

Wireless M2M Over the next 18 months, Rocky Mountain Power will deploy 4,000 custom-designed load control units from Kyocera and M2M Communication that will enable the utility to efficiently balance electrical power supply and demand between agricultural and residential customers.



Rocky Mountain Power, based in Boise, Idaho, services agricultural customers in parts of Idaho, Montana, Utah, Wyoming, California, Oregon and Washington. The power consumption of irrigation pumps operated by agribusinesses in the region places high demand on the utility, especially in the summer. There are 4,700 pump sites operated by 2,500 Rocky Mountain Power customers.

According to Bill Marek, Class 1 program manager for Rocky Mountain Power, federal guidelines require utilities to maintain, as near as possible, an equal balance between voltage supply and demand at all times. "We're constantly in a state of adjusting to have voltages available in the correct specification," he says. "We have to build all our assets to manage peak demand."

The utility is making a strategic effort to find demand-side solutions that help it reduce peak energy demands, says Marek. The Kyocera/M2M solution provides a way for the utility to remotely control agricultural irrigation pumps in order to meet that goal.

M2M Communications integrated a NetSwitch load-control solution and the dual-mode Kyocera 200 CDMA Module along with its custom-designed Web-to-wireless control system. This enables a versatile and secure method of remotely monitoring and controlling energy usage at pump sites. The system allows the utility company to monitor power usage remotely as it's being consumed, and determine in real time if the available power supply is being optimized. If not, utility technicians can use the system's two-way Web-to-wireless controls to shift power to other areas.

The controls also allow for automated, time-scheduled monitoring and load management, resulting in decreased technician time spent on monitoring. The system also eliminates the need for Rocky Mountain Power to purchase expensive peak-load power from other utility companies.

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Growers are paid a credit for allowing Rocky Mountain Power to install the modules on irrigation pumps, and for giving the utility the discretion to regulate power to the pumps during specific periods of time.

"The growers are very receptive," says Marek. "It gives them an advantage, because they can remotely turn their pumps on or off, too."

The key, says Marek, is choosing a technology that is developed by companies familiar with the industry. In this case, that meant harsh outdoor environments, strong winds, the potential for vermin and birds to cause damage, and equipment that would be subject not only to water but a variety of agricultural chemicals.

M2M was already supplying products to Valley Irrigation that many growers use to remotely manager their pumps, so customers were already familiar with the technology and staff.

In addition, the Kyocera CDMA cellular package that's used is "a cell deal on steroids," says Marek.