



BILLING & CUSTOMER CARE

As California Goes, So Goes the Nation

SMART METERS PROVIDE NEW GATEWAY TO CONSUMERS // BY KATE ROWLAND

➤ CALIFORNIA'S INVESTOR-OWNED UTILITIES are at the heart of a massive rollout of smart meter technology statewide. Advanced in part by the California Global Warming Solutions Act of 2006, which set out rules for a statewide greenhouse-gas emissions cap for 2020, automated metering infrastructure plans also offered California energy consumers a clear way to take charge of their energy consumption.

This partnering of utility and consumer to help to meet the state's aggressive greenhouse-gas and renewable-portfolio standard – 20 percent by 2010 – has placed California firmly on the leading edge of AMI implementa-

tion. A customer-empowered focus is at the heart of the three utilities' demand response measures, which will tie in with the new, smart meter implementation.

Pacific Gas and Electric was first out of the gate with its SmartMeter program for residential customers, and the company began installing them in Bakersfield in late 2006. To date, according to Jim Meadows, director of PG&E's SmartMeter program, the utility has installed about 1.8 million new smart meters and a similar percentage of network collection devices. He said the company anticipates installing close to 10 million meters by the time it has covered its entire service area by

the end of 2011. "Some days we average over 12,000 meter exchanges per day," he said.

By installing the new meters, the utility has already realized operational savings in the neighborhood of \$10 million.

San Diego Gas & Electric will begin replacing the 2.3 million electric and gas meters in its territory with smart meters this spring, and the company anticipates finishing the changeover by the end of 2011, in line with PG&E's finish date.

In an AMI seminar late last year, Terry Mohn, a technology strategist with San Diego Gas & Electric, said that the smart meter becomes "a platform for communicating inside the home, a gateway between the utility and the consumer."

Mohn added, "AMI is a platform for building future opportunities and customer service. We anticipate using the infrastructure for future automation, and to leverage our smart metering infrastructure to implement those strategies. The real value in the long-term is that we're going to be able to provide much better service to the customer. As society begins to move towards self-enablement and self-help, we'll be able to provide that detailed information to them."

South California Edison plans to begin rolling out its SmartConnect meters to its 5.3 million small commercial and residential customers over the same three-year period, beginning this year. As do its fellow state investor-owned utilities, SCE sees the new meters as a way to change the way customers manage their energy use through technology solutions, tools and services to help customers make smarter energy choices.

This is, conceivably, a new way of thinking for utilities in the area of customer care. Provide customers with the advanced tools they need to better monitor their own energy use, and they will rise to the challenge before them. Communicate to the customer personalized energy use information via a secure wireless home area network and on the Web, and provide smarter pricing plans that give customers more choices in terms of cutting back energy use during peak hours and planning home peak-energy events around off-peak hours, and you will gain a more savvy energy-use partner, rather than simply a passive customer. "We see this energy information as a key component in empower-

ing our customers," Paul De Martini, vice president of Edison SmartConnect, told the same seminar.

The benefits to the utility are real and measurable. SCE estimates its smart meter rollout will not only result in improved customer service, but also in a reduction in its peak load of 1,000 megawatts, a reduction in overall energy consumption by a minimum of 1 percent, and a 365,000-metric-ton reduction in greenhouse-gas emissions per year. Moreover, it will provide an increase in operational efficiencies, saving the utility even more, and provide a platform upon which to build future technology advancements.

A recent Federal Energy Regulatory Commission staff report, "Assessment of Demand Response and Advanced Metering," released in December, noted advanced metering penetration has now reached about 4.7 percent for the United States, a significant increase from 2006, when it was less than 1 percent. Even more of the customer base across the country, about 8 percent, is enrolled in some kind of demand response program. According to the report, the measurable benefits of the contribution is estimated to be close to 41,000 megawatts, or about 5.7 percent of U.S. peak demand, representing an increase of about 3,400 megawatts from FERC's 2006 estimate.

PG&E's new SmartRate critical price basing program for demand response relies on its SmartMeter program for implementation. "One needs a SmartMeter meter to sign up for SmartRate," said Paul Moreno, a PG&E spokesman. The SmartRate program relies on being able to measure energy use between 2 p.m. and 7 p.m. on critical-usage days identified during California's hot, dry summers, and the old meters only measure usage on a monthly basis, Moreno explained.

In simple terms, the program offers incentives by way of credits of 2.992 cents per kilowatt-hour for energy usage from June 1 through September 30, with the exception that the credit will not be given for energy usage that occurs from 2 p.m. to 7 p.m. on SmartDays. As many as 15 SmartDays normally are announced during the SmartRate May-to-October period. SmartDays represent days when the demand upon California's electricity reserve is particularly high. SmartRate subscribers are given a one-day notice when a SmartDay is announced. If energy is used during that

period on SmartDays, it is tagged with a 60 cents per kilowatt-hour surcharge.

The SmartRate program was launched last summer, and it targeted 10,000 possible customers. Enrollment was maxed out within four weeks of the announcement of the program. With even more new meters installed in time for this year's program, PG&E's Meadows anticipates a potential 50,000 subscribers. "The revolutionary part of the program is that we are taking the demand response program down to the residential homeowner level," he said.

As PG&E's SmartMeter program continues to roll out, the company will add more operational features to its AMI platform, according to Meadows. A remote connect/disconnect feature has been added, allowing remote connection of new customers, along with a real-time disconnect for use when customers move out. "We have also started doing a power status check for our customers' benefit," Meadows said. If a customer calls in reporting a loss of power at home, PG&E can set in motion a "ping-out" to the meter to determine whether the problem is inside the home or part of a larger problem. If the problem lies beyond the meter and therefore is inside the customer's home, a PG&E customer representative can walk the homeowner through a checklist of potential problems, including thrown breakers.

"We have found it very useful to roll this out in stages. It touches the entire heart and lungs of our organization," Meadows said.

User-friendliness is also important in the way the utilities disseminate the new energy-usage data to their "smart" customers. "California is very interested and tech savvy," Moreno said. "We did a lot of research into making our programs very user-friendly."



Vendors Adapt to Hard Times

MORE QUESTIONS THAN ANSWERS

BY WARREN CAUSEY

UTILITY CUSTOMER INFORMATION SYSTEM AND customer relationship management (CIS/CRM) vendors had been dealing with a prolonged slump in CIS replacements by major utilities before the U.S. economy went into serious recession. They were looking forward to major restructuring in the industry involving the advent of widespread advanced metering infrastructure (AMI) and smart grids to kick-start CIS replacements at large investor-owned utilities.

The theory is that as the industry adapts to the floods of customer data from AMI, demand response and distributed generation, legacy CIS just won't be able to keep up and many

large IOUs sitting with aging CIS – some of them still mainframe – would have to upgrade.

Major IOUs mostly have taken a wait-and-see approach to CIS replacement throughout the first decade of the 21st century. Small utilities, municipalities, co-operatives, and especially water utilities have continued to make CIS replacements apace, giving the lower end of the market a continuous, albeit smaller-scale flow of clients. A small-scale CIS replacement can cost anywhere from a few hundred thousand dollars to a million or two. Large-scale IOU replacements involving multiple millions of customers have cost as much as \$200 million or more. Scale is very important in this marketplace.

So where do CIS and other utility vendors stand since the economic crisis became very serious in October? Well, they definitely stand at a crossroad. One of two things can happen, one good, one bad. The good road includes a lot of “ifs.”

If the new Obama administration continues down the road of Keynesian economics and continues to pump trillions of dollars into the economy, apparently a major portion of that spending will be targeted toward AMI, demand response, home automation and distributed generation. Numbers in the \$200 billion range were being discussed just as the new administration was taking office. That could spur more rapid building of the intelligent utility and force the hand of utilities that have been waiting to upgrade their CIS/CRM software to deal with the flood of new customer information engendered. That would be the good road.

If all that federal spending results in rebuilding infrastructures and doesn't collapse the system by inducing hyper-inflation in creating money backed by nothing, the future for CIS/CRM vendors could brighten significantly. That also would be the good road.

If, however, Keynesian economics is reaching the end of its effectiveness – as an increasing number of thoughtful people, including several at the Chicago School of Economics, are coming to believe – that is the bad road.

The Sierra Energy Group, the research and analysis division of *EnergyBiz*'s parent company, Energy Central, took a quick poll of about 50 of the major vendors serving the utility industry. Some results from that poll are revealing.

58%

say they are “holding the line” on software/hardware prices.

28%

say they are “holding the line” on maintenance costs. However, several utilities already have reported getting “deals” on ongoing maintenance costs

40%

in January said they were offering “special incentives to make deals.”

44%

said, “we have seen some slowdown in sales, which is of concern to us.”

46%

said they are “doing fine now, but if the recession is prolonged, we could have difficulties.”

10%

said they are cutting staff to reduce expenses.

27%

said they are cutting marketing/promotion to save money.

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29%

said they are reducing operations and maintenance expenses.

2%

said they are reducing R&D expenses.

Vendor executives responding to the survey were guaranteed anonymity, so they cannot be quoted by name or company. However, in one question respondents were asked to "give us your evaluation of how the current economic climate will affect your company over the next 12-to-18 months." Here are some representative samples of those comments:

"It will threaten our ability to survive."

"Due to tightening of credit/investment, some of our clients are delaying existing and planned projects. This in turn is reducing the market size and may negatively impact our professional services business."

"We are expecting around a 10 percent drop in sales from our large IOUs. Some say 15 percent, but we

are being optimistic that Q3 and Q4 will show some improvement."

"2008 was a record year for us; however, 2Q 2009 forward forecast looks very weak. We are taking actions now to reduce expenditures."

"Recent large-scale developments in the municipal bond market occurred very rapidly. Although we are seeing some stabilization, liquidity remains extremely low and there is still significant uncertainty about the future of the bond markets. Many municipal and government-owned water, power, and natural gas utilities have found themselves in a critical situation without adequate funds to operate and build new infrastructure."

"We are seeing some large IOUs delay capital projects, reduce them, or put them on hold."

"Projects are likely to be downsized, delayed or strung out in time. Project spending will be reduced as a result. Optimization projects will garner new focus as opposed to large CapEx projects."

Obviously, the recession is having a significant effect on all utility vendors. There are a lot of questions that really just couldn't be answered until the Obama administration gets its big governmental spending package in place, and then we find out which economists are right. ☹
