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Metering program helps Army installations reduce energy costs (Updated)

By Debra Valine

Sometimes saving energy is as simple as installing a meter. In the past, the Army did not have meters on barracks and lodging facilities to measure utility use; the installation received one big energy bill. Reimbursable facilities would receive utility bills that might not accurately or fairly reflect their true utility usage.

In fact, Installation Management Command issued a directive in which installations can only bill reimbursable facilities if utility meters have been installed to measure energy consumption. The Army is complying with both the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007 that require advanced electric metering in federal buildings by Oct. 1, 2012, and other advanced utility metering in federal buildings by Oct. 1, 2016. Energy-use studies have shown that, by metering individual buildings, installations are able to identify which buildings are the biggest energy hogs and take appropriate measures to reduce energy consumption.

The Army Metering Program is installing advanced meters that report remotely to a central database accessible via the Engineering Knowledge Online Web site. This system will provide Army installations the capability to measure and track electricity, water, natural gas and steam consumption at the facility level. It is one way the Army is working to meet energy reduction goals.

“Usually barracks and lodging facilities have energy consumption rates higher than similar sized garrison structures,” said Jefferey Murrell, professional engineer, metering program manager, U.S. Army Engineering and Support Center, Huntsville, Ala. (Huntsville Center).

“The Army strongly considers metering as the ultimate predecessor to building or base-wide utility monitoring and controls systems and energy efficient heating, ventilation, and air condition systems in order to remotely control and reduce the now measured utility consumption at these structures,” Murrell said. “The goals are to make the Soldiers and lodging occupants very comfortable and to measure and reduce energy at the same time.”

The Army also requires the installation of advanced utility meters on all Military Construction projects and for renovation or energy projects with a programmed cost of $200,000 or more that include electrical, natural gas, water or steam components.

The Huntsville Center is responsible for managing the execution of the metering and other energy programs for the Office of the Assistant Chief of Staff for Installation Management and the Installation Management Command. Installation of electric advanced meters began in fiscal year 2008 on facilities that were deemed cost effective to meter based upon Office of the Secretary of Defense criteria, which says that buildings that consume an estimated

$35,000 per year in electrical costs are economically justified for metering. For Army planning and budgeting purposes, the $35,000 per year electrical cost equates to buildings of 29,000 square feet and larger.

By April 2010, the Army had installed more than 70 percent of the advanced electric meters on buildings meeting the requirements, according to David Purcell, chief, Energy and Utility Branch for OACSIM's Facilities Policy Division. In December 2008, Huntsville Center awarded the contract for the Meter Data Management System (MDMS) that will receive meter readings from across the Army. "On April 23, MDMS was granted a two-year authority to operate. What this means is that Directorate of Public Works energy managers and anyone else with Army Knowledge Online access will be able to select from an extensive menu of number-crunching reports using almost realtime meter data for any and all metered facilities of interest. Time of use, peak power demand, trending, comparisons of the energy consumption per square foot for similar facilities, identification of energy hogs, correlation of meter readings with local weather data … the potential analytical applications are huge," said John P. Blount, MDMS project manager, Huntsville Center.

The Army is ahead of schedule for its metering requirements, Purcell said. In FY 2008, $19.6 million was spent on advanced meters, and $2.8 million on the MDMS. In FY 2009, $21.8 million had been spent on meters and $0.9 million on MDMS. OACSIM expects about $20-25 million per year for FYs 2010-12 to complete the majority of the electric metering and a large percentage of the natural gas metering, Purcell said. He also anticipates about $5-7 million per year for FYs 2010-12 for MDMS, followed by $1-2 million per year for operation and maintenance of the MDMS.