

## Directorate of Public Works-Environmental

News Release  
July 2007



**Media Inquires:** Christine Luciano  
DPW Env. Outreach Coordinator  
Phone: 254-286-6664

### **Hood's system serves as the benchmark for the Army** By Christine Luciano

Fort Hood has leveraged technology and resources to manage Installation-wide facilities and utilities through a web-based system that is the first to be successfully implemented in the Army. The Fort Hood Energy Management Office has been working with the Construction Engineering Research Laboratory (CERL) and the Army Corps of Engineers (COE) to implement an open communications system known as the Local Operating Network (LON Works) system to serve as a single operating platform for facilities and utilities management. The Utility Management and Control System (UMCS) is the Army's first that strictly adheres to newly developed guidance developed by the COE, and serves as the benchmark for the Army.

#### **Hood leverages technology for HVAC**



Through advanced energy technologies, the energy team is able to use the LON Works system to log in at a computer workstation and monitor, control, and manage the HVAC systems and water distribution systems on Fort Hood. The system has features that allows the operator to set schedules, change operating temperatures, turn equipment on and off, run diagnostics, and identify systems that are not operating properly. The operator also receives notification of any alarms when he signs in, and is alerted when

equipment is not operating properly, and then navigates through the web based system to investigate the issue and take corrective measures.

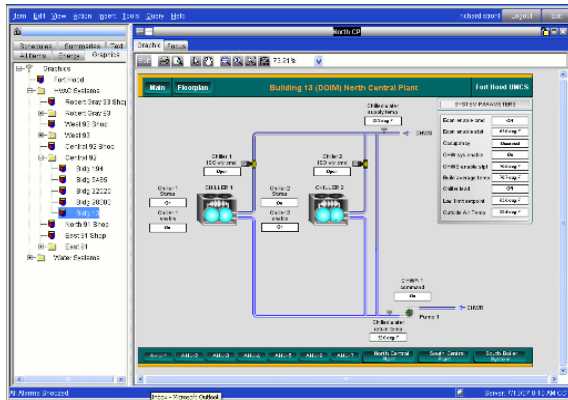
Army installations face challenges in procuring facility control systems through various contracts resulting in incompatible control systems, making them difficult to manage. Fort Hood has several different direct digital control (DDC) units in facilities throughout the Installation. When facilities and buildings were expanded on the Installation, there were multiple proprietary systems. With each proprietary system, software and hardware was needed for maintenance and operation, and was challenging for Fort Hood to efficiently manage its system. Other options were researched, and the COE looked into an open communication protocol. With an open system, information could be transmitted between two different controls systems achieving interoperability.

The decision was made in 2001 to make LON Works the platform for control systems on Fort Hood. At that time, Fort Hood was entering into negotiations for an Energy Savings Performance Contract (ESPC) to help conserve and manage energy use. As part of the ESPC,

Johnson Controls installed new controllers with LON Works technology and a central operating station complete with servers to link facilities to a centralized workstation.

### Improving energy efficiency

In addition to using the ESPC contracting vehicle to improve HVAC controls, the ESPC will serve as a primary tool to achieve the revised energy reduction goals as mandated by the Executive Order (EO) 13423 for Strengthening Federal, Environmental, Energy, and Transportation Management. The new EO requires that agencies improve energy efficiency and reduce greenhouse gases by reducing energy intensity by 3 percent per year through 2015 or by 30 percent by the end of fiscal year 2015.



Fort Hood continues to implement LON Works technology into existing and future facilities. Currently, Fort Hood is managing 37 facilities under this system, and will be integrating 56 additional facilities with the LON Works technology. As part of the ESPC, Fort Hood has also gained human resources, a LON Works Systems Integrator who will bring these systems together. The Systems Integrator is a no-cost resource that is paid by Fort Hood's energy savings. Army installations that do not have a

Systems Integrator would have to rely on a variety of contracts each time a facility is integrated. However, Fort Hood has its own System Integrator that will continue to expand the system for Fort Hood, and will work to integrate and transition LON Works compatible DDC units to the system.

### Finding more ways for conservation

Along with managing HVAC systems, the UMCS is serving as the primary collection point for building utilities metered data. This data is used in various ways such as developing trends for energy use to assist in determining valid energy reduction projects or strategies. "The data may also be used for billing reimbursable customers, and to incite competition among organizations to be the best at conserving energy," said Bobby Lynn, DPW Energy Management Team Leader. "It's clear that you can't manage what you don't measure."

Fort Hood is also working with CERL to further advance the system by developing a new tool to help watch the operating times of equipment on the system. "The operating time is imperative to the efficiency for Fort Hood. When we have equipment that is operating when it should or shouldn't, we want a way to capture that and evaluate it to look at the energy consumption, the dollar cost and the environmental impact of that consumption," said Richard Strohl, DPW Engineering Technician. "The energy team is looking to use that as a tool to measure those impacts and find ways to be more conservative in the operation of our systems."

"Reasonably within 5 years, Fort Hood should have the majority of its large facilities integrated. Fort Hood has already started to expand the UMCS to include utilities like water distribution,

and electric distribution that will also soon be monitored through the web based system,” Strohl said.

As Fort Hood leads as the first Army Installation to successfully implement the LON Works system, other Installations and agencies will be coming to an Installation Management Command workshop at Fort Hood Aug 21-23 to learn about the LON Works technology, Fort Hood’s experiences, and steps necessary to create plans to implement basewide control systems at Army installations.

“This is cutting edge technology that will help Fort Hood not only reduce energy waste and save dollars, but it will also provide a standard platform to the Army, which will help reduce the Army’s dependency on proprietary control systems that cost the Army millions,” Strohl said.