

FOCUS

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Air Force Base Sees Energy Savings Take Off After Installing Submeters

Los Angeles Air Force Base (AFB) in downtown El Segundo, California, is a sprawling, 150-acre expanse of Government offices, research and development laboratories, military housing, and other facilities.

Accurate energy metering was an issue at the site where only one master utility meter measured energy usage for the entire Base. Energy Manager Ed Wilson, of the Base's Civil Engineering Department, explained, "We knew we were using a lot of energy and we were trying to determine where it was being used and at what time of day. But, we really had no idea which buildings were using more or less energy."

The 61st Air Base Group People Center, housing services for Base personnel, illustrates the average size of the facilities now monitored by E-MON submeters.



A multiple meter unit may contain up to eight submeters and a communication interface device that downloads data from the meters and transmits it via modem to the energy manager's computer.



After evaluating several vendors, the Base selected E-MON Corporation's electrical submeters and automatic meter reading software. "I like the idea of stand-alone units capable of storing metering information and the battery backup," Wilson said. The project involved installation of 36 meters at the service entrances of 14 main buildings, totaling about 100,000 square feet. Collecting data from the submeters, communication interface units (or data accumulators) then relay the data to the energy manager's computer via modem. The data accumulators store information for up to 36 days in 15-minute increments or until downloaded to a computer, and the submeters can maintain data in case of a power interrupt.

For Wilson, the payoff came surprisingly fast. Armed with hard data on energy loads and performance trends, he could pinpoint areas ripe for conservation measures and cost containment. "This is a great diagnostic tool and the perfect tool to use to demonstrate energy savings," Wilson pointed out. "People walk out of buildings at night and leave lights on, air conditioners on, and doors open. This occurs all over the Base. When you have a submetering system, you can see that a substantial amount of energy is wasted that way." He added, "Then you can talk to maintenance and other staff and show them how much more it costs because we didn't do all we could to save energy. Running air conditioners at night in buildings of this size when they're unoccupied is a tremendous wasted cost, and with meters you can see this." *Continued...*

While the Civil Engineering Organization retains responsibility for paying Los Angeles AFB's electric bill, Wilson is now able to determine more accurately energy cost allocations for those organizations--tenants, partners, and customers--with funds for utility reimbursement. The more revenue he is able to generate from entities with these available reimbursement funds, the more resources his department has for Base repairs and maintenance, a secondary cost benefit of the submetering system.

Less than three years after the Base's submetering system was implemented, energy consumption decreased more than 27 percent from the established 1985 baseline. Utility costs

decreased 23 percent from an established 1990 baseline--during a period in which electricity rates increased by 4.5 percent. In 1996, Wilson's leadership in initiating energy savings and raising energy conservation awareness among Base personnel won him the Air Force Material Command Energy Award. Overall, Los Angeles AFB is saving more than \$1 million annually on its utilities, and is likely to save more in California's tightening energy market.

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For additional information on E-MON's product line contact E-MON at 800-334-3666 or visit us online at www.emon.com