Final Report: 2005 ComEd ENERGY STAR® qualified Room Air Conditioner Exchange and Recycling Program

Submitted on November 22, 2005 by the Midwest Energy Efficiency Alliance to:

ComEd
An Exelon Company

Midwest Energy Efficiency Alliance
One East Erie Street, Ste 200
Chicago, IL 60611
# TABLE OF CONTENTS

## TABLE OF CONTENTS ........................................................................................................... 2

## TABLE OF TABLES .................................................................................................................. 3

## EXECUTIVE SUMMARY ........................................................................................................ 4

Program Concept .................................................................................................................. 4
Results .................................................................................................................................... 4
Conclusion .............................................................................................................................. 5

## PROGRAM OVERVIEW ......................................................................................................... 6

Creating the Development & Implementation Team ............................................................. 6
Selecting the Market .................................................................................................................. 7
- Geography .......................................................................................................................... 7
- Household Income .............................................................................................................. 7
Marketing the Program .......................................................................................................... 7
- Direct Mail and Reservation Campaign ............................................................................... 7
- Community Outreach by ComEd ......................................................................................... 10
Product Supply & Recycling ............................................................................................... 12
- Product Supply .................................................................................................................. 12
- Recycling Services .......................................................................................................... 12
Volunteer Groups .................................................................................................................. 13
- Customer Survey Development ....................................................................................... 14
- Customer Survey Results ............................................................................................... 14
Miscellaneous Planning Items ............................................................................................. 19

## EVENT NARRATIVES .......................................................................................................... 20

Event 1: Ward 6, City of Chicago ......................................................................................... 20
- Event 1 Positives ............................................................................................................... 20
- Event 1 Negatives ............................................................................................................. 20
Event 2: Ward 10, City of Chicago ..................................................................................... 20
- Event 2 Positives ............................................................................................................... 21
- Event 2 Negatives ............................................................................................................. 21
Event 3: Park Forest, IL ....................................................................................................... 22
- Event 3 Positives ............................................................................................................... 22
- Event 3 Negatives ............................................................................................................. 22
Event 4: Rockford, IL .......................................................................................................... 23
- Event 4 Positives ............................................................................................................... 23
- Event 4 Negatives ............................................................................................................. 24

## EXCHANGE RESULTS ......................................................................................................... 24

## ENERGY & ENVIRONMENTAL SAVINGS ........................................................................... 25

Energy and Environmental Savings by Unit Capacity and Quantity ....................................... 25
Snap shots of the ENERGY STAR Room Air Conditioner Calculator ..................................... 26

## RECYCLING RESULTS ....................................................................................................... 28

Measured Recycling Results ............................................................................................... 29

## LESSONS LEARNED ............................................................................................................ 30
CONCLUSION ................................................................................................................................................. 32

TABLE OF TABLES

Table 1  (Volunteer Groups for ComEd Events) ................................................................................................................................. 14
Table 2 Surveys that Contained Reservation Numbers (n=465) ........................................................................................................... 15
Table 3 How clients learned about the air conditioner exchange event (n=459) .............................................................................. 15
Table 4 How often customers used air conditioning ..................................................................................................................... 15
Table 5 Housing Types, Home Ownership and Household Size of Survey Respondents compared to Ward and City ................................................................................................................................. 16
Table 6 (Distribution Results for Exchange Events) ........................................................................................................................ 24
Table 7 (Remaining Inventory) ......................................................................................................................................................... 24
Table 8 (Environmental Savings from Small Units) ....................................................................................................................... 25
Table 9 (Environmental Savings from Large Units) ....................................................................................................................... 25
Table 10 (Total Environmental Savings from Exchange Events) .............................................................................................. 25
Table 12 (Bulk Recycling Results by weight) ............................................................................................................................ 29
Table 13 (Commodity Prices for Recycled Material) ..................................................................................................................... 29
Table 14 (Revenue from Material Recycled) ........................................................................................................................................ 29
EXECUTIVE SUMMARY

In early 2005 Commonwealth Edison (ComEd) asked the Midwest Energy Efficiency Alliance (MEEA) to implement an energy efficient room air conditioner exchange program in specific areas within ComEd’s service territory. The goal was to distribute new ENERGY STAR qualified room air conditioners to lower-income ComEd residential customers in exchange for their old inefficient room air conditioners. The old room air conditioners would be disassembled and recycled, permanently removing them from ComEd’s delivery system.

The objectives for this program were to a) maximize the return on investment in terms of overall savings to the ComEd customer, b) deliver positive intangibles to key local officials, and c) determine the best method for distribution and marketing the promotion within a small geographic market.

Program Concept
This program revolved around the concept of a well-choreographed neighborhood event as both the delivery and collection mechanism of room air conditioners. Reservations were taken in advance by the program vendors and participating customers were asked to arrive at staggered times throughout the day of the event with their old unit in the trunk of a car. The events were all held in large parking lots and consisted of four processing stations. The participant never needed to leave their car as their paperwork was processed, their old units were removed for recycling, a customer survey was taken, and the new ENERGY STAR qualified unit was loaded into their vehicle.

Results
ComEd hosted a unique event in City of Chicago Wards 6 and 10 as well as Park Forest and Rockford, IL. A total of 811 room air conditioners were exchanged, resulting in a lifetime energy savings to ComEd customers of over 603,000 kWh. This combined with the average purchase savings of $175 per unit resulted in economic savings of $193,000 by participating ComEd customers.
Conclusion
This program successfully delivered substantial savings to small-targeted markets of lower-income ComEd residential customers in a very short timeframe. Positive intangibles were delivered to key local officials through co-branding opportunities unique to the onsite neighborhood event concept. ComEd conquered the learning curve for implementing this program—with incremental adaptations delivering immediate results in each succeeding event.
Final Report: 2005 ComEd ENERGY STAR qualified Room Air Conditioning Exchange and Recycling Program

PROGRAM OVERVIEW

In early 2005 Commonwealth Edison (ComEd) asked the Midwest Energy Efficiency Alliance (MEEA) to implement an energy efficient room air conditioner exchange program in specific areas within ComEd’s service territory. The goal was to distribute new ENERGY STAR qualified room air conditioners to lower-income ComEd residential customers in exchange for their old inefficient room air conditioners. The old room air conditioners would be disassembled and recycled, permanently removing them from ComEd’s delivery system.

The objectives for this program were to a) maximize the return on investment in terms of overall savings to the ComEd customer and b) determine the best method for distribution and marketing the promotion within a small geographic market.

Creating the Development & Implementation Team
This program’s team consisted of ComEd as the sponsor, MEEA as the administrator, Honeywell Utility Solutions (Honeywell) as the lead vendor, SEARS as the supplier, Environmental Field Services and Midwest Mechanical Group as the recyclers, and the Community Energy Cooperative (CEC) as the customer surveyor.

MEEA issued a Request for Proposals (RFP) on May 10th, 2005 to energy efficiency program implementation vendors and appliance recyclers. The original scope of work in the RFP stated ComEd’s goal to implement an exchange event in City of Chicago Wards 6 and 10, however one week prior to the first event ComEd key management approved expansion of the program to include two additional events in municipalities that met the selection criteria. Much of the industry feedback regarding this RFP underscored the challenging goal of exchanging as many units as possible within the given budget of without generating too much demand for the promotion.

MEEA received three proposals from vendors in response to this RFP. MEEA and ComEd staff worked together to evaluate and negotiate with interested vendors to identify the best implementation Team. The deciding factor for choosing a lead vendor for implementation was their ability to obtain and deliver as many new ENERGY STAR qualified room air conditioners as feasible as quickly as possible.

The successful vendor Honeywell delivered the best price/per unit, quantity, and delivery capacity for implementing this program through its business relationships with SEARS.

CEC was contracted to develop and implement a customer survey for the original events.
The program team was in place by the first week of August, 2005.

Selecting the Market
Geography and household income were the categories used to identify specific target markets for this program.

Geography
ComEd’s Marketing Research group and External Affairs identified specific geographic markets for this program based on known customer income levels as well as system reliability indicators. None of the other program Team members participated in this selection process.

Household Income
MEEA did work with ComEd to determine the best method for identifying eligible participants for this program. The agreed upon criteria were:

- Existing Residential ComEd Customer
- Enrolled in the Low Income Home Energy Assistance Program (LIHEAP)
- Resident of City of Chicago Ward 6 or Ward 10
- Owner of an old working room air conditioner

By utilizing these criteria it was clear that this program would successfully deliver economic savings to those households that needed it most while also benefiting the system reliability of their community. However, the overall number of eligible customers in both markets greatly outnumbered the overall supply available through the program. The program was capable of delivering approximately 800 new units in exchange for old working units. The number of eligible participants numbered in the tens of thousands for these market areas. The risk of oversubscription was blaring and called for an extremely accurate and cautious marketing approach.

Marketing the Program
Traditional marketing and advertising techniques in newspapers, radio and television spots were not viable options for this program. To make eligible customers aware of the program opportunity two distinct approaches were utilized. MEEA and Honeywell pursued a direct mail and reservation campaign while the ComEd leveraged internal assets to garner community support for the events.

Direct Mail and Reservation Campaign
Honeywell maintains an existing multi-lingual customer call center to service programs across the country and suggested to the Team that this asset be utilized for this program. Honeywell developed a pre-qualified reservation system for this program that offered two essential
features: a) control of marketing and advertising of the events as much as was possible and b) concise inventory management.

A one page multi-color invitation was created (see following page) and mailed directly to eligible ComEd customers. The targeted list was composed of randomly selected customers in communities with a high concentration of Low Income Home Energy Assistance Program (LIHEAP) qualified residents. The selected communities also have high concentrations of older dwellings with window unit air conditioners.

The invitation provided the customer with a clear description of the exchange opportunity without providing exact times or locations. Customers were encouraged to call Honeywell’s call center to be qualified for the program and make a reservation. Those that qualified and wished to participate were given a unique reservation number and asked to write that number on their invitation for processing purposes.

It was made explicitly clear on the invitations as well as by customer service representatives that this program was only available while supplies last.
August 4, 2005

Dear Valued Customer,

Through our commitment to energy conservation, we are pleased to introduce our 2005 Room Air Conditioner Recycling Program. With this program, qualifying ComEd customers can recycle their old, inefficient room air conditioner and receive an ENERGY STAR® replacement unit FREE OF CHARGE.

The Room Air Conditioner Recycling Program’s goal is to present substantial energy savings by removing as many inefficient, but operational room air conditioners as possible from our electrical grid and recycling them responsibly. In addition, ComEd customers can also realize savings in energy costs over the summer months.

We have a limited supply of ENERGY STAR® Room Air Conditioners allocated to this program and the new air conditioner units will be distributed on a first-call, first-served basis.

You must first call our Energy Saver Hotline to reserve your FREE ENERGY STAR® Room Air Conditioner. Supply is limited so call now.

Reserve your energy efficient, FREE Room Air Conditioner NOW! 1-800-485-2321

Once you call our hotline, one of our customer representatives will be able to help you with our simple recycling process. As units are available in the size you require, you will receive a Reservation Code. Please write your Reservation Code on the place provided at the bottom of this letter.

You will be notified of the time and location in your area where you can bring in your old, inefficient air conditioner to be recycled AND receive your new, ENERGY STAR® Room Air Conditioner. There are no rebate applications necessary, however, please bring this letter and your Reservation Code with your old air conditioner unit.

As a participant, you will be required to furnish a ComEd bill verifying your place of residence, your inefficient air conditioner must be functional and you would be required to sign a form acknowledging your participation in the program and the receipt of your new air conditioner. In addition, participants need to be eligible for LIHEAP (Low Income Home Energy Assistance Program.)

To take advantage of this important program, you must first call. Supply is very limited. Call now.

<table>
<thead>
<tr>
<th>RESERVATION CODE:</th>
<th>LOCATION OF RECYCLING DEPOT:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MAKE:</td>
</tr>
<tr>
<td></td>
<td>MODEL:</td>
</tr>
<tr>
<td>DATE:</td>
<td>TIME:</td>
</tr>
<tr>
<td>BTU:</td>
<td>ROOM SIZE:</td>
</tr>
</tbody>
</table>

Figure 2 Customer Invitation: Above is a sample of the invitation mailed directly to eligible ComEd customer for the Exchange Program.
Honeywell customer service representatives would qualify the customer and inform them where the event was taking place. Additionally, to help with crowd control customers were also given a one-hour time frame in which to show up for their exchange.

A ComEd customer received their new air conditioner if they meet the following criteria:

» They furnished a ComEd bill verifying they lived within the specified city limits
» The air conditioner they brought with them to replace was demonstrably functional at the exchange site
» They signed a form confirming their participation in the program and their receipt of a new air conditioner.
» The customer was LIHEAP eligible

The targeted mailing list provided by ComEd was of randomly selected program eligible customers. The Team mailed 4 (four) thousand invitations to eligible customers in the both Ward 6 and Ward 10 in Chicago. A database was created to track those customers and to print out work orders that were used the day of the event. MEEA anticipated significant word of mouth generated walk-up customers as well as customers who received an invitation but failed to make a reservation in advance.

On the following page is a sample work order.

Community Outreach by ComEd

In addition to the direct mail campaign, ComEd Public Affairs Directors and members of the Corporate Communication staff prepared local officials and media outlets for the events. Advanced communication was made with respective Alderpersons, their staff, local police, as well as volunteer groups identified to assist the Team on the day of the event.

ComEd collaborated with community organizations (the volunteer groups) to provide dozens of volunteers at the community exchange events. The invitation to these organizations to participate in the program gave ComEd External Affairs Managers the opportunity to cultivate and enhance relationships in the select municipalities. Working with these organizations also facilitates the targeted marketing in the defined market areas—providing local officials an opportunity to reach out to a specific group of constituents.
Figure 3 Sample Work Order: these were printed out from the reservation database and used as the primary tracking device at the exchange events.
Product Supply & Recycling
The original scope of work called for three different BTU sizes to be onsite ready for immediate distribution to qualified customers. Small units (5,300 BTU), medium units (8,000 BTU), and large units (10,000 BTU) were to be purchased from SEARS. Due to seasonal demands SEARS was no longer had the medium size units. Since inventory for the event was limited to two sizes, a customer that handed in a medium had the choice of a small or large unit in return.

Product Supply
A total of 907 new Kenmore ENERGY STAR qualified room air conditioners were purchased by ComEd from SEARS for this program. ComEd purchased 732 new units for the first two events and an additional 175 units to bolster remaining inventory for the third and fourth events.

Coordinating the product delivery to each of the events required working with many parties, including four departments at SEARS (Inventory, operations, government sales, and purchasing), and Sanyo (Logistics). The unit price negotiated included the delivery of the new units to both sites and the all costs associated with the recycling.

To improve product supply and delivery services for the final two exchange events the TEAM retained ComEd’s Supply Group to provide superior logistical support. The ComEd Supply Group offered timely storage services of the new A/C units, Just-in-Time delivery to the events in Park Forest and Rockford, and removal of excess scrap at the Rockford event to a ComEd retail location for pick/up by United Scrap.

Recycling Services
Environmental Field Services National LLC was utilized for recycling services at the first two exchange events. Environmental Field Services was included in the original proposal from Honeywell and SEARS. The cost to ComEd for the service was the value of the demanufactured metal of the old units. This recycling provided two employees and a box truck at the events. These assets constituted station #2 at the events, where customers were relieved of their old room air conditioner.

Midwest Mechanical Group was on hand for the final two events to dispose of the refrigerant within the old exchanged air conditioning units at the time the customer handed them in. To emphasize the environmental component of each event, the proper
refrigerant evacuation and scrap metal disposal processes needed to be readily apparent to the participants. At these events participants saw first hand that the hazardous materials and scrap metal were being handled in an environmentally friendly manner.

ComEd’s Investment Recovery group provided support for the on-site evacuation of refrigerant and also coordinated the scrap metal recycling. The funds from the salvage were used to offset the handling cost of the old air-conditioner units.

**Volunteer Groups**

To ensure the smooth operation of the exchange event, local volunteer groups donated people and time in return for a $1,500 donation from MEEA. The volunteers helped the Team with the loading and unloading of the air conditioners, processing paperwork and directing traffic. In addition, the cooperation of the local volunteer groups helped MEEA and ComEd demonstrably support community involvement in the worthwhile pursuit of energy efficiency, recycling practices, and neighborhood economic benefits.

There were many critical aspects to coordinating both the recycler and the volunteer groups:

- The recycling truck size had to be large enough to handle all of the old units being turned in.
- Parking lot space needed to be secured for the 48-foot recycling box truck.
- Determine the required capacity of the electricity generator for the recycling process and find a nearby location to lease the generator(s) and,
- Determine how many temporary workers to hire to properly support the volunteer groups for the events.

The volunteer groups were chosen by ComEd Public Affairs Directors. Once they were identified the TEAM communicated with them to determine how many volunteers they were bringing out, their capacity to lift heavy objects, and identify any tools they needed such as gloves and weight belts.
Customer Survey Development
CEC provided development, implementation, and reporting for the customer survey that was developed for the exchange events. The Community Energy Cooperative designed and administered a 1½ page survey on site in both [events held in the City of Chicago]. The survey consisted of 12 questions primarily with multiple-choice answers. The questions addressed outreach efforts (1 question), demographics (3), appliance ownership (3), behavior and attitudes (3) and energy efficiency knowledge (1). The final question solicited opinions about the concept of hourly energy pricing.

CEC declined to conduct surveys in Park Forest and Rockford, IL citing the compressed timeline for implementation. However CEC did agree to incorporate the data collected by the TEAM that utilized an abbreviated survey for the last two events.

Customer Survey Results
The Community Energy Cooperative found implementing the survey at the events simple, stating that, “the survey distribution and collection system Honeywell designed worked well. Cars stayed in queue and customers seemed receptive to staff approaching their vehicles. By the time cars approached Station 3; most customers had enough time to complete their survey. In preliminary timing tests (not in vehicles while driving), respondents took 2-3 minutes to complete the survey.”¹

“So the primary task of the Cooperative – to survey the participants in the RAC exchange – was accomplished. This analysis has identified participants’ demographics, appliance ownership, behavior and attitudes related to electricity use, and conservation and efficiency knowledge. This information could be used as baseline data set for a number of additional analyses.”²

For a full debriefing of survey results please see “2005 ComEd Room Air Conditioner (RAC) Program Survey Final Report delivered to ComEd separately. CEC offers an anecdotal conclusion in its report saying, “Organizing an exchange program in such a short timeframe was a challenge, but participants appreciated the effort and spoke highly of the events. “[I]

² CEC, page 12.
think the program is wonderful!” stated one participant. “[I] hope to see a program like this in the future,” another commented.

Snapshots of survey data analysis (completed at the time of this report) directly regarding the first two events are below:

<table>
<thead>
<tr>
<th>Reservation Number</th>
<th>Ward 6</th>
<th>Ward 10</th>
<th>Total</th>
<th>p=0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blank</td>
<td>19% (31)</td>
<td>52% (158)</td>
<td>41% (189)</td>
<td>&lt;.0001</td>
</tr>
<tr>
<td>Pre-printed</td>
<td>81% (128)</td>
<td>48% (148)</td>
<td>59% (276)</td>
<td></td>
</tr>
</tbody>
</table>

Table 2 Surveys that Contained Reservation Numbers (n=465)

<table>
<thead>
<tr>
<th>Outreach method</th>
<th>Ward 6</th>
<th>Ward 10</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter from ComEd</td>
<td>54% (84)</td>
<td>38% (114)</td>
<td>43% (197)</td>
</tr>
<tr>
<td>School</td>
<td>1% (1)</td>
<td>4% (11)</td>
<td>3% (12)</td>
</tr>
<tr>
<td>Newspaper</td>
<td>1% (1)</td>
<td>3% (9)</td>
<td>2% (10)</td>
</tr>
<tr>
<td>Church</td>
<td>8% (13)</td>
<td>9% (26)</td>
<td>8% (39)</td>
</tr>
<tr>
<td>Senior group</td>
<td>4% (7)</td>
<td>5% (15)</td>
<td>5% (22)</td>
</tr>
<tr>
<td>Alderman</td>
<td>29% (46)</td>
<td>14% (42)</td>
<td>19% (88)</td>
</tr>
<tr>
<td>CAPS</td>
<td>0% (0)</td>
<td>1% (4)</td>
<td>1% (4)</td>
</tr>
<tr>
<td>Flier</td>
<td>0% (0)</td>
<td>2% (6)</td>
<td>1% (6)</td>
</tr>
<tr>
<td>Other</td>
<td>7% (11)</td>
<td>29% (89)</td>
<td>22% (100)</td>
</tr>
</tbody>
</table>

Table 3 How clients learned about the air conditioner exchange event (n=459)

<table>
<thead>
<tr>
<th>Responses</th>
<th>Ward 6</th>
<th>Ward 10</th>
<th>Total</th>
<th>p=</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whenever I feel hot</td>
<td>68% (106)</td>
<td>55% (166)</td>
<td>59% (272)</td>
<td>0.014</td>
</tr>
<tr>
<td>Only at night</td>
<td>7% (10)</td>
<td>11% (34)</td>
<td>10% (44)</td>
<td></td>
</tr>
<tr>
<td>Only during the day</td>
<td>9% (14)</td>
<td>8% (23)</td>
<td>8% (37)</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>16% (25)</td>
<td>26% (80)</td>
<td>23% (105)</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 How often customers used air conditioning

---

3 CEC, page 5.
4 CEC, page 6.
5 CEC, page 8.
### Table 5  Housing Types, Home Ownership and Household Size of Survey Respondents compared to Ward and City

<table>
<thead>
<tr>
<th>Building type</th>
<th>Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 6</td>
<td>Ward 10</td>
</tr>
<tr>
<td>Single family</td>
<td>53% (81)</td>
</tr>
<tr>
<td>2 to 6 flat</td>
<td>31% (47)</td>
</tr>
<tr>
<td>Multi-unit 7+</td>
<td>16% (24)</td>
</tr>
</tbody>
</table>

A full sample of the survey is provided on the following pages:
2005 Air Conditioner Exchange Program

1. How did you hear about this program/event? (please check all that apply)
   - Letter from ComEd
   - School
   - Newspaper
   - Church
   - Senior group
   - Alderman
   - CAPS
   - Flier
   - Other ____________________________

2. What type of building do you live in?
   - Single family
   - Two to six flat
   - Multi-unit building (7+ units)

3. Do you own or rent?      - Own
                                - Rent

4. How many people live in your home? _______________________

5. Is anyone at home weekday afternoons during the summer?
   - No, not typically
   - Yes, everyday
   - Yes, some days

6. How many window air conditioners do you own? ______ How old (in years)? ______
   Do you also have central air?  - Yes  - No

7. How often do you use your air conditioners?
   - Whenever I feel hot
   - Only at night
   - Only during the day
   - Other _______________________

8. Which of these appliances do you have in your home? How many?
   - TV # ______
   - Computer # ______
   - Clothes washer # ______
   - Dishwasher # ______
   - Gas dryer # ______
   - Electric dryer # ______
   - Ceiling fan # ______
   - Window fan # ______

9. Do you own your refrigerator?  - Yes  - No  If yes, how old (in years)? ______

10. Do you use compact fluorescent lights at home?    - Yes  - No  - Not sure

11. Which statement best describes how you feel about your electricity use?
   - I try to conserve to save money
   - I need all the electricity I use and must pay whatever it costs
   - Electricity is not too big an expense for me; I don't worry about using too much
   - Other _______________________

12. In 2007, there will be changes in how people pay for electricity. Today, you pay the same price for electricity all the time, every hour of the day, every day of the week - it's a flat rate. But, the real cost of electricity changes all the time. For example, it is more expensive during hot summer afternoons and less expensive in the middle of the night.

   In 2007, you will be able to choose between different pricing plans. You could choose a rate that changes from hour to hour based on the demand for electricity. It's like a cell phone plan that gives

   Figure 6 Customer Survey
12. Continued...

you cheap minutes on evenings and weekends, and costs more during hours when the network is busy.

Right now, some people are using an electricity plan like this. Most people on this plan are saving money, though savings are not guaranteed. They are saving because most of the time, the hourly price that they pay is lower than the set rate that other customers pay. And, people can save even more money if they conserve energy during the higher priced times.

When hourly pricing is available, do you think you would be interested in this plan that lets you manage your energy use to save money, or would you rather stay with a set-price plan like you have now?

☐ Yes, I would be interested in an hourly plan
☐ No, I would rather stay with a set price plan
☐ I am not sure
Miscellaneous Planning Items
A lot of planning went into making sure everything was set for the day of the event. Many of the items that had to be considered for the day of the event included: rest rooms (does the site have any or do we have to order them), security to watch the truck overnight, permit issues with running an event like this, set-up (renting tables, chairs, trash cans, generators, etc.), training the volunteers and other event staff, notify the city police department, and traffic control issues. The original flow chart of the event processing scheme is below:

Figure 7 Event Map: processing flow for the Exchange Events. Participants drove their cars through each station and never needed to exit their car. The TEAM adapted this model for each location depending on the space provided and reversed stations 3 and 4.
EVENT NARRATIVES

Event 1: Ward 6, City of Chicago
August 20, 2005
8:00 am – 3:00 pm
Martin Temple Zion Church
6930 South Cottage Grove Chicago, IL
Supported by: The 6th Ward Young Democrats

The Ward 6 exchange event was located at Martin Temple Zion Church in their southern parking area. The four processing stations were set up in a horse-shoe shaped circuit, with one clear entrance and exit for customers to drive through.

Alderman Lyle and her staff assisted the Team throughout the entirety of the event. A total of 166 units were exchanged over a seven-hour period.

Event 1 Positives
The location worked well for the volume of customers processed. The processing went smoothly with only a slight backup of customer traffic at the fourth station early in the event due to customers arriving earlier than their official reservation time. The Alderman and her staff were very pleased with the over all event production.

Event 1 Negatives
There were not enough volunteers to divide into shifts. The volunteers worked very hard but were worn out from lifting the units by day’s end. While the team did provide all event personnel with red ComEd t-shirts, the Team would have preferred more branding at the event.

Event 2: Ward 10, City of Chicago
August 21, 2005
8:30 am – 2:15 pm
Calumet Park 100 East Avenue G Chicago, IL
Supported by: The Taylor Culinary Group
Alderman John Pope’s office arranged the Ward 10 event to be held in Calumet Park’s large southern parking lot. The four processing stations were setup in a linear fashion directly in front of the entrance. Alderman Pope assisted with the loading of new units in customers’ cars for the first hour and a half of the event. A total of 266 units were exchanged over a six-hour period.

Before the event began the Team had collected 250 exchange reservations for the event. With substantial inventory on site the Team agreed to process unsolicited “walk-ups” for this event if customer could prove they were a current ComEd customer in good standing, lived in Ward 10 (ComEd bill and proper identification were required), and provided their old working room air conditioner for exchange.

This event ran extremely well, with a consistent volume of customers being processed from 8:00 am (they arrived early) to Noon. By 12:30 the volume of unsolicited customers with old room air conditioners to exchange increased substantially. At 1:30 pm approximately 80 vehicles were in the queue for processing station #1. A traffic hazard was created when traffic began to stall across a railroad crossing. Local police assisted in traffic management, but by 2:15 pm a member of Alderman Pope’s staff deemed the customer ground swell potentially hazardous and ordered the event closed.

The Team approached waiting customers and informed them the event was closed while offering appreciation for their interest.

MEEA staff estimate that a total of 120 customers (vehicles) were turned away. The Team did have enough new inventories to service all of the customers. However the recycler clearly did not have the capacity to process those additional units.

**Event 2 Positives**
The location and the lot size were perfect for this event. Processing went smoothly in the morning but lacked the capacity at all stations during the rush of customers between Noon and 2:15pm.

**Event 2 Negatives**
Since this event quickly followed the first, much of the cosmetic issues could not be addressed.

Similar to the earlier event, the volunteer group worked very hard but could not provide the capacity needed for the afternoon rush of customers. The recycler’s truck was not large enough to haul away all of the old units. Some of the units had to be hauled away the next day.

Following the transportation service for the new units refused to extend the pick-up time for the trailer with loaded inventory. This forced the TEAM to hire two groups of temporary workers to load and unload new inventory from a leased box truck. All units were delivered and stored at ComEd’s Chicago North facility.
Event 3: Park Forest, IL  
October 9, 2005  
8:00 am – 2:00 pm  
Park Forest Village Hall  
Parking Lot  
350 Victory Drive  
Park Forest, IL  
Supported by: Police Athletic Activity Center (PAAC)  

The Village Manager and ComEd Public Affairs Directors chose the Park Forest Village Hall parking lot for this location. At this event the processing stations were set up in a circle. Village Manager Tom Mick and Village Trustee Ken Kramer both briefly toured the event and offered sincere appreciation for the professional processing system.

This was the smallest of the four market areas to host an exchange event, both in terms of household density and room air conditioner demand. The majority of homes in the village are cooled by a central air conditioner system. A total of 53 units were exchanged.

Event 3 Positives  
ComEd utilized existing arrangements with On-Site Promotions to better brand this exchange event. Prominent ComEd labeled tents were used at each of the processing stations. A much wider variety of ComEd customer booklets and gifts were distributed to customers. On-Site Promotions also managed the catering service once it was delivered. The Village of Park Forest provided orange traffic cones and other traffic control devices. The Team arranged for all meals and snacks to be catered, allowing personnel to attend strictly to processing customers.

ComEd also utilized existing relationships with Midwest Mechanical Group and United Scrap to evacuate coolant from the old units and haul them away for recycling.

Communication between key personnel was enhanced through the use of two-way radios furnished by Honeywell at this event.

Event 3 Negatives  
Although the anticipated volume for this event was much lower than the previous two, the volunteer group was still not adequate in quantity as most volunteers had to leave early. The
Team did hire two temporary workers in case this again became an issue. The temp-workers handled the majority of the work at the end of the event.

**Event 4: Rockford, IL**
October 16, 2005
8:00 am – 2:30 pm
Old Rockford Armory
711 N. Main Street
Rockford, IL
Supported by Rockford YouthBuild and Cease Fire Programs

Paul Callighan of ComEd coordinated with the City of Rockford’s Director of Human Services Mark Bixby to find a suitable location for the event as well as support groups for this event. They identified the parking lot that services the Park District’s Museum Campus for this event. The parking lot would need to be used by the Museum at the same time as the event. Working together the Deputy Mayor and the Museum Director the Team devised a processing layout that funneled the ComEd customers around the perimeter of the parking lot and out of the way of museum attendees. This proved to be an optimal processing design for the event. The two-way radio communication capacity was key to the day’s success as each of the four stations were quite spread out.

*Event 4 Positives*
This was the **best location** for hosting an exchange event. The Rockford Park District Museum provided twenty traffic saw-horses and caution tape. The City of Rockford provided large orange traffic cones.

**Catering, Branding, and Recycling** services were all provided by the same vendors as the Park Forest event.

**Volunteers** were plentiful enough to disperse between all of the stations and organized into shifts. Two temporary workers still retained to assist at stations # 2 and 4.
Event 4 Negatives
The original leased generators did not provide enough capacity for the recyclers. A Team member had to make multiple trips Home Depot to obtain more generators, leaving the Team short handed for the first hour of the event.

The scrap bin was not large enough to hold all of the old units. The remainder was placed in ComEd’s leased tractor trailer by Team members for delivery to the recycling facility.

Exchange Results
A total number of 811 new ENERGY STAR qualified room air conditioners were exchanged in the four communities for old working room air conditioners. ComEd donated 64 new ENERGY STAR qualified units to participating volunteer groups. Below is a breakdown of units distributed by event.

<table>
<thead>
<tr>
<th>Event</th>
<th>Distributed Units</th>
<th>Donations</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Small</td>
<td>Large</td>
<td>Total</td>
</tr>
<tr>
<td>August 20, 2005 Ward 6, Chicago</td>
<td>66</td>
<td>95</td>
<td>161</td>
</tr>
<tr>
<td>August 21, 2005 Ward 10, Chicago</td>
<td>97</td>
<td>225</td>
<td>322</td>
</tr>
<tr>
<td>October 1, 2005 Park Forest, IL</td>
<td>11</td>
<td>49</td>
<td>60</td>
</tr>
<tr>
<td>October 8, 2005 Rockford, IL</td>
<td>60</td>
<td>208</td>
<td>268</td>
</tr>
<tr>
<td>Totals</td>
<td>234</td>
<td>577</td>
<td>811</td>
</tr>
</tbody>
</table>

Units Purchased Amt.
Ward 6 & 10 Events 732
Park Forest & Rockford 175
Total Amt. Purchased 907

Table 6 (Distribution Results for Exchange Events)

Units Remaining in Inventory
32 Large (10,000 btu)

Table 7 (Remaining Inventory)
**ENERGY & ENVIRONMENTAL SAVINGS**

Below are energy savings charts for exchanging 234 small room air conditioners and 577 large room conditioners. The assumptions for the conventional units include an Energy Efficiency Ratio (EER) of 9.7 and a lifetime use of 12 years. The ENERGY STAR units that were distributed had an Energy Efficiency Ratio (EER) of 10.8. All savings are estimates in kWh. The Savings calculator provided by ENERGY STAR at [www.energystar.gov](http://www.energystar.gov) was utilized to make these calculations. Snapshots of these website calculations are included at the end of this section.

**Energy and Environmental Savings by Unit Capacity and Quantity**

<table>
<thead>
<tr>
<th></th>
<th>234 Small Units Exchanged</th>
<th>577 Large Units Exchanged</th>
<th>811 Total Units Exchanged</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ENERGY STAR Qualified Units</td>
<td>Conventional Units</td>
<td>Savings with ENERGY STAR</td>
</tr>
<tr>
<td><strong>Consumption (kWh)</strong></td>
<td><strong>Annual Energy</strong></td>
<td><strong>Life Time Energy</strong></td>
<td><strong>Annual Energy</strong></td>
</tr>
<tr>
<td></td>
<td>78,431</td>
<td>87,325</td>
<td>8,894</td>
</tr>
<tr>
<td></td>
<td>941,174</td>
<td>1,047,905</td>
<td>106,731</td>
</tr>
<tr>
<td></td>
<td>364,899</td>
<td>406,279</td>
<td>41,380</td>
</tr>
<tr>
<td></td>
<td>4,378,789</td>
<td>4,875,353</td>
<td>496,564</td>
</tr>
<tr>
<td></td>
<td>443,330</td>
<td>493,604</td>
<td>50,274</td>
</tr>
<tr>
<td></td>
<td>5,319,963</td>
<td>5,923,258</td>
<td>603,295</td>
</tr>
</tbody>
</table>

**Table 8 (Environmental Savings from Small Units)**

**Table 9 (Environmental Savings from Large Units)**

**Table 10 (Total Environmental Savings from Exchange Events)**

Additional Benefits for 234 Small Room Air Conditioners:
- Life cycle air pollution reduction (lbs of CO2)………………………..152,625
- Air pollution reduction (cars removed from the road for a year)……………13

Additional Benefits for 577 Large Room Air Conditioners:
- Life cycle air pollution reduction (lbs of CO2)………………………..710,286
- Air pollution reduction (cars removed from the road for a year)……………61

Additional Benefits for 811 Total Room Air Conditioners:
- Life cycle air pollution reduction (lbs of CO2)………………………..862,911
- Air pollution reduction (cars removed from the road for a year)……………74
Snap shots of the ENERGY STAR Room Air Conditioner Calculator

Life Cycle Cost Estimate for 234 ENERGY STAR Qualified Room Air Conditioner(s)

This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.

Enter your own values in the gray boxes or use our default values.

<table>
<thead>
<tr>
<th></th>
<th>234 ENERGY STAR Qualified Unit(s)</th>
<th>234 Conventional Unit(s)</th>
<th>Savings with ENERGY STAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of units</td>
<td>234</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric Rate ($/kWh)</td>
<td>$0.08</td>
<td>$0.08</td>
<td></td>
</tr>
<tr>
<td>Change to reflect your data</td>
<td>$-change</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Initial Cost per Unit (estimated retail price)</td>
<td>$0</td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td>Energy Efficiency Ratio (EER)</td>
<td>11.5</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Cooling Capacity of Air Conditioner (BTU/h)</td>
<td>6,100</td>
<td>6,100</td>
<td>6,100</td>
</tr>
</tbody>
</table>

Annual and Life Cycle Costs and Savings for 234 Room Air Conditioner(s)

<table>
<thead>
<tr>
<th></th>
<th>234 ENERGY STAR Qualified Unit(s)</th>
<th>234 Conventional Unit(s)</th>
<th>Savings with ENERGY STAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Operating Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy cost</td>
<td>$6,667</td>
<td>$7,423</td>
<td>$766</td>
</tr>
<tr>
<td>Maintenance cost</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>$6,667</td>
<td>$7,423</td>
<td>$766</td>
</tr>
</tbody>
</table>

Life Cycle Costs

<table>
<thead>
<tr>
<th></th>
<th>234 ENERGY STAR Qualified Unit(s)</th>
<th>234 Conventional Unit(s)</th>
<th>Savings with ENERGY STAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating costs (energy and maintenance)</td>
<td>$62,567</td>
<td>$69,662</td>
<td>$7,095</td>
</tr>
<tr>
<td>Energy costs</td>
<td>$62,567</td>
<td>$69,662</td>
<td>$7,095</td>
</tr>
<tr>
<td>Maintenance costs</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Purchase price for 234 Unit(s)</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>$62,567</td>
<td>$69,662</td>
<td>$7,095</td>
</tr>
</tbody>
</table>

Simple payback of initial additional cost (years) | 0.0 |

Summary of Benefits for 234 Room Air Conditioner(s)

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial cost difference</td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life cycle savings</td>
<td>$7,095</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net life cycle savings (life cycle savings + additional cost)</td>
<td>$7,095</td>
<td>$7,095</td>
<td>$7,095</td>
</tr>
<tr>
<td>Simple payback of additional cost (years)</td>
<td>0.0</td>
<td>$0</td>
<td>0.0</td>
</tr>
<tr>
<td>Life cycle energy saved (kWh)</td>
<td>106,721</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life cycle air pollution reduction (lbs of CO2)</td>
<td>102,245</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Air pollution reduction equivalence (number of cars removed from the road for a year)</td>
<td>23</td>
<td>23</td>
<td>23</td>
</tr>
<tr>
<td>Air pollution reduction equivalence (acres of forest)</td>
<td>2.1</td>
<td>2.1</td>
<td>2.1</td>
</tr>
<tr>
<td>Savings as a percent of retail price</td>
<td>$766</td>
<td>$766</td>
<td>$766</td>
</tr>
</tbody>
</table>
**Life Cycle Cost Estimate for**

**577 ENERGY STAR Qualified Room Air Conditioner(s)**

This energy savings calculator was developed by the U.S. EPA and U.S. DOE and is provided for estimating purposes only. Actual energy savings may vary based on use and other factors.

**Enter your own values in the gray boxes or use our default values.**

<table>
<thead>
<tr>
<th></th>
<th>ENERGY STAR</th>
<th>Conventional Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of units</td>
<td>67</td>
<td>67</td>
</tr>
<tr>
<td>Electric Rate (kWh)</td>
<td>0.004</td>
<td>0.005</td>
</tr>
<tr>
<td></td>
<td>Change</td>
<td></td>
</tr>
<tr>
<td>Initial Cost per Unit (estimated retail price)</td>
<td>27</td>
<td>27</td>
</tr>
<tr>
<td>Energy Efficiency Ratio (EER)</td>
<td>10.6</td>
<td>8.7</td>
</tr>
<tr>
<td>Cooling Capacity of Air Conditioner (Btu/h)</td>
<td>12,000</td>
<td>10,000</td>
</tr>
</tbody>
</table>

**Annual and Life Cycle Costs and Savings for 577 Room Air Conditioner(s)**

<table>
<thead>
<tr>
<th></th>
<th>577 ENERGY STAR Qualified Unit(s)</th>
<th>577 Conventional Unit(s)</th>
<th>Savings with ENERGY STAR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual Operating Cost</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Energy cost</td>
<td>$31,016</td>
<td>$34,534</td>
<td>$3,517</td>
</tr>
<tr>
<td>Maintenance cost</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>$31,016</td>
<td>$34,534</td>
<td>$3,517</td>
</tr>
<tr>
<td>Life Cycle Costs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating costs (energy and maintenance)</td>
<td>$291.091</td>
<td>$224,192</td>
<td>$67,000</td>
</tr>
<tr>
<td>Energy costs</td>
<td>$291.091</td>
<td>$526,192</td>
<td>$235,000</td>
</tr>
<tr>
<td>Maintenance costs</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Purchase price for 577 units</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>$291.091</td>
<td>$526,192</td>
<td>$235,000</td>
</tr>
</tbody>
</table>

Simple payback of initial additional cost (years)

**Summary of Benefits for 577 Room Air Conditioner(s)**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial cost difference</td>
<td>$0</td>
</tr>
<tr>
<td>Life cycle savings</td>
<td>$220.10</td>
</tr>
<tr>
<td>Net life cycle savings (life cycle savings - additional cost)</td>
<td>$220.10</td>
</tr>
<tr>
<td>Simple payback of additional cost (years)</td>
<td>0.0</td>
</tr>
<tr>
<td>Life cycle energy saved (kWh)</td>
<td>488,564</td>
</tr>
<tr>
<td>Life cycle air pollution reduction (lbs of CO2)</td>
<td>710,068</td>
</tr>
<tr>
<td>Air pollution reduction equivalence (number of cars removed from the road for a year)</td>
<td>91</td>
</tr>
<tr>
<td>Air pollution reduction equivalence (acres of forest)</td>
<td>97</td>
</tr>
<tr>
<td>Savings as a percent of retail price</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
RECYCLING RESULTS

Two distinct recycling vendors were retained for the program. Environmental Field Services National LLC was utilized for recycling services at the first two exchange events. Midwest Mechanical Group was used by the program Team for the last two events.

ComEd chose to hire Midwest Mechanical Group to recycle the old units for the Park Forest and Rockford events. Midwest Mechanical Group provided six technicians, three vans and enough equipment to evacuate the refrigerant from the surrendered units onsite before depositing them into a steel container that would be hauled away later. A marked improvement was realized. The appearance and service was much improved from the first two events.

Midwest Mechanical Group did not provide electricity generators for the testing and evacuating process. This posed a problem for the program TEAM who had to constantly lease additional generation that could properly handle the work load.
## Measured Recycling Results

### Bulk Recycling Results

<table>
<thead>
<tr>
<th>Event Location</th>
<th>Refrigerant Retrieved (Lbs.)</th>
<th>Aluminum Recycled (Lbs.)</th>
<th>Iron Recycled (Lbs.)</th>
<th>Alum/Iron Breakage (Lbs.)</th>
<th>Total Weight Salvaged (Lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 6 City of Chicago</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Ward 10 City of Chicago</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Park Forest, IL</td>
<td>60</td>
<td>374</td>
<td>3,545</td>
<td>415</td>
<td>4,394</td>
</tr>
<tr>
<td>Rockford, IL</td>
<td>265</td>
<td>517</td>
<td>13,686</td>
<td>574</td>
<td>15,042</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>325</strong></td>
<td><strong>891</strong></td>
<td><strong>17,231</strong></td>
<td><strong>989</strong></td>
<td><strong>19,436</strong></td>
</tr>
</tbody>
</table>

Table 11 (Bulk Recycling Results by weight)

### Revenue Recycling Prices

<table>
<thead>
<tr>
<th>Event Location</th>
<th>Aluminum Recycled (Dollar/Lbs)</th>
<th>Iron Recycled (Dollar/Lbs)</th>
<th>Alum/Iron Breakage (Dollar/Lbs)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 6 City of Chicago</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Ward 10 City of Chicago</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Park Forest, IL</td>
<td>0.56000</td>
<td>0.08929</td>
<td>-0.25000</td>
</tr>
<tr>
<td>Rockford, IL</td>
<td>0.56001</td>
<td>0.06920</td>
<td>-0.25000</td>
</tr>
</tbody>
</table>

Table 12 (Commodity Prices for Recycled Material)

### Revenue Recycling Results

<table>
<thead>
<tr>
<th>Event Location</th>
<th>Aluminum Recycled (Dollars)</th>
<th>Iron Recycled (Dollars)</th>
<th>Alum/Iron Breakage (Dollars)</th>
<th>Total Revenue (Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ward 6 City of Chicago</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Ward 10 City of Chicago</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Park Forest, IL</td>
<td>$209.44</td>
<td>$316.53</td>
<td>-$103.75</td>
<td>$422.22</td>
</tr>
<tr>
<td>Rockford, IL</td>
<td>$289.53</td>
<td>$947.07</td>
<td>-$143.50</td>
<td>$1,093.10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$498.97</strong></td>
<td><strong>$1,263.60</strong></td>
<td><strong>-$247.25</strong></td>
<td><strong>$1,515.32</strong></td>
</tr>
</tbody>
</table>

Table 13 (Revenue from Material Recycled)
**LESSONS LEARNED**

Several challenges were met during the implementation phase of the program. Below are the more prominent issues that should be addressed when developing the next version of this program:

**Issue:** Lead time to plan for product procurement. Room air conditioners are a seasonal product that should be secured well in advance, to make sure the correct amount of product will be available for the event.

**Solution:** The best time to place a large order of room air conditioning units is in January.

**Issue:** Logistical support from Product Supplier. Relying on the trucking companies first utilized made implementation difficult. The service was systemically tardy.

**Solutions:** ComEd accepted delivery of all product inventories at its Chicago North facility. ComEd then provided personnel and trucking equipment to ship all new units to and from events #3 and #4.

**Issue:** Lead time for invitation letters to customers. The lead-time to do a direct mail campaign with each event was too compressed.

**Solution:** This type of program generally requires mail out of letters three weeks prior to the event.

**Issue:** Size of volunteer groups for the day of the events. With the exception of the final event where volunteers were plentiful, the previous three events had a less than optimal amount of helpers.

**Solution:** A minimum of 30 volunteers is needed to properly staff these community events. At least 20 of those volunteers should be able to lift heavy objects if provided with appropriate equipment. Previous experience with these types of promotions has found that high school football teams provide the perfect fit for the physical requirements of a product exchange event such as this.

**Issue:** Back-to-Back events in a single weekend. The first two events hosted by ComEd were on succeeding days. This type of scheduling has logistical risks that should be avoided. At least one day for setup is required to meet with community partners and organize the event layout for a particular site. Without this day the TEAM is forced to send staff and material to the next event site while operating the current event. Also, this scheduling requires product delivery services at night.

**Solution:** Stagger future events over several weekends, limiting the number of events per weekend to one. This will allow the TEAM to address all logistical concerns well before the next event.

**Issue:** Providing Recycling Vendor with required equipment. The TEAM struggled to provide the recycler with enough generation capacity to operate their equipment.
Solution: Require the recycling vendor to provide its own source of generation. (ComEd may offer the Solar Panel mobile generator depending on available event space.)

Issue: Providing food and beverage to event personnel. The TEAM relied on fast food vendors to provide lunch for the first two events, while providing basic snack fare purchased at the grocery market.
Solution: Hire a local caterer recommended by a community partner. Have the product delivered to the event site and managed by ComEd’s onsite promotion vendor. This allows the TEAM personnel to focus solely on customer processing and servicing.

Issue: Traffic control measures. While the TEAM experienced a single traffic problem over the course of the four events, it is important to anticipate a significant customer queue of cars and plan accordingly. Event #2 experienced an 80+ car queue at the busiest time of day. This line of cars branched out over a set of railroad tracks at one point, requiring local police to be involved.
Solution: Before the event anticipate a 100 car queue. Develop a traffic control plan for this line of customers and communicate the plan to all event personnel. Before the event identify personnel who will assist with traffic control and clearly define their respective roles.

Issue: Point person for the entire event, and the chain of command. Specifically at event #2 when the traffic issue arose, the event personnel were not clear who the point person was for this issue.
Solution: Hold a pre-event meeting with all event workers and clearly identify the point person on the TEAM to be contacted for issues and problems that materialize. Separately, the TEAM needs to establish a clear chain of command before each event. (especially if TEAM personnel are different at each event.)
CONCLUSION

Commonwealth Edison successfully implemented an energy efficient room air conditioner exchange program in specific areas within ComEd’s service territory from mid August through early October of 2005. The program distributed 811 new ENERGY STAR qualified Kenmore room air conditioners to lower-income ComEd residential customers in exchange for their old working unit. Participating customers provided their time and effort to deliver their old air conditioner to a specific location at a specific time, but were not required to expend any of their limited disposable income. The average savings to each participant of this exchange program is 234 dollars over the life of the new air conditioner.

ComEd successfully tested and adapted the distribution concept of a well choreographed neighborhood event as both the delivery and collection mechanism of room air conditioners. This model was successfully adapted and implemented in four very different and unique communities including: Wards 6 and 10 in the City of Chicago, as well as Park Forest and Rockford, IL.

Challenges regarding product supply and delivery, branding, labor capacity and recycling were identified and quickly addressed. Despite limited inventory ComEd did not oversubscribe the program. Negative customer feedback to the ComEd call center was minimized.

The Midwest Energy Efficiency Alliance appreciated the opportunity to work with ComEd on this program. MEEA and its partners enjoyed working with the ComEd staff. The TEAM quickly gelled and functioned as a very efficient, effective and enjoyable unit. The many happy ComEd program participants and their communities are the result.