admin	Total jobs	Refrigerators	Lights	All Measures	Actions
ACCAA	$564	$504	$1069	541	861	1402	1434
CHN	$1203	$366	$1570	905	3042	3947	0
CMACAO	$699	$326	$1025	1832	1121	3012	5366
EANDC	$531	$463	$994	0	2383	2383	88508
HWDMC	$622	$225	$847	952	923	1879	2519
MORPC	$706	$255	$951	1166	1786	2952	0
OHCAC	$726	$475	$1201	981	583	1564	0
SOURCES	$723	$400	$1123	1331	203	1535	0
WSOS	$857	$289	$1146	1149	1396	2545	0
Total	$754	$323	$1077	990	1511	2513	15166

e) *Program introduction is lacking*

On-site observation of service delivery by APPRISE and by Don Jones has shown that auditors are not providing much of an introduction to the program. Many of the auditors just introduce themselves and then move right on to metering the refrigerator and conducting the house tour. The steps that were outlined by Lydia Gill-Polley and Rana Belshe and that are listed below are not included in most of the program introductions. The steps include:

1. Explain the program, including the name, who is providing the program, and the program's purpose
2. Ask the customer what he/she expects to get from the program - what are the customer's goals
3. Let the customer know what the provider/OEE hopes to get from the program
4. Confirm the partnership

5. Explain the customer's usage by looking at a recent bill
6. Tell the customer what to expect from the visit, including the importance of the information that the customer provides about his/her usage

f) Usage data and use of customer bills

Due to a lag in the time that OEE receives data from the utilities, the usage data that was included in the customer lists sent to the providers was close to two years old. This is problematic for the visit because providers are trying to match up usage found in the home with the usage in the PDA. Providers, however, are fairly routinely asking the customer for a copy of their most recent bill (which contains monthly usage for an entire year) and entering the updated data into the PDA. While the providers are using the customer bills for this purpose, for the most part they are not explaining the bill and discussing the customer's usage, payments, and PIPP arrears at this time.

g) Measure options and measure selection

An analysis of the measures selected in the SMOC~ERS data shows that the EPP is for the most part functioning as a lights and refrigerator program. While some units have received aerators, showerheads, and water heater wraps, most of the homes have received more limited measures. This is partly due to the fact that there are not many measures currently available in the PDA.

The number of refrigerators being replaced and the percent of homes receiving refrigerators is very high for most of the agencies. This is partly due to the inflation of the SIR that was discussed previously. Table V-10 displays the number of units each agency served that received zero, one, and two refrigerators, as well as the average number of refrigerators per job and the percent of units receiving at least one refrigerator. Most of the providers are averaging more than one refrigerator per customer served. Ninety percent of the eighty-nine customers served by CMACAO received at least one refrigerator, and more than one third of the customers received two or more refrigerators.

Table V-10
Number of Units Receiving Replacement Refrigerators

Agency	Number of Refrigerators			Total jobs	Average Number of Refrigerators Per Job	Percent with at Least One Refrigerator
	0	1	2 or more			
ACCAA	23	41	1	65	0.66	65%
CHN	33	42	40	115	1.12	71%
CMACAO	9	49	31	89	1.34	90%
EANDC	33	0	0	33	0	0%
HWDMC	39	130	43	212	1.03	82%
MORPC	5	1	5	11	1.00	55%
OHCAC	0	1	1	2	1.50	100%

Agency	Number of Refrigerators			Total jobs	Average Number of Refrigerators Per Job	Percent with at Least One Refrigerator
	0	1	2 or more			
SOURCES	0	1	1	2	1.50	100%
WSOS	2	10	3	15	1.13	87%
Total	144	275	125	544	1.00	74%

Providers are also replacing a large number of lights in most of the homes served. The overall mean number of CFL's provided per unit is 14. CHN has a mean of 24 bulbs replaced in their jobs, and EANDC has a mean of 23 bulbs.

Table V-11
Mean Number of CFL's Per Unit

Agency	Mean Number of CFL's per Home
ACCAA	11
CHN	24
CMACAO	10
EANDC	23
HWDMC	10
MORPC	12
OHCAC	6
SOURCES	2
WSOS	11
Total	14

Analysis of SMOC~ERS data provides evidence that the providers are not addressing all cost-effective opportunities in the home. Table V-12 displays the means and percentiles of pre-treatment usage for baseload stand-alone customers served to date. This table shows that the twenty-five percent of homes with electric hot water heater have baseload usage greater than 14,850 kWh, and that twenty-five percent of homes without electric hot water have baseload usage greater than 11,846 kWh. Therefore, it appears that there are other cost-effective opportunities that should have been addressed in these homes, in addition to refrigerator and light bulb replacement. Such opportunities probably relate to domestic hot water use, as well as some unusual usage patterns that should be uncovered during the end use analysis.

Table V-12
Pre-Treatment Usage

	Number Treated	Pre-Treatment Usage			
		Mean	Percentile		
			50	75	90
Electric Hot Water					
Baseload usage	106	12,595	11,525	14,850	17,903
Total usage	106	16,455	15,989	19,030	22,170
No Electric Hot Water					
Baseload usage	387	10,768	9,943	11,846	14,347
Total usage	387	12,875	12,019	14,828	17,648

h) *Customer education needs improvement*

While providers, for the most part, are furnishing customers with information about actions to take in order to reduce energy usage while conducting the walkthrough, they are not providing the education in an effective manner that is likely to result in customer follow through.[12] The following aspects of education are missing:

- Auditors do not understand the principles of effective adult education. They do not understand that education is helping people learn what will serve them better. They are not attempting to determine the customer's self-interest for taking actions to save energy and in letting the customer determine which actions are most feasible.

- Auditors, for the most part, are not providing customers with estimates of the savings they may expect to see by taking energy-saving actions.

- Auditors are not providing customers with a clipboard to use during the walkthrough so that the customer can record the actions that he/she would like to take to save energy.

- Most of the auditors are not using the action reports, and therefore, most of the customers are not receiving a list of actions that they have committed to take. Table V-13 shows that on average only ten percent of the customers served have at least one action identified. Only four of the providers are using the actions in the SMOC~ERS software, and none of the providers are using these actions for many more than half of the customers served.

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[12] It should be noted, however, that some of the providers are finding innovative ways to provide education. Community Action Wayne/Medina, for example, has created a Power Point Presentation that is used on the laptop to provide education during the visit. Customers are left with a copy of the presentation, and a folder of free information from the Ohio Consumers Council on energy efficiency and consumer choice.

Table V-13
Percent of Units With At Least One Action

Agency	Percent of Units with at Least One Action
ACCAA	3%
CHN	0%
CMACAO	52%
EANDC	21%
HWDMC	1%
MORPC	0%
OHCAC	0%
SOURCES	0%
WSOS	0%
Total	10%

Table V-14 shows the most commonly selected actions. This table shows that most of these actions relate to turning off lights or televisions when they are not being used. These actions do not show much creative thinking by the auditors or working with the client to determine which actions should be included in the plan.

Table V-14
Most Common Actions

Most Common Actions	Frequency
Kitchen lighting: Turn off when not being used	97
TV2: Turn off when not in use	86
TV1: Turn off television when not watching	64
Clothes dryer: Line dry when appropriate	54
Basement lighting: Turn off when leaving room	48
Clothes dryer: Combine dryer loads	48
Bedroom lighting: Turn off when leaving room	45
Clothes dryer: Line dry clothes	45
Room or window AC: Seal around air conditioner	44
Room or window AC: Use fans and raise temperature	44

One of the reasons that more effective education is not included as part of the visit may be due to the fact that providers have not received education materials from OEE. Program procedures stated that an energy education notebook, as well as worksheets and brochures would be provided. OEE has plans to develop these materials, and as a first step they will be ordering energy education cards for the providers to use during the home visits.

i)   *Client interaction is positive*

While the auditors are not effectively educating the customers during the home visit, they are establishing a good relationship with the customer and leaving the customer with a good perception of the program. All of the customers interviewed had very positive views toward the service provider and to the program.

j) A comprehensive visit conclusion is not being presented

Most of the auditors are not providing the customer with a comprehensive visit conclusion.   While the providers are reviewing the SMOC~ERS reports and explaining the measures that were provided, they are for the most part not covering most of the topics that should be part of the visit conclusion. These topics include:

- Reviewing measures
- Securing the customer's action commitment
- Reinforcing the partnership agreement
- Explaining the next steps in the program
- Requesting feedback on the visit

k) Health and safety problems

The EPP, focusing only on cost-effective energy reduction measures and services, cannot address health and safety problems found in the customers' homes. Therefore, there was a concern that customers may have to be denied services in the EPP due to overriding health and safety problems found in the home. Providers that have been interviewed to date have not found this to be a problem, and health and safety problems, when seen in the home, are not serious enough to prevent service delivery.

6.   Recommendations

Recommendations for service delivery include the provision of additional training, the implementation of quality control, and the development of education materials.

a) OEE should provide additional training

Many of the findings described above point to the conclusion that additional training on energy usage, the use of the software, and provision of education is needed. Agencies have already received over two full weeks of training, and it appears that the additional training needs are extensive.   Therefore, it is recommended that OEE develop a training agenda that will systematically work through all of the problematic areas.

One potential approach is to pilot the training on one or two of the more motivated agencies. These agencies can then demonstrate the potential for the program and become advocates for the approach. One possibility is to supply the training to the same providers who are selected to implement the PIPP pilot.

b) OEE should implement quality control

The findings in this section strongly suggest that quality control should be implemented by OEE. Given the many areas where improvement is needed, it is suggested that the quality control team choose a few areas to focus on and train the providers on, and then move on to other areas when improvement is seen. Quality control is discussed further in the next section.

c) OEE should develop education materials

Education materials should be furnished to the providers in order to increase the potential for effective education in the field. The materials that could be supplied include:

- Education notebook
- Partnership agreement form
- Action plan with costs / magnetic sheets that can be placed on refrigerator
- Clipboard
- Education cards

F. Quality Control

While the evaluators are observing jobs, conducting inspections, and providing feedback on what is seen in the field, OEE is responsible for designing systematic procedures to ensure that minimum standards are met and to provide training on-site where needed and appropriate. This is the function of quality control.

1. Goals

The four main goals for quality control are to ensure that the program procedures are being followed and that service delivery is effective, to provide training in the field, to identify the need for additional training, and to identify program procedures and software elements that need revision.

a) Ensure that program procedures are being following and that service delivery is effective

All programs need quality control procedures to ensure that they are functioning effectively. The EPP is a new and complex program, and many providers may not even understand what is expected of them. Quality control staff should observe staff in the field and review SMOC~ERS data in order to ensure that the program is being implemented in a systematic and effective manner. Quality control is especially important in the EPP, as services are being delivered by 18 authorized providers and 53 sub-agencies.

b)   Provide training in the field

Quality control site visits are an opportunity to not only observe how well procedures are being implemented, but to train providers, where necessary, on how their techniques should be modified or enhanced.

c)   Determine what additional formal training is needed

Quality control should also help to identify the training needs that cannot be met in the field, and therefore, what additional training is called for.

d)   Identify program procedures and software elements that need revision

Quality control staff, in time, should have extensive program experience as a result of observing most of the auditors and reviewing the data in detail.   These experiences will provide the staff with a perspective on the program that should allow for insight on where program design or software changes should happen.

2.   **Design/Rationale**

As part of the integration of the EPP with the HWAP program, it was determined that the current HWAP monitors, along with two newly hired staff members, would provide quality control for both programs. Up until recently, these monitors have spent most of their time continuing to provide quality control for the HWAP program. In May and June of 2002 the OEE field staff temporarily ceased monitoring of the HWAP program in order to become immersed in the EPP. At this time they received program training, SMOC~ERS training, and education training, and were assigned to providers to provide technical support and program oversight. It was planned that after a month or so of intensive program monitoring, the staff would return their attention to the HWAP program.

However, after discussion of initial program findings, it has appeared to OEE that these staff members will be needed to provide more assistance for the EPP. Discussions with OEE about quality control procedures led to the conclusion that the quality control staff should be focused on a few core areas for the next few months, and only when improvement is seen in these areas, should they turn their attention to other areas for program improvement. It was additionally acknowledged that these staff should be trained to review program data and determine where providers need additional training and assistance. Evaluators and education designers will provide guidance to OEE on the initial areas that quality control should focus on.

3.   **Goals of the Evaluation**

The two main goals of the evaluation of quality control are to understand the quality control procedures that are being used and to assess whether these procedures are meeting the goals for quality control.

a)   *Understand what quality control procedures are being used*

The evaluation will determine the quality control procedures that have been developed and how those procedures have been implemented.

b)   *Determine the extent to which quality control is meeting the goals*

The evaluation will determine the extent to which the planned and implemented quality control can meet the goals of ensuring that effective service delivery is implemented and that training needs are being identified and met, to the extent possible, in the field.

4.   Evaluation Activities

Four main evaluation activities provide information on quality control plans and implementation, and on what quality control is needed.   These activities include interviews with OEE staff, on-site observation, SMOC~ERS data review, and customer interviews.

a)   *OEE interviews*

Interviews with OEE staff and managers provide information on the plans and procedures for quality control, and the schedule for implementation of these plans.

b)   *On-site observation*

On-site observation furnishes information on how providers are performing in the field, what areas quality control staff need to focus on, and what training they should be providing in the field.

c)   *SMOC~ERS data review*

Review of SMOC~ERS data provides information on whether the data that is being entered in the PDA matches the customer's usage patterns, and whether measures and actions selected take advantage of opportunities for saving.

d)   *Customer interviews*

Customer interviews provide information on the extent to which the customers understand the program and the installed measures, and the actions that customers have been taking to save energy.   These interviews shed light on whether quality control needs to focus on customer education.

5.   Evaluation Findings

The main evaluation findings are that quality control procedures have not yet been developed, quality control implementation is just beginning, and that the number of quality control staff does not meet the needs for both HWAP and EPP monitoring.

a) *Quality control procedures have not been developed*

To date, procedures for implementing quality control in the field, or in review of SMOC~ERS data have not been developed. OEE has discussed the need to focus on quality control with the evaluators.

b) *Quality control is just beginning*

OEE monitors have just been trained on the EPP in the last couple of months. Over the last several weeks they have begun to conduct on-site observation of service delivery. Prior to this time, these monitors were focusing on monitoring the HWAP program.

c) *Quality control staff is limited*

The current level of monitoring staff does not appear to meet the needs of monitoring for both the HWAP and the EPP. Prior to the initiation of the EPP, four monitors at OEE were responsible for the HWAP program. According to OEE, these staff members did not completely meet the monitoring needs for the HWAP program. Two additional staff members were hired to assist in the additional monitoring needed with the initiation of the EPP. Given the complexity and the size of the EPP, it appears there are not currently enough monitors to meet the needs of the two programs.

6. Recommendations

Recommendations for quality control include developing quality control procedures, implementing intensive quality control, and hiring additional quality control staff.

a) *Develop quality control procedures*

OEE should develop quality control procedures and goals. The procedures should focus on a few core needs for program improvement over the first few months. Once significant improvement is seen in these areas, a new focus for quality control should be developed.

Initial recommendations for the focus of quality control onsite include:
1. Make sure that the provider is developing and confirming the partnership with the customer.
2. Make sure that the provider is entering all major electric users in the PDA.
3. Make sure that the provider is offering the customer all potentially cost-effective measures.

Initial recommendations for the focus of quality control on the data include:
1. Make sure that each completed customer has at least one action in his/her action plan. This is a first step in ensuring that education is occurring.

2. Make sure that the load shape of the usage that is entered in the field matches the load shape of the historic usage.
3. Make sure that opportunities other than refrigerators and lights are being found, at least for those customers with the highest usage.

b) *Implement intensive quality control*

Intensive quality control should be implemented as soon as possible. All providers should be observed with the focus on a few major issues, and training and instruction should be provided in the field where weaknesses are observed. A sample of data should be reviewed to determine whether auditors are identifying actions for the customers, matching the customer's load shape with the usage found in the home, and identifying appropriate opportunities, especially for the highest use customers.

c) *Hire additional quality control staff*

As noted above, the current level of field staff is not sufficient to provide the monitoring needed for the HWAP program and the EPP, at least for the short term. With more monitors, the EPP will be able to identify needs for program improvement, provide on-site training to providers, and bring the program to maturity more quickly.

VI. Client Participation and Response

Customer interviews are included as part of the Process Evaluation in order to understand the effect of the program on the participating customers. For this interim report, APPRISE conducted in-depth qualitative interviews with twenty-five program recipients. These interviews provide a sense of how the program is affecting the customers, but does not allow for statistical inferences to be made. In the next program year APPRISE will conduct interviews with 500 program recipients which will allow us to quantify the effect of the program on the customers' energy use behavior.

1. Goals for the client

The two main goals for the client are that the client understands the program and the measures that have been installed in his/her home, and that the clients takes actions as a result of the program to reduce energy usage in his/her home.

a) *Understand the EPP and installed measures*

In order for the customer to be invested in the EPP, it is important that the customer understands the EPP and its purpose. For the customer to take care of the installed measures and not inadvertently reduce their effectiveness, it is important for the customer to understand the installed measures, their purpose, and any care that is required.

b) *Take actions to reduce energy usage*

The EPP is largely a baseload program, and baseload usage depends a great deal on customer behavior. Therefore, in order to reduce the customer's usage to an affordable level, it is important to influence the customer to change his/her behaviors so that energy usage is reduced.

2. Design/rationale

Customer education is an important aspect of the program, so that the customer understands the program, the measures, and actions that will save energy. Therefore, OEE has invested in a two-phase education training process, and will begin to work on education materials that can assist providers in the education process.

3. Goals of the evaluation

There are four main goals of the evaluation. The evaluation aims to assess how well customers understand the program and the services received, to assess the extent to which education is provided and is expected to have an impact on energy usage, and to assess customer satisfaction. Another goal of the customer interviews is to assess how

well the customer understands the PIPP program and what the impact of the PIPP program is on the customer's motivation to save energy.

a)   *Assess how well customers understand the program and services received*

In order for the program to be effective, customers must understand the purpose of the program and the services that have been received. The customer interviews measure how well the customer understands these issues.

b)   *Assess the extent to which education is provided and is expected to have an impact on energy usage*

In order for education to have an impact on energy usage, the customer must remember the actions that he/she has committed to, and must follow through with those actions. The customer interview determines the extent to which education has provided the customer with energy saving actions that he/she remembers, and the extent to which customers were able to change their behaviors.

c)   *Assess customer satisfaction*

Customer satisfaction may have a big impact on how the customer responds to the partnership. If the customer is very satisfied with the program, the provider, and the services, the customer may be more likely to feel a responsibility to reduce his/her energy usage. The customer interviews measure the customer's satisfaction with all aspects of the program.

d)   *Assess the customer's understanding of the PIPP program and the impact of PIPP on the customer's motivation to save energy*

OEE and providers have expressed concern that PIPP recipients do not have an incentive to save energy, as their energy bill throughout most of the year (except for the summer) does not vary with usage. The customer interviews will assess the extent to which this concern is warranted.

4. Evaluation activities

Two evaluation activities, on-site observation and customer interviews, provide information on the customer's response to the services provided.

a)   *On-site observation*

While conducting on-site observation, evaluators will have the opportunity to obtain a sense of the customer's interest in the program, motivation to save energy, and investment in the process. After completing on-site observation, APPRISE will conduct interviews with the observed program recipients in order to assess their views on the program. These interviews will provide useful feedback, as APPRISE will have a good understanding of the services and education received, as well as the opportunities that exist for saving energy, after observing the visit.

b) *Client interviews*

Client interviews furnish information on understanding of the program and the measures received, retention of education on energy-saving actions, customer commitment to follow through with those actions, satisfaction with the program, and understanding of the PIPP program.

5. Evaluation findings

The main evaluation findings relate to the customers' understanding of the program, program recruitment, knowledge of measures, education and action plans, satisfaction with the program and the provider, understanding of PIPP, and incentives for energy saving.

a) *Understanding of the program*

It is important for customers to have a good understanding of the EPP in order to become active participants in reducing energy usage. While 18 of the 25 customers interviewed reported that they did have a good understanding of the EPP and the benefits that it provides, many did not have a good understanding of who was providing the program, and why they were receiving these services. Nearly half of the customers responded that they did not know who was sponsoring the program. Other customers thought it was the provider who provided the services, the utility, or the PIPP program. Five customers reported that they did not know why they received the free services. Most of the customers reported that it was due to the fact that they were low income, elderly, or disabled. One customer did state that she was selected for the program because she was on PIPP and used a lot of energy.

Based on the responses to the customer interviews, it appears that providers are having mixed success in forming partnerships with the customers. Table VI-1 shows that nine of the twenty-five customers interviewed did not know what their responsibility under the program was, and two of the customers said that they did not have a responsibility. However, ten of the customers interviewed were able to articulate that their responsibility was to reduce usage, keep their bills low, or reduce use of lights.

Table VI-1
Customer Description of EPP Responsibilities

Customers' Description of EPP Responsibilities	Number of Responses
Don't know	9
No responsibility	2
Reduce usage/conserve energy	6
Keep bills low	1
Reduce use of lights	3
Be ready for visit	1
Pay bills	2
Take care of home and appliances	1

Customers' Description of EPP Responsibilities	Number of Responses
Keep up with the program	2
Maintain measures	2

b) *Program recruitment*

Initial customer contact is fairly evenly split between phone calls and letters. Nine of the customers first heard about the program through a letter received in the mail and eight of the customers heard about the program through a phone call. A few other customers first heard about the program through friends or relatives, HEAP, PIPP, or the provider.

Customers are signing up for the program when they call the phone number that is listed on the letter received in the mail (8 customers) or when they receive a phone call about the program (9 customers). Other customers didn't know how they signed up for the program, or stated that they signed up through the PIPP office or by filling out information received in the mail.

Overall, customers are very satisfied with the recruitment and enrollment process. Customers described the process as "easy", "good", and "excellent".

It appears that providers are not furnishing much information to customers about the program at the time of enrollment. Over half of the clients interviewed stated that there was no information provided at the time of enrollment that they could remember. A few clients noted that they were told appliances would be monitored or that the program would help them save money on their bills. No clients mentioned a discussion of the partnership nature of the program. Table VI-2 displays the responses to the question about what information was provided at the time of enrollment.

Table VI-2
Information Provided at Enrollment

Information Provided at EPP Enrollment	Number of Responses
None	13
Appliances would be monitored during the visit	3
Program will help customer to save money on bills	3
Client could receive a new refrigerator	1

Table VI-3 shows that clients are being served soon after they are enrolled in the program. The majority of clients are served in less than 2 weeks, and the maximum amount of time noted was one month.

Table VI-3
Time Between Enrollment and Service Delivery

Time Between Enrollment and Service Delivery	Number of Responses
Don't know	7
No answer	4
<1 week	2
1-2 weeks	9
2-3 weeks	2
1 month	1

c) ***Knowledge of measures***

Clients receive between one and three visits under the program. The majority of clients receive one visit where the home is audited, and another visit where the refrigerator is delivered.

Table VI-4
Number of Visits Received

Number of Visits Received	Number of Responses
1	7
2	17
3	1

Most of the clients were able to identify all of the services received, as these services usually consisted of light bulbs and a refrigerator and/or freezer. Most of the customers, even of those with large numbers of CFL's received, were able to accurately report the number of light bulbs received. Fourteen customers reported the number of light bulbs received to be within five of the number reported in SMOC~ERS, six customers were within 10 light bulbs of the actual number received, two of the customers were more than 10 off, and 3 customers did not provide an estimate.

In three instances, clients did not remember all of the services received. In these cases the client had received water measures such as aerators, showerheads, or hot water tank wraps.

Only one customer, however, mentioned that one of the services received was information on how to conserve energy and information on safety.

Satisfaction with the CFL's was very high. Only one customer noted that the bulbs were too dim, two customers reported that a bulb blew out. Aside from those two customers, no customers reported that they removed CFL's or moved them to a different location.

Clients were asked whether they were waiting for additional services or measures. While 11 of the customers stated that they had received everything that they had expected, 14 were still expecting, or not sure if they should be receiving, at least one refrigerator or freezer. Of those 14 customers who were expecting an additional measure, only 5 were listed in the database as supposed to be receiving the measure.[13]

Table VI-5
Information Provided at Enrollment

Expectation for Additional Services/Measures	Number of Responses	Number where SMOC~ERS says it should be received
Nothing additional expected	11	--
Refrigerator	4	1
Two refrigerators	1	1
Not sure about refrigerator & freezer	1	0
Removal of refrigerator and not sure about replacement	1	1
Refrigerator and freezer	4	2
Freezer	3	0

d)   *Education and action plans*

When asked, all of the customers responded that the provider had given them information about how to save energy. When asked "what changes did you discuss making in your energy use", the vast majority of customers responded that they did not discuss making any changes. Seventeen of the customers stated that no changes were discussed, 1 customer said that he did not remember whether changes were discussed, and 7 described the changes that they discussed with the auditor. However, when prompted, the customers were able to describe actions that had been discussed. Table VI-6 displays the actions that customers reported discussing with the providers.

Table VI-6
Changes in Energy Use that were Discussed with the Auditor

Changes in Energy Use	Number of Responses
None	3
Turn lights off when not in use	19
Turn television off when not in use	10
Reduce use of washer/dryer	6
Reduce use of air conditioner	4
Use cold water for washing clothes	4
Keep furnace temperature lower	3
Clean out dryer lint	2

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[13] Accurately determining whether a customer should be receiving a refrigerator is a complicated issue, as there are two tables with information on refrigerators that provide conflicting information. We have counted the customer as being entitled to receive a refrigerator or freezer if the measures table has the appliance listed.

Changes in Energy Use	Number of Responses
Turn dehumidifier down	2
Reduce use of computer	2
Reduce use of oven	2
Keep freezer full	2
Unplug extra cords	1
Use motion sensor on porch light	1
Reduce usage of waterbed	1
Need good seal on refrigerator	1
Turn refrigerator down	1
Don't keep refrigerator door open	1
Use space heaters only when needed	1
Do maintenance on refrigerator	1
Reduce hot water usage	1
Lower temperature on dryer	1

When asked whether there were any changes in energy use that the customer was not willing to make, one customer mentioned that she would not reduce her use of an electric space heater because that would increase her propane costs.[14]

e) *Satisfaction with Provider and Program*

Customers were very satisfied with the EPP and with the provider who delivered the services. All customers stated that the providers were on time, knowledgeable about the program and about energy use in the home, comfortable with the equipment, responsive to questions, and courteous and professional. All of the problems noted had to do with the refrigerators. The following complaints were received about the refrigerators:

- The customer did not know that he could have paid extra for an icemaker until the refrigerator was delivered, and at that time it was too late.
- The customer had to refuse the refrigerator because it was the wrong color and the wrong size.
- The refrigerator delivery people were rude. They did not call to set up an appointment, and just showed up to deliver the refrigerator. They spilled water from the bottom of the refrigerator all over the kitchen floor.
- The refrigerator delivery people were not nice and would not flip the door for the customer.

The customers were also very satisfied with the work that was done and the measures that were received. All of the customers said that the providers were neat and were considerate of their home. The only problems listed with the measures were one refrigerator handle that was cracked, one customer stated that the refrigerator was too small and doesn't get cold enough, and two customers stated that one of their CFL's blew out.

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[14] There is no PIPP program for propane, as propane is an unregulated fuel.

Table VI-7 tabulates what customers stated were the most helpful aspects of the program. Given the other findings relating to actions taken to save energy use, it is surprising to note that the most common response, cited by eight of the customers, was that the most helpful aspect of the program was learning how to save money by reducing energy usage. The other most common responses were the light bulbs, refrigerator, or freezer received. Two customers noted that they had already noticed that their bills were lower since receipt of program services.

Table VI-7
Most Helpful Aspect of the Program

Changes in Energy Use	Number of Responses
Learning how to save money by reducing energy usage	8
Light bulbs	6
Free refrigerator or freezer	3
Bills are already lower	2
Will lead to lower bills	2
Information on how much electric items cost	1
Information sheet on reducing energy usage	1
Money saved from new appliances	1
What the program does for people who can't afford to pay their bills	1
Hot water heater wrap	1
Whole program	1
Don't know	1

f) *Understanding of PIPP*

Twenty-four of the twenty-five customers interviewed stated that they were currently on the PIPP program. Table VI-8 shows that many of these customers have been on the PIPP program for more than five years.

Table VI-8
Length of Time on PIPP

Length of Time on PIPP	Number of Responses
1 year or less	2
2-3 years	3
3-4 years	3
5-6 years	5
8-10 years	3
Few years	2
Long time	4
Don't know	2

Most of the respondents had a good understanding of the purpose of PIPP, stating that the program helps people to pay their bills or maintain their electric service. Half of the customers provided an estimate of the monthly reduction in energy bills due to PIPP. These responses ranged from $30 per month to hundreds of dollars.

One customer stated that she was not saving anything due to PIPP because she still owed the money to the utility.

Table VI-9
Monthly PIPP Bill Reduction

Monthly PIPP Bill Reduction	Number of Responses
$30-$40	2
$50-$80	5
$100	4
$120	1
Hundreds	1
Don't know	11

Twenty-one of the customers stated that they would not be able to afford their full bill. The other three PIPP customers stated that it would be very difficult to pay the full bill.

In trying address the issue of whether customers would be more motivated to save energy in the absence of PIPP, we asked the customers how much they thought they could reduce their usage in order to make it more affordable. Table VI-10 shows that most customers don't know how much they could reduce their bill or feel that they could not make much of a reduction. Only a few customers provided estimates ranging from $20 to $75 per month.

Table VI-10
How Much Customers Could Reduce Bill

How Much Customers Could Reduce Bill	Number of Responses
Don't know	11
Could not reduce bill	6
Not much	3
$20/month	1
$40-50/month	1
$75/month	1
A lot	1

Table VI-11 displays customers' estimates of how much they owed the utility company when they started on PIPP. Many customers said that they did not know. Estimates of pre-PIPP arrearages ranged from $0 to $3000.

Table VI-11
Customer Estimates of Pre-PIPP Arrearages

Customer Estimates of Pre-PIPP Arrearages	Number of Responses
Don't know	12
$0	4
$200	1

Customer Estimates of Pre-PIPP Arrearages	Number of Responses
$200-$300	1
$1000	2
>$1000	1
$1300	1
$3000	2

Customers were more likely to be able to give an estimate of their current level of arrearages. Table VI-12 shows that estimates of current arrearages range from $0 to $6000. The two customers who estimated that their arrearages are $0 were long-time PIPP participants, and clearly do not have a good understanding of PIPP rules.

Table VI-12
Customer Estimates of Current Arrearages

Customer Estimates of Current Arrearages	Number of Responses
Don't know	8
$0	2
$100	1
$400	1
$466.17	1
$500	1
$800	1
>$1000	3
$1300	1
$2000	3
$3000	1
$6000	1

Most customers have a good understanding of the fact that they would have to pay these arrears to the utility if they left PIPP. When asked whether they believed they would have to pay the utility the amount they currently owe if they left the program, all except two of the customers said yes.

g) Incentives for Energy Saving

When asked whether they believed there were benefits to reducing their electric usage given the fixed payment that does not vary with usage during the year, 15 customers said that they did believe there were benefits to reducing their usage. Five customers said that they did not feel that there were benefits of reducing usage, three customers were not sure if there were benefits, and one customer said that he did not know. When prompted, twenty of the customers agreed that one benefit of reducing usage would be a reduction in summer bills, and eighteen customers agreed that a benefit may be that it prevents them from owing more money to the utility.

6. Recommendations

Recommendations supported by the customer interviews include that additional education training should furnished to the providers, education materials and a program brochure should be developed, and a baseline assessment should be implemented.

a) Additional education training for providers

Customer interviews support the findings from observation of service delivery that education is not effectively provided as part of the home visit. Providers should receive additional education training as part of quality control, and informal education training sessions. These sessions should focus on the information that should be provided as part of the introduction and conclusion to the visit, and on how to form a partnership agreement with the customer and determine actions that the customer has an interest in taking.

b) Education materials

Education materials should be furnished to assist the providers in their education process.

c) Program brochure

A program brochure should be developed to explain the purpose of the program, who is providing the program, and the provider that should be contacted in the event that the customer has problems with any of the measures or has not received an expected service.

d) Baseline assessment

A baseline assessment process should be piloted. The baseline assessment will provide information that will assist in the measurement of the impact of the program on the customer, and may assist in focusing the provider on the areas where education can be most valuable to the customer.

VII. Utility Interviews

With the implementation of Ohio's Restructuring Act and the Universal Service Fund, utilities are no longer responsible for administering the electric PIPP program.[15] However, utilities have a wealth of knowledge about the PIPP program from their many years of program administration and can also provide valuable information about their other programs that may be integrated with the EPP.

1. **Goals for utility involvement**

    The goals for involving the utilities in the EPP are to maximize the benefits from integrating the EPP with utility low-income programs, and to learn from the utilities' PIPP experience.

    a) *Maximize the benefits of integration with utility programs*

        Some utilities are operating low-income energy programs. Given OEE's focus on providing cost-share services and maximizing the integration of the EPP with the HWAP program, there are also beneficial impacts from integrating the EPP with utility low-income programs.

    b) *Learn from utilities' PIPP experience*

        Under the Ohio Restructuring Act, responsibility for the electric PIPP program was transferred from the electric utilities to the Office of Community Services in the Ohio Department of Development. However, utility staff continue to have direct contact with PIPP customers, and have years of experience working with these customers. Utilities can provide important information on the PIPP customers that will assist in the development of the PIPP pilot program.

2. **Design/rationale**

    The EPP has a built-in mechanism to reduce the cost of providing program services by integrating program services with other low-income energy programs. Providers interested in furnishing joint program services bid a cost-share administrative fee that reduced program costs due to savings in client scheduling and visits. In this way, cost-share can reduce costs for all programs that are jointly delivered. Additionally, it is important to understand the programs that are being delivered by the utilities so that benefits can correctly be attributed to responsible programs.

    The PIPP pilot program will aim to provide incentives for PIPP customers to pay their utility bills over the summer and to reduce electric usage. This is another aspect of the EPP that can benefit from utility participation and feedback.

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[15] The gas PIPP program still resides with the utilities.

3. Goals of the evaluation

There are four main goals for the utility interviews included as part of the Process Evaluation. These goals include developing an understanding of the utilities' low-income energy programs, of how the utilities have successfully worked with agencies in a fee-for-service environment, of the PIPP program and customer responses to the program, and of those utilities that would be most interested in implementing the PIPP pilot program.

a) Develop an understanding of the utilities' low-income energy programs

The evaluation will identify utility low-income energy programs, the customers targeted by those programs, and the service providers delivering those programs. This will allow us to develop a more complete picture of the energy services being delivered to PIPP customers and to properly attribute electricity savings to the different programs delivered to each customer. It will also allow us to determine how these programs may be integrated with the EPP through the cost-share delivery approach.

b) Understand how utilities have successfully worked with agencies in a fee-for-service environment

Many nonprofit contractors are not experienced in conducting fee-for-service energy programs. The evaluation will study how utilities have facilitated service delivery by community-based organizations in the context of utility funded programs. The evaluation will also address how the utilities have assisted community-based organizations in building the capacity required to meet program goals.

c) Obtain information from utilities on the PIPP program

The evaluation will study utility information on the behaviors of PIPP customers and the types of bill payment and usage reduction incentives that they believe might motivate customers to change their energy usage and payment behaviors.

d) Determine whether certain utilities would be more cooperative in working on a PIPP pilot

The evaluation will determine which utilities are most receptive toward piloting a new PIPP program design that is aimed at providing PIPP customers with the incentive to reduce energy usage and to pay summer bills.

4. Evaluation activities

In addition to interviewing utility staff members and managers who are knowledgeable about low-income programs, the evaluation will also include interviews with OCS and OPAE.

a) *Utility interviews*

Interviews with utilities include discussion of PIPP operations, PIPP incentives, low-income energy programs run by the utility, and their experience with service delivery contractors.

b) *OCS interviews*

OCS interviews provide detailed information on PIPP program rules, information about PIPP customer incentives to reduce energy, and goals for research on intermittent PIPP customers.

c) *OPAE interviews*

Interviews with OPAE furnish an overview of the low-income utility-based programs in Ohio.

5. Evaluation findings

The main evaluation findings related to electric and gas utility programs and to program funding issues.

a) *Electric Utility low-income energy programs*

Low-income electric utility programs are summarized below.

- Dayton Power and Light: They have a $325,000 program for 2001 and 2002 which resulted from electric transition cases. The funds have been used by local agencies as an HWAP subsidy. Most of the funds have been used for gas-heated homes.

- FirstEnergy: They have a Community Connections program that receives funding of up to $5 million per year for the next five years. In 2001 they allocated about $1.5 million in funds to local agencies, but not all of the funds were spent. They also provided a grant of $3.5 million to the Habitat for Humanity. The FirstEnergy program is very flexible and encourages service delivery agencies to piggyback FirstEnergy funding with other energy funding, including the EPP program.

  FirstEnergy also offers hardship funds. FirstEnergy stockholders match customer contributions dollar-for-dollar up to $250,000 for Ohio Edison (Project Reach), up to $100,000 for the Illuminating Company (Co-op), and up to $75,000 for Toledo Edison (Neighbors Helping Neighbors).

- AEP: They had a baseload program run by COAD during the period of April 2001 through April 2002. The program was funded at $780,000 for the most recent year. For future years, AEP opted to contribute the program funds to the

USF. However, they will continue to administer a program that targets non-PIPP low-income customers. The program will target 450 Ohio Power customers ($325,000) and 250 Columbus Southern Power customers ($182,000) in 2003.

- CG&E: They have a number of different programs implemented by a local nonprofit called People Working Cooperatively. These programs include an electric weatherization program funded at $431,000, a maintenance service program funded at $174,000, and refrigerator replacements, funded at $456,000. The local CAA/HWAP agency (Cincinnati/Hamilton CAA) does not receive funding under this program. [Note: People Working Cooperatively and the Cincinnati/Hamilton CAA prepared a joint bid for the EPP.]

b) *Gas Utility Low-Income Energy Programs*

Low-income gas utility programs are summarized below.

- Dominion - East Ohio Gas: Their House Warming Program is a $3 million program run by CHN. This program can be delivered as a stand-alone program, but is often delivered in conjunction with HWAP funds. In Ohio, if furnace replacement is required, the utility program pays for the furnace replacement.

- Columbia Gas: Their Warm Choice Program is a $5 million program. This program may be delivered as a stand-alone program or as a cost-share program with HWAP. The program is run as a measure based pricing system.

- CG&E: They have a number of different programs run by People Working Cooperatively.

- Dayton Power and Light: Up until 1999 they had a $500,000 program. They are selling their gas business to a company called Vectra. As part of the settlement, there may be a new gas program.

Given the number of programs available to low-income utility customers in Ohio, it will be important to determine all of the programs received by a subsample of EPP participants in order to accurately determine the impact of the EPP program. In order to obtain these data, we will retrieve paper files from the agency serving the EPP participant. We will also investigate whether the customers received services from other service providers in the area.

c) *Program Funding Issues*

One of the major issues for CAA/CAP agencies is the cash flow problem associated with the EPP and many of the utility fee-for service programs. Each of the utilities

has had different experiences in working with agencies in a fee-for-service environment.

- While Monongahela Power does not operate any low-income programs in Ohio, they have always hired agencies on a fee-for-service basis in other states, and have found that the agencies have been successful in meeting the demands of these arrangements.

- FirstEnergy has hired a separate program administrator to handle the details of the program management. They have found that it is challenging for the agencies to work in a fee-for-service environment, and each year have provided a thirty percent advance to the agencies. Their experience is that some agencies are capable of operating in the fee-for-service environment, while others find it very challenging.

- CG&E works on a fee-for-service basis with a non-profit that is not a CAP agency. They have worked closely with this non-profit on contracting, and have had a good experience.

- AEP has had very good experiences working with COAD on their programs.

- Dayton Power and Light does not currently run any low-income programs.

In general, the interviews indicated that it is difficult for agencies to move from only working in the WAP framework to working in a fee-for-service environment. However, many of the agencies have ten or more years of experience working on these utility programs, and should not have a problem providing EPP services. Agencies that do not have this history will need additional assistance.

d)   *Utilities experience with PIPP*

Most utilities in Ohio have not conducted studies to document the costs of the PIPP program or collections for PIPP customers, or the payment behaviors of these customers. DP&L has developed some information on the cost of collecting from PIPP customers that they would like to share from ODOD.

There are general perceptions regarding the behavior of these customers. These include:

- Customers understand the basic requirements of the PIPP program at the time of enrollment. However, they do not understand that they will accumulate arrears.

- Customers begin to understand the treatment of arrears after three to six months, when they begin to see the arrears building up on their bills.

- After two or more years on the program, the customers' arrears become so large that they cannot imagine paying them off, and they no longer focus on them.

These insights suggest that the best time to enroll EPP participants in the PIPP pilot is after they have participated in the program between 3 months and 2 years, so that they understand the implications of the program, but so that their arrears are not so large that they have no hope of ever paying them off.

Utilities generally have the perception that PIPP customers do not pay their bills on time. They feel that there are many incentives for customers to fail to pay their bills on time, including the requirements for emergency HEAP assistance. Additionally, payment requirements for service to be reactivated are very low. A number of utilities suggested that forgiveness of PIPP arrears, in exchange for timely payments, would be a powerful incentive to pay bills. They feel that the only other action that gets the customer's attention is service termination.

Dayton Power and Light has had an incentive system for rewarding those customers who make timely payments. They found that some customers respond to this system, make timely payments, and receive arrearage reduction incentives, but that the majority of PIPP customers do not respond to the incentive and are not making timely payments.

Another issue relating to PIPP that was raised by Dayton Power and Light is the PIPP recertification process. When PIPP was run by the individual electric companies, they each had recertification procedures in place that met the needs of the population that they served. DP&L required customers with zero income to recertify for PIPP after 30 days, in order to determine if they had obtained income and should have an electric payment. DP&L is concerned that without that recertification process for zero income customers, the customers will build up large arrears when they could afford to pay at least part of their bill. In addition, with the new administration of PIPP, DP&L is concerned that SCOPE will be overwhelmed with the PIPP enrollment process and will not recertify all customers at the one year mark, as currently required.

These interviews suggested that the goals of the PIPP pilot should include:

- Finding a way to remove the disincentives to paying bills.
- Finding a way to create incentives to pay the bills.
- Providing more information to customers about the PIPP program.

e)   ***Utilities willingness to participate in a PIPP pilot***

Utilities were asked whether they would be willing to participate in a PIPP pilot program that aimed to improve customers' incentives for energy use and bill payment. FirstEnergy said that they would not participate due to the difficulty and expense of modifying billing systems. Cinergy, AEP, and DP&L stated that they would be willing to participate. Since Monongahela Power has a small service territory in Ohio, it may make more sense to select a different utility for the pilot.

Appendix

- Appendix A: List of Interviews and Observations

- Appendix B: Interview and Observation Protocols and Survey Instruments

Appendix A: List of Interviews and Observations

Interviews

1. December 14, 2002: Stjepan Vlahovich, OEE
2. December 19, 2002: Tim Lenahan, OEE
3. January 15, 2002: Lena Draginsky, OEE
4. January 15, 2002: Amy Kuhn, OEE
5. January 15, 2002: Dawn Smith, OEE
6. January 16, 2002: Terry Smith, OEE
7. January 16, 2002: Judy Sagara, OEE
8. January 17, 2002: Sara Ward, OEE
9. January 17, 2002: Tom Andrews, OEE
10. January 24, 2002: Karen Doherty, OEE
11. April 4, 2002: Marselle Kidd and Eugene Norris, CHN
12. May 21, 2002: Rebecca Litwiler, Ashtabula
13. May 22, 2002: Vicky Mroczek, OCS
14. May 24, 2002: Dan Sturdevant, Honeywell DMC
15. May 28, 2002: Dave Rinebolt, OPAE
16. June 6, 2002: Dona Seger-Lawson, Dayton Power & Light
17. June 6, 2002: AEP staff
18. June 7, 2002: Monongahela Power staff
19. June 7, 2002: Cinergy (written response)
20. June 12, 2002, Vicky Mroczek, OCS
21. June 13, 2002: Tim Lenahan, OEE
22. June 13, 2002: Stjepan Vlahovich, OEE

Observation of Service Delivery

1. April 4, 2002: CHN
2. May 20, 21, 2002: Ashtubula
3. May 23, 2002: Honeywell DMC

Appendix B: Observation and Interview Protocols and Survey Instruments

Interview Protocols

1. Evaluation Information Requirements for Administration Interviews, December 6, 2001
2. Ohio USF Grantee Program Managers Information Requirements - March 28, 2002
3. Ohio Utility PIPP Managers Information Requirements - May 31, 2002
4. Ohio EPP Update - Tim Lenahan, June 4, 2002
5. Ohio EPP Update - Stjepan Vlahovich, June 4, 2002

Observation Protocols

1. Protocols for On-site Observation of USF Providers, May 10, 2002

Survey Instruments

1. Questions for USF Providers, February 21, 2002
2. Protocols for Ohio Client In-Depth Interviews, May 3, 2002
3. Ohio EPP, Provider Service Delivery Survey, May 3, 2002