Reshaping the Customer Relationship through Smart Grid

An EnergyBiz® Leadership Series Webcast

Thursday, March 18, 2010
Thank You to Our Exclusive Sponsor
Welcome & Introduction

Martin Rosenberg

Editor-in-Chief

EnergyBiz Magazine,

A Publication of Energy Central
Lisa Olmstead

Vice President of Customer Care

ComEd
Carrie Young
Manager, Residential Customer Services
Salt River Project (SRP)
Smart Metering

Features of Smart Meter System

- Read daily
- Supports multiple rate forms
- Remotely configurable
- Perform “Read Ons” and “Read Offs”
- For meters with disconnect switch:
  - Turn power off and on to stop or start service
  - Disconnect for non-payment
## Customer Disconnections
### December 2009

<table>
<thead>
<tr>
<th>Meter Type</th>
<th>Average Disconnect Amount</th>
<th>Average Days to Reconnect</th>
</tr>
</thead>
<tbody>
<tr>
<td>REX-D Smart Meter</td>
<td>$254</td>
<td>1</td>
</tr>
<tr>
<td>All Other</td>
<td>$306</td>
<td>3</td>
</tr>
</tbody>
</table>
$3.375 Billion for Smart Grid Matching Grant Program

Largest ever funding for Smart Grid

DOE funded 100 out of 400 applications and 31 out of 138 smart meter applications.

SRP received one of only 19 awards over $50 million
Prepay Metering

SRP M-Power® Customer Satisfaction

- 95% say they have more control over power usage
- 12% less energy used annually on average
- Customers buy power at their convenience and in amounts they choose
- Past due arrears are paid off incrementally over time with each energy purchase
Growth in PrePay

Year:
- 2000
- 2001
- 2002
- 2003
- 2004
- 2005
- 2006
- 2007
- 2008
- 2009

Values:
- 0
- 20,000
- 40,000
- 60,000
- 80,000
- 100,000
- 120,000
M-Power Customers and Balances

Customers

Balances Payments toward Balances

$0

$1,000,000

$2,000,000

$3,000,000

$4,000,000

$5,000,000

$6,000,000

$7,000,000

Jan-08 Feb-08 Mar-08 Apr-08 May-08 Jun-08 Jul-08 Aug-08 Sep-08 Oct-08 Nov-08 Dec-08 Jan-09 Feb-09 Mar-09 Apr-09 May-09 Jun-09 Jul-09 Aug-09 Sep-09 Oct-09 Nov-09
Step 1 of 3: Select account notifications

Make your selections from the choices below and click the "Next" button to continue.

Account specific notifications

- Bill Notifications
  - Bill Available - Notification when my bill is ready and available to view online, as well as my bill amount and due date.
  - Past-due notification - Notice that my payment is past due (not applicable for SurePay customers).
  - Disconnect notification - Notice that SRP has not received my payment and my account is eligible for disconnection.

- e-Bill - By enrolling in this option, I understand that I will no longer receive a paper copy of my SRP electric bill and that I may choose to resume paper bills at any time. I understand that I will be automatically enrolled in the bill notification option above.

- Payment Confirmation - Confirmation when my payment is posted to my account.

- Courtesy reminder - Courtesy reminder three days prior to my payment due date (not applicable for SurePay customers).

Smart meter notifications

- Bill estimate - Weekly notification of the estimated amount of your bill, based upon your current usage.

- Monthly estimate threshold - Notification when your estimated bill for the month is greater than $350

- Daily usage threshold - Notification when your previous day's usage exceeds 100 kWh.
Daily Usage - Meter Data

Energy Usage

January bill cycle

February bill cycle

Usage
0 kWh 10 kWh 20 kWh 30 kWh 40 kWh 50 kWh 60 kWh

Date
Fri, January 29 Wed, February 3 Mon, February 8 Sat, February 13 Thu, February 18 Tue, February 23

Temperature
0 °F 10 °F 20 °F 30 °F 40 °F 50 °F 60 °F 70 °F 80 °F
Compare your bill

Square feet: 1766  Stories: 1  Have pool: Yes  No  Update

For January 2010

This page compares your usage to the usage of similar homes in SRP's electric service territory.

You
$95.13

Lower

$126.17
Average

Higher

Congratulations! Your electric bill is below this month’s average electric bill for similarly sized homes served by SRP. Not only are you saving money for yourself, but you are helping to conserve precious resources.
Compare Rate Plans

Compare your current plan to other SRP price plan options
How SMUD’s Smart Grid Project is taking our customer relationship to the next level.

Paul Lau
Assistant General Manager
Customer, Distribution and Technology
Sacramento Municipal Utility District

March 18, 2010
Presentation Outline

1) About SMUD
2) Embarking On A New Journey With Our Customers
3) SMUD’s Smart Grid Project
   • SMUD’s Smart Grid vision
   • Smart Grid customer partnerships
   • Smart Grid customer benefits
3) Additional projects and programs
4) Lessons learned so far
About SMUD

- SMUD is the nation's sixth largest community-owned electric utility
- SMUD provides power to 620,000 customers in a 900-square-mile service area
- SMUD is committed to maintaining a high level of customer satisfaction
- SMUD’s vision is to empower our customers with solutions and options that increase energy efficiency, protect the environment, reduce global warming, and lower the cost to serve our region
Embarking On A New Journey With Our Customers

• SMUD customers are asking for:
  – More transparency and control
  – More information and new tools to manage their energy usage

• These demands are creating the opportunity to work in partnership with customers to:
  – Reduce peak load
  – Improve energy efficiency
  – Promote distributed generation
  – Improve air quality
  – Integrate intermittent renewable resources

• The Smart Grid Project and other SMUD programs allow customers to be part of the energy solution
Stimulus Dollars facilitating Smart Grid

- SMUD expects to receive $127.5 million in funding to install a comprehensive Smart Grid.
- Dollars come from a $3.4 billion federal program to assist utilities, cities and private companies to build Smart Grid infrastructure.
- The Smart Grid will automate SMUD’s transmission and distribution functions and provide customers Smart Meters.
- Federal dollars will support enhanced energy management technology for three partnerships with public agencies.
- A dynamic pricing program will allow residential customers to partner with SMUD to reduce peak load and choose a rate design that fits their lifestyle.
SMUD’s Smart Grid Vision

• A comprehensive regional smart grid solution built upon the installation and operation of an end-to-end smart grid that extends from generation to the smart meters of all SMUD’s customers. It will:
  – Link smart meters and home area networks with upstream, automated distribution operations
  – Optimize distribution system operations to improve system reliability and efficiency
  – Enable our customers to fully participate in the electricity marketplace through dynamic pricing and demand response programs
Smart Grid Customer Partnerships

• Smart Grid Project Partners
  – California State University, Sacramento
  – Los Rios Community College District
  – California Department of General Services

• Technologies to be implemented include:
  – Energy management control systems
  – Smart meters
  – Direct digital building controls
  – Plug-in hybrid/electric vehicle “smart” charging stations for fleet vehicles

• Partner projects are scalable for the region and include:
  – College Campuses
  – Office Buildings
  – Downtown Core
Smart Grid Customer Partnerships cont.

• Large Commercial Customers
  – Technical assistance and enabling technologies that will allow customers to choose how to automatically reduce load in response to signals from SMUD.

• Small Commercial/Residential Customers
  – Installation of 50,000 energy management devices that will allow customers to participate in direct load control and pricing programs.
  – Consumer behavior study to test customer acceptance/response to various rate designs and emerging technologies.
Smart Grid
Customer Benefits

1. More **CHOICES** and **OPTIONS** for customers through new smart grid enabled programs and applications

2. Customers work in **PARTNERSHIP** with SMUD to shift load and reduce energy usage, lowering operating, infrastructure and environmental costs

3. More detailed energy **INFORMATION** will allow customers to better manage their energy usage
Additional Stimulus Funded Projects

• **Comprehensive Residential Retrofit Program**
  – $20M awarded in stimulus funding.
  – Will serve over 15,000 customers in a two year period.
  – Provides rebates for investment in home improvements.

• **Tax Based Financing Program**
  – Sacramento County and 13 other counties were awarded stimulus funds to administer the programs.
  – Customers get loans for solar and energy efficiency improvements.
  – Loan is paid back through property tax assessments.

• **Small Commercial Program**
  – Full service, comprehensive energy audits, energy data analysis, oversight of improvements, quality assurance inspections and energy savings reporting.
New Customer Programs

• Whole House Performance Program
  – comprehensive whole house approach to home improvement.
  – Identifies best energy efficiency measures to maximize savings.

• Multi-Family Retrofit Program
  – Captures energy savings in existing apartment and condominium
dwelling units and common areas through EE incentives.

• Behavior Change Programs
  – **Home Electricity Reports** - Provides information and education to
    residential customers about their electricity usage so that they can
    effectively lower their consumption and their electric bill.
  – **Home Energy Display** – Provides residential customers a tool to
    understand how their energy use patterns and actions influence their
    electric bills in real-time.
Where We Are Today

• Moving forward with the Smart Meters project:
  – Communication network 96% complete
  – 45,000 meters installed
  – 95% customers satisfied with installation

• Working with DOE to negotiate final grant contracts

• Meeting with equipment and software vendors to determine technology landscape

• Purchasing and testing equipment to determine what will be deployed
Lessons Learned So Far

• Customers want to know what you are doing. More communication is better.
• Customers want face-to-face interaction. Reach out to customers and join them at their regularly scheduled neighborhood, civic and business meetings.
• Engage like-minded partners to participate in your efforts to create win-win programs that bring benefit to the larger community.
• Work with local elected officials and the leadership of the community to implement programs that will raise awareness of the smart grid technology and how it can stimulate new jobs for the future.
Questions & Answers

Thanks Again to Our Exclusive Sponsor

Energy Central
Contact Information:
webcastquestions@energycentral.com
303.782.5510
Questions & Answers

Energy Central
Contact Information:
webcastquestions@energycentral.com
303.782.5510

The magazine for C-level executives about the business of energy. FREE subscriptions available at www.energybizmag.com.
Questions & Answers

Energy Central
Contact Information:
webcastquestions@energycentral.com
303.782.5510

Questions & Answers

Energy Central
Contact Information:
webcastquestions@energycentral.com
303.782.5510

Leading source of news and analysis related to the business of renewable energy.
Go to www.renewablesbiz.com.
Questions & Answers

Energy Central
Contact Information:
webcastquestions@energycentral.com
303.782.5510

The magazine for building a smart grid and delivering information-enabled energy. FREE subscriptions available at www.intelligentutility.com.
Questions & Answers

Energy Central
Contact Information:
webcastquestions@energycentral.com
303.782.5510

Your source for IT and smart grid research, analysis, and consulting. Visit www.sierraenergygroup.net.
Questions & Answers

Energy Central
Contact Information:
webcastquestions@energycentral.com
303.782.5510

Be a thought leader in the power industry with insight, analysis and commentary. Go to www.energypulse.net.
Questions & Answers

Energy Central
Contact Information:
webcastquestions@energycentral.com
303.782.5510

Join the discussion, raise your question, and voice your opinion at www.energyblogs.com.
Questions & Answers

Energy Central
Contact Information:
webcastquestions@energycentral.com
303.782.5510

Leading source of news and analysis related to the business of renewable energy.
Go to www.renewablesbiz.com.
Upcoming Webcasts

• April 15 – Shaping the Future of Power

• May 20 – Overcoming Obstacles to Renewables’ Growth
Thank You for Joining Us

For the latest news, articles and blogs, please visit...

www.energycentral.com