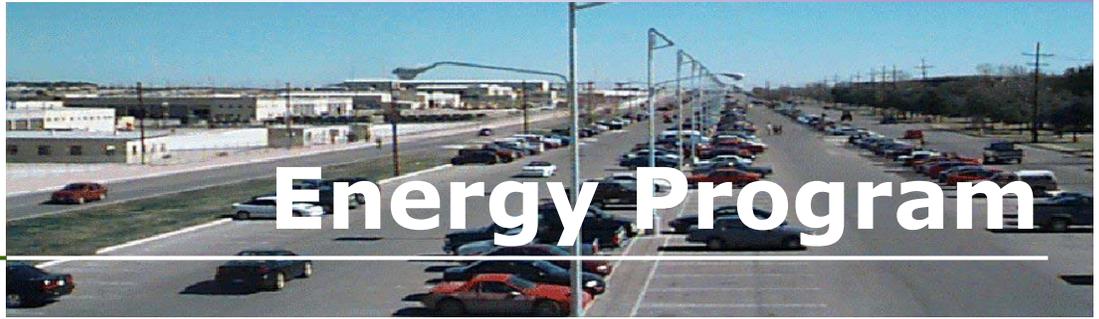


August 2004



LED Traffic Signals

The effort to replace all Fort Hood traffic signal with new LED traffic signals is an ongoing part of Fort Hood's energy reduction program. Traditionally, traffic signals were illuminated with the same technology residents use to light their homes. Now when drivers are at many of our intersections, they can see several tiny lights arranged in a traditional array of a signal. These tiny lights are light-emitting diodes, or LEDs. The technology has evolved into a reliable alternative that has tremendous energy and non-energy benefits. LED traffic signals are 80-90% more efficient and last many more years than the traditional lights. Incandescent bulbs need to be replaced at least once a year and burn out unpredictably. LEDs have a life span of up to 5 to 10 years. The longer life of LEDs reduces the frequency of maintenance work-orders for bulb replacements, further decreasing the cost to the Federal Government.



Energy Projects

- LED Traffic Signals
- Active Daylighting
- Solar Powered Street-lights
- VFD
- HVAC Controls
- Vending Misers

Active Daylighting

Fort Hood continues to install Advanced Active Daylighting Systems into various facilities. This new innovative system is a mirror-tracking device that calculates the sun's position in the sky and redirects the sunlight into the building, allowing illumination of indoor space with reflected sunlight, virtually eliminating the need for electric lighting during daytime hours on sunny and bright cloudy days.

The system employs a mirror array that tracks the sun precisely throughout the year, conducting light from the brightest part of the sky down and into the interior spaces. The mirrors conduct low-angle sunlight efficiently and also shade the intense light sometimes found at high sun angles.



The Active Daylighting system runs on energy generated by a single photovoltaic cell. An auxiliary battery unit allows the unit to resume operation even after extended periods without sunlight. A durable dome protects mirrors from the elements. The tenants and Soldiers report a better working environment when exposed to natural light. Installation of Advanced Active Daylighting Systems is a tremendous help to Fort Hood in reducing our energy consumption and for greening the government in accordance with EO13123.

HVAC Controls

Through new our new Lon based HVAC controls system Fort Hood is reducing energy consumption by scheduling HVAC equipment to run during occupied periods and minimizing the equipment run-time during facility unoccupied periods. The select HVAC equipment will be scheduled based on building hours of operation. During unoccupied times equipment will be shutdown though the use of DDC controllers. The air handling units (AHUs) will be allowed to run at minimum levels, when required to meet unoccupied temperature setpoints. In addition a strategy call "Optimum Start/Stop" will be employed. This control system strategy will realize air conditioning equipment fan, heating and cooling savings by reducing the equipment operation beyond normal building occupancy hours. Savings will result from having the facility at occupied setpoint for shorter period of time. Reduced equipment run-hours also save maintenance dollars. Safe, comfortable and efficient buildings also often result in a more productive work environment a monetary benefit hidden to most occupant and managers.

Compact Fluorescent Lighting

Under the authority of our forth coming updated Installation Design Guide, Fort Hood will be requiring that Fluorescent and Compact Fluorescent lighting be used in all applicable Milcon and retrofit construction projects.

If every household in the U.S. replaced one light bulb with an ENERGY STAR qualified compact fluorescent light bulb (CFL), it would prevent enough pollution to equal removing one million cars from the road. CFLs provide high-quality light, smart technology, and design, requiring less while lasting longer than typical incandescent bulbs.



ENERGY STAR qualified CFLs provide the same amount of light (lumens) as standard incandescent bulbs, but have lower wattage ratings. This means they use less energy and cause less pollution. For example, most 60-watt incandescents provide around 800 lumens of light out-put, while CFLs provide the same lumen count using only 14 watts of electricity.

Fort Hood Energy Office continues to find ways to combine innovative and proven energy savings technologies to maximize the Fort's energy savings potential and to do our part in forging the path to a brave new "Sustainable" world!

Vending Misers

Vending Misers reduce electrical usage by minimizing electrical consumption required by soda vending machines. Utilizing a Passive Infrared (PIR) Sensor, this system completely powers down a vending machine when the area surrounding it is unoccupied. Once powered down, the system monitors the product temperature, based on the surrounding space temperature and automatically re-powers the

vending machine when the product reaches 40 degrees F to ensure that the product stays cold. Vending Miser also monitors electrical current used by the vending machine and will never power down a vending machine while the compressor is running, so a high head pressure start never occurs. In addition, the current sensor ensures that every time the vending machine is powered up, the cooling cycle is run to completion before again powering down the vending machine. All this is accomplished without comprising the quality of the vend product or the integrity of the vending machine.



Jerry Vesey, General Engineer

E-Mail: Jerry.Vesey@us.army.mil

Phone: (254) 287-1690