

The installation of advanced metering infrastructure (AMI) equipment has improved billing accuracy and reduced collection costs, but this may be only the beginning of the benefits utilities will realize in the next few years. AMI technology is allowing utilities to rethink business processes and is providing unexpected opportunities to reduce costs and better meet the needs of a changing consumer base. Oklahoma Electric Cooperative (OEC) has utilized AMI to offer prepaid service and usage monitoring, two new programs which target very different consumer segments.

## *Prepaid Service Benefits A Co-op and its Customers*

**By Jonna Buck, Oklahoma Electric Cooperative**

During the last several years, OEC increased deposit requirements, increased collection charges, and tightened policies regarding credit extension in an effort to reduce bad debt and protect the general membership. While these measures helped reduce write-offs, they also made it more difficult for new customer to pay the higher required deposit. In addition, these changes have not helped delinquent consumers break out of the delinquent/collection cycle and further burdens this group with the addition of penalties and collection fees. OEC management recognized it was time to look to other industries for alternatives to the traditional “use-then-pay” electric service model.



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## An Alternative to Traditional Prepaid Service

Although OEC management recognized the benefits of prepaid service and had considered offering it before, they had been reluctant to do so due to expensive equipment and maintenance costs. In April 2006, OEC was approached by Excleron Software about offering its Prepaid Account Management System (PAMS). With a background in prepaid telephone service, Excleron's software-based product offered an innovative approach to delivering prepaid service. OEC agreed to participate in a 90-day pilot project and began offering prepaid to its members in August 2006.

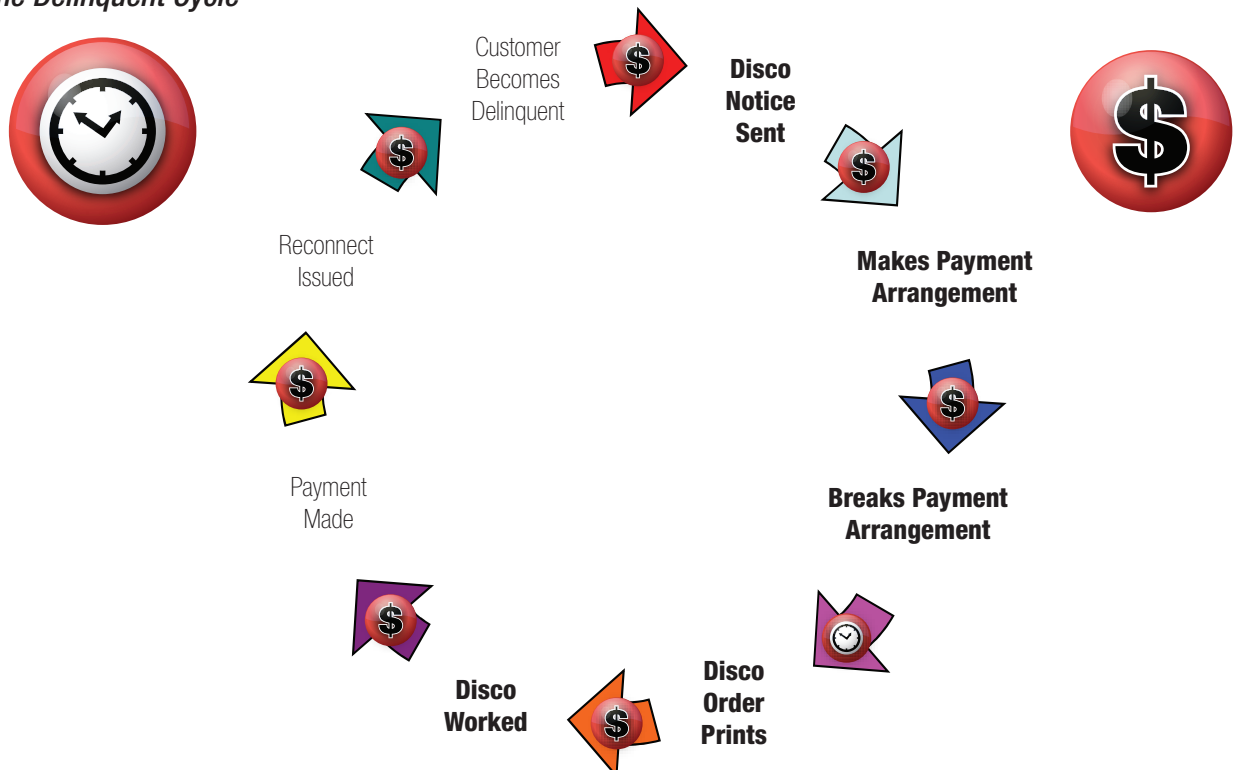
The pilot project utilized co-op employee accounts to simulate the prepaid experience. The goal was to ensure that alerts were delivered and that daily billing calculations were accurate. Several modifications were made during this time period and during the months to follow. Excleron became better

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educated on an electric bill's intricacies and was introduced to unanticipated variables that can affect how much a consumer is charged. In addition, much work was done to monitor how different transactions made in the customer information system (CIS) affected the balance in PAMS.

Unlike most prepaid systems, the system OEC piloted did not require in-home equipment or special prepaid meters. Instead, this software-based solution uses the information the existing AMI system is already gathering to calculate the consumer's daily balance. It also uses the existing CIS system to

Figure 1  
**The Delinquent Cycle**



monitor the account for payments and charges. The account continues to bill for monthly charges in the CIS, but for accounting purposes only. This billing is transparent to the end consumer because the paper statement is no longer generated. This process requires no

if the attempt to the primary number is unsuccessful. They can also receive balance alerts via text message or e-mail. Consumers can monitor balance and consumption by calling a toll-free IVR or by logging into a web interface, [www.myusage.com](http://www.myusage.com). Consumers can use this

machines or purchase the device to install in the member's home.

Prepaid has provided a valuable alternative to the traditional electric account. In fact, OEC's management expects prepaid may eventually be the service of choice by as many as 10 percent of its member base due primarily to the following benefits:

- Consumers find it easier to make smaller, more frequent payments.
- Those who struggle with their budget can avoid late charges and collection fees by using the service.
- Prepaid provides an alternative for consumers who want to avoid a large deposit or who have had their electricity turned off.
- Current usage and balance information is available 24 hours a day to prepaid consumers.

Prepaid requires members to take ownership of their accounts and mandates active management to ensure uninterrupted power. Many participants in the prepaid program monitor their accounts closely and alter their use to reduce cost. In fact, 82 percent of prepaid consumers surveyed feel they are more conservative than they were prior to monitoring. OEC's customer service representatives have had to put more effort into educating consumers on how to manage their accounts, but the results have been worthwhile. Once educated, many consumers embrace the technology and boast how they like the service.

Figure 2

**OEC Survey Question: Please Indicate How you would Rate your Overall Satisfaction with OEC Prepaid.**









Somewhat Dissatisfied		5%
Very Satisfied		45%
Satisfied		40%
Very Dissatisfied		4%
Neither Satisfied or Unsatisfied		6%

Figure 3

**OEC Survey Question: Would you Recommend OEC Prepaid to Others?**

Maybe		14%
No		10%
Yes		76%

changes in the co-op's existing accounting process, which was another benefit over traditional prepaid swipe-card systems. The balance in PAMS is adjusted when the account is billed in the CIS to account for any minor discrepancies which occur between daily billings and monthly billings.

Prepaid consumers can monitor and manage their account in several ways. An outbound interactive voice response (IVR) system calls consumers when their balance is low, or when they become eligible for disconnect. The consumer chooses the time of day the call is received and can provide alternate phone numbers

website 24 hours a day to make payments, check usage and change their alert settings.

Unlike prepaid systems that use swipe cards, consumers benefit by being able to pay by any method they choose. In addition to payments made in OEC's office or through the [myusage.com](http://myusage.com) website, OEC utilizes two primary pay agents who accept payments by IVR, web and kiosk machines located in several local grocery stores. With no in-home swipe device, prepaid consumers do not have to be at home to recharge their service. The co-op benefits because it does not have to pay to support the swipe card kiosk

*PAMS Benefits Non-prepaid Customers*

Typically, consumers have little concept of how much their electricity is going to cost until their bills arrive. After hearing prepaid consumers report they are more conservative regarding their daily energy use, OEC performed comparison studies and discovered that prepaid consumers are using approximately 12 percent less electricity than during the same time a year ago. OEC then anticipated much interest from its non-prepaid consumers and decided to explore whether non-prepaid consumers would also benefit from having

access to their daily readings and usage.

Usage monitoring is a new component of the PAMS product. Non-prepaid customers can access their daily readings and usage at the [www.myusage.com](http://www.myusage.com) website just like prepaid consumers. Likewise, usage monitoring customers can sign up to receive daily usage e-mails or e-mail alerts when their kWh has exceeded a certain limit. Usage monitoring can be self-serve as consumers can sign themselves up for the program and change the level at which they receive alerts as their usage changes. Although the product can provide phone or SMS alerts too, OEC decided to limit alerts to e-mail and website access.

OEC featured usage monitoring in its cooperative newsletter in March 2008. Initial interest and requests to participate were even better than expected. As the program continues, the usage habits of participants will be tracked to determine

*Implementation and Challenges*

As with the implementation of any new technology, OEC had several challenges to overcome during implementation and during the early stages of offering this service. Many

**Prepaid has given OEC's customer service representatives a new tool which they use to better meet the needs of the co-op's consumers.**

As a software-based solution, PAMS sits between OEC's AMI system and its CIS system. Interfaces were designed using the National Rural Electric Cooperative Association's MultiSpeak specification so the product can remain vendor neutral. The MultiSpeak specification helps vendors and utilities develop interfaces so software products from different vendors can interoperate without requiring the development of extensive custom interfaces. (Editor's note: For more about MultiSpeak, see the article "Using the MultiSpeak Specification for Integration" in our February issue, available online at [www.utilityautomation.com](http://www.utilityautomation.com).) This makes integration more economical and adaptable to multiple AMI systems. The MultiSpeak interface allows PAMS to make a web service call to the AMI disconnect collar without human intervention. This achievement enhanced the benefit of prepaid as disconnected consumers are reconnected within a few minutes of making a payment. This lack of human intervention makes the prepaid disconnects and reconnects effective and cost efficient.

But challenges were also present. One challenge was in the retrieval of information from the CIS system. The transfer of basic member information was necessary between the two systems to avoid duplicate data entry

Figure 4

**OEC Survey Question: Do you Feel you are More Conscientious and Conservative about your Use of Electricity on Prepaid?**







Somewhat		5%
No		10%
Yes		85%

Figure 5

**OEC Survey Question: Has your Usage Monitoring Led to Dollar Savings?**

Yes		50%
No		25%
Somewhat		24%

whether the program is promoting conservation. Usage monitoring may become even more important as the co-op implements time-of-use and demand response rates.

business processes were re-examined, and many employees had to adapt to the daily billing concept. Prepaid customers are no longer eligible for payment arrangements and other programs designed to postpone disconnection.

Figure 6

### MyUsage.com Account Summary Screen.

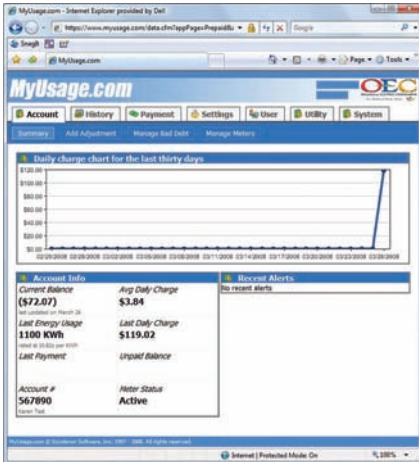


Figure 7

### MyUsage.com Alerts Screen.

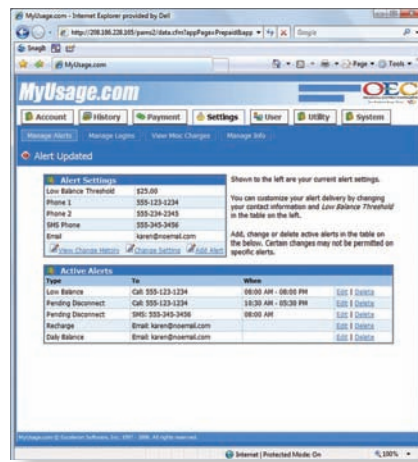
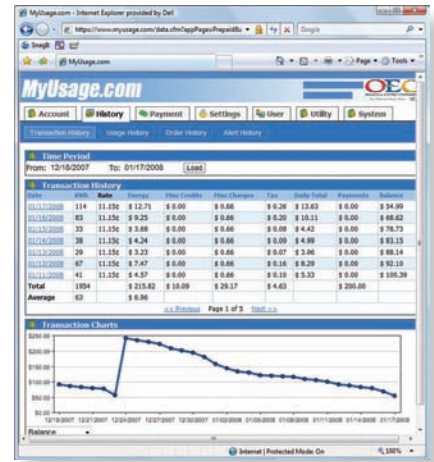


Figure 8

### MyUsage.com Usage Screen.



during account setup. Payments and charges entered into CIS needed to be recognized by PAMS to keep the two systems in sync. Several modifications were required to avoid violating embedded licensing agreements in the CIS.

Another important element in the deployment of this technology was the training of customer service representatives. In addition to learning new software, they also had to learn how to make prepaid a win-win solution for members and for the co-op. Once they recognized that for some consumers, making smaller more frequent payments works much better, enrollments began to rise. A member's satisfaction level with prepaid is heavily influenced by the amount of instruction they receive at the time his or her account is created. Members must be educated on how to manage their accounts and how to use the available tools to monitor their balance and usage.

Finally, the implementation of PAMS revealed weaknesses in OEC's automated meter reading system. The ability to obtain a daily reading went from being a luxury to a necessity as prepaid balances are recalculated every night. Recognizing that this would be an ongoing challenge, Exceleron developed a process in which the member's daily charges are estimated

if a reading is missed. However, OEC's meter department must consistently monitor missed readings to keep estimation to a minimum. It also requires communication between the co-op's maintenance and metering departments when lines are back-fed or changed.

### Unexpected Benefits

Prepaid has given OEC's customer service representatives a new tool which they use to better meet the needs of the co-op's consumers. Once the reps realized how PAMS could benefit a certain segment of consumers, they embraced this new technology and actively promoted it.

This software-based product satisfies multiple needs of both the member and the cooperative. The most notable benefit has been the ability to help chronically late consumers take control of their accounts and break out of the cycle of delinquency. It has saved many consumers hundreds of dollars in late charges and collection fees, and has eliminated their need to contact OEC every month to make a payment arrangement. It has helped those facing disconnection use their existing deposit to bring their account to a zero balance and convert to PAMS. It has also improved morale in the co-op's customer

service department as customer service reps now have an alternative to offer to this group of consumers.

Implementation of this new technology has allowed OEC to offer quality service to credit-challenged accounts while protecting the general membership from bearing the costs associated with delinquent accounts and write-offs. In addition, it has created a whole new opportunity through usage monitoring, where post-paid consumers can take an active role in managing their electric usage.

OEC conducted a survey to determine member's satisfaction level with prepaid and to gain feedback for improving the service. Modifications have been made based on survey results to further improve the service. Of the respondents, 70 percent said they were satisfied with their prepaid account and 88 percent said they would suggest it to others. Offering PAMS technology has definitely improved the service level at OEC. <<

*The IVR and myusage.com outlined above are specific parts of the Exceleron PAMS platform and offerings. More information at: [www.exceleron.com](http://www.exceleron.com).*

*Jonna Buck, is the supervisor of billing and data processing at Oklahoma Electric Cooperative where she has worked for 17 years. OEC received the 2007 Cooperative Innovators Awards for its prepaid program.*