

27th Annual Secretary of the Army Energy and Water Management Award

Installation:

Fort Lewis, Washington– *Energy Efficiency/Energy Management*

Fort Knox, Kentucky - *Energy Efficiency/Energy Management*

Yuma Proving Ground - *Innovative/New Technology*

Small Group

414th Base Support Battalion, Hanau, Germany - *Energy Efficiency/Energy Management* (Mr. Karl-Heinz Schneider, Mr. Walter Rausch, Mr. Peter Adrian)

Rock Island Arsenal, Illinois - *Renewable Energy* (Mr. David Osborn, Mr. Kim Johnson, Mr. Dave Degan, Mr. Allen Thompson, Mr. Dick Brown)

Fort Buchanan, Puerto Rico - *Energy Efficiency/Energy Management* (Mr. Victor Quinonez, Mr. Ramon Figueroa, Mr. Edgardo Garced, Mr. Ferdinand Torres, Mr. Jesus R. Gimenez)

Fort Bliss, Texas - *Energy Efficiency/Energy Management* (Mr. Juan Morales, Mr. Danny Villareal, Mr. Ricardo Berumen)

Individual:

Mr. Tommy Baldwin - Fort Rucker, Alabama - *Alternative Financing Project*

Mr. Bobby Lynn - Fort Hood, Texas - *Energy Efficiency/Energy Management*

Mr. Steve Jackson - Southeast Region Energy Office - *Individual Achievement*

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Award Summaries

Type Award: Installation

Fort Lewis, Washington

Category – Energy Efficiency/Energy Management

Currently, Fort Lewis is 19% below its 1985 energy consumption level and reduced its energy use from 118.1 Thousand British Thermal Units per Square Foot (KBTU/SF) to 95 KBTU/SF. In the last two years, Fort Lewis developed and implemented several energy projects to help reduce per square foot energy use. Projects included an Energy Savings Performance Contract (ESPC) project for the installation of Direct Digital Controls (DDC)/Building Automation System and a Light Emitting Diode (LED) traffic light retrofit project. These projects, in addition to on going energy awareness activities and the installation sustainability program, saved the installation 49,949 Million British Thermal Units (MMBTUs) of energy in FY 04. Savings amount to \$565,000 in energy conservation and Operations and Maintenance.

Fort Knox, Kentucky

Category- Energy Efficiency/Energy Management

In FY04 Knox expanded its aggressive use of Utility Energy Savings Contracts (UESC) and Demand Side Maintenance (DSM) contracting per Executive Order 13123 to reduce energy use and dollars. This was done by developing and awarding over \$21 million in 9 projects to fund energy and infrastructure improvements. Ft. Knox has the most efficient and largest UESC program in the Army to date, and sets an example for others. Knox has permanently lowered it's BTU's & cost of operation and has implemented continuous Heating, Ventilation and Air Conditioning (HVAC) commissioning with each project to maintain that savings for the next 10 years and beyond.

Yuma Proving Ground

Category – Innovative/New Technology

The Installation has exceeded the requirements for a 1.5 percent annual reduction in energy consumption since FY1985, for a total reduction of 38.92%. This has been accomplished by using innovations such as renewable energy and the use of new technologies. In FY2004 Yuma Proving Ground (YPG) built a new Energy Efficient Demonstration Building with funds received from the State of Arizona. Arizona's renewable energy rebate program provided this funding to the government. YPG an

active Research and Developing Testing Installation of the Department of Army provides fertile testing grounds for innovative renewable energy alternatives. Photovoltaic generation of renewable energy and ongoing demonstrations of new technology transfer such as this new Energy Efficient Demonstration Building are standouts.

Type Award: Small Group

414th Base Support Battalion, Hanau, Germany

Category - Energy Efficiency/Energy Management

(Mr. Karl-Heinz Schneider, Mr. Walter Rausch, Mr. Adrian)

Mr. Karl-Heinz Schneider, Mr. Walter Rausch, and Mr. Adrian are officially commended for their improvements in facility energy efficiency as well as their facility energy conservation management. Their professionalism, negotiation skills, and extensive knowledge of advanced technology enabled them to achieve savings of 30,952,000 BTUs translating into a cost saving of \$396,121 by using the potentials of the Building Management System, Energy Performance Contracting, and Energy Data Collection and Comparison. This reflects great credit upon them, the Directorate of Public Works, and the 414th Base Support Battalion.

Rock Island Arsenal, Illinois

Category – Renewable Energy

(Mr. David Osborn, Mr. Kim Johnson, Mr. Dave Degan, Mr. Allen Thompson, Mr. Dick Brown)

During the past fiscal year, a ten year effort to modernize and renovate the Arsenal's hydroelectric plant was completed. Without this team's effort, this failing 1919 vintage facility would have been deactivated. This team worked together to bring about state-of-art technologies and a sustainable design approach. The hydroelectric plant will now maintain a significant renewable energy source to the Arsenal indefinitely.

The projects provided the latest practices including automation controls, computer modeled stainless steel runners, flanged shafts, and many other innovative measures. The projects resulted in a 26% increase in original rated power. Now hydro power will provide 37% of the Arsenal's total electric use. Many significant challenges were overcome including floods, unexpected turbine damage, funding program shortages, and a constant turnover of contractor staff.

The best practices of this effort are being conveyed through local media, Army outreach programs, and engineering conferences. This accomplishment is due to the

thoroughness, innovation, and dedication of this team to implement the goals of Executive Order 13123.

Fort Buchanan, Puerto Rico

Category - Energy Efficiency/Energy Management

(Mr. Victor Quinonez, Mr. Ramon Figueroa, Mr. Edgardo Garced, Mr. Ferdinand Torres, Mr. Jesus R. Gimenez)

The U.S Army Garrison Fort Buchanan Energy Program mission is to reduce energy/water consumption and cost by advancing and promoting energy efficiency and water conservation. In FY 04, this mission was accomplished by maintaining partnerships, implementing projects, leveraging resources and providing training and technical guidance in the Fort Buchanan military and civilian communities. The strategy is to set and maintain a clear course in order to achieve significant facility operational cost reductions, while maintaining the flexibility to adjust to the dynamic nature of technology development and energy resource supply.

Fort Bliss, Texas

Category - Energy Efficiency/Energy Management

(Mr. Juan Morales, Mr. Danny Villareal, Mr. Ricardo Berumen)

Mr. Juan Morales, Mr. Danny Villareal, and Mr. Ricardo Berumen of Fort Bliss have been leaders on the installation in energy conservation and innovation. Through their efforts, Fort Bliss exceeded the Army's utility consumption goal by achieving 43.27 MBTU/KSF/Year against a goal of 84.06 MBTU/KSF/year. Due to extensive energy use surveys and aggressive conservation programs (including hosting the area Energy Conservation conference), Fort Bliss experienced a further 30% reduction from 2003 to 2004 despite a growing post population. The Directorate of Public Works and Logistics (DPWL) has prepared an extensive list containing projects amounting to \$52.5 million for the Energy Savings Performance Contract (ESPC) Program. The projects include 5.9 Million Watts (MW) of photovoltaic and 5,600 Million Cubic Feet (MCF) of solar hot water heating. In 2004, the Fort Bliss DPWL also qualified for a \$1.3M Public Utilities Commission of Texas grant for projects that will cut energy consumption by 1.6 MW and save \$524,000/year in utility costs. This past year, the DWPL also installed a pilot project for photovoltaic lighting in housing common areas/playgrounds, partnered with a commercial entity to evaluate wind energy generating capacity at Fort Bliss, fully privatized all utilities and even partnered with the electric utility company to operate a peak shaving gas turbine generator to avoid \$2.3M year in utility costs after costs of generator purchase were subtracted. Fort Bliss located/repaired an extensive amount of leaky propane lines reducing usage by half while the same system was being using for heating for greatly increase mobilization training for multiple Brigade Combat Teams.

The Energy Conservation Measure (ECM) to upgrade the existing lighting systems at William Beaumont Army Medical Center (WBAMC) consists primarily of linear

fluorescent and incandescent fixtures. The project has identified 6,113 (85%) of the existing fixtures to be replaced with new lamps and ballasts and replace 1,040 (15%) with completely new lighting fixtures. The project will provide proper light levels in the affected areas, as well as reduce energy consumption and cost. All fluorescent lamps and ballast will be removed in accordance with the regulatory standards for materials that are considered as hazardous containing building materials under RCRA Federal Law.

Type Award: Individual

Mr Baldwin

Fort Rucker, Alabama

Category - Alternative Financing Project

Fort Rucker continues to do its part to reduce energy consumption with its UESC program and the annual utility bills have been reduced by more than \$800,000 annually, thanks to the implementation of a Centralized Chilled Water and decentralized Steam Plant designed to optimize the performance of 24 buildings. This engineering solution is the latest effort in an ongoing program to help reduce and effectively manage base wide energy usage. With a design, construction and commissioning period of 18 months and a simple payback of approximately nine years, the renovated utility plant and distribution system was entirely funded through energy savings and “broke” many of the molds when it came to traditional design and project implementation and stands as the icon for the Fort Rucker Energy Management Team.

Mr Bobby Lynn

Fort Hood, Texas

Category - Energy Efficiency/Energy Management

Mr. Bobby Lynn initiated the purchase of an electrical substation, netting Fort Hood a minimum utilities cost savings of \$900,000 annually. The purchase cost of \$453,478 also resulted in a 6-month payback. This idea was considered “outside of the box” due to the current climate of utilities privatization. However, Mr. Lynn spearheaded the idea and received direct support from various offices. The savings are achieved because ownership allows switching from the current Retail Rate to a Transmission Rate. Mr. Lynn’s professionalism and knowledge combined with his personal involvement, and dedicated commitment to “see it through” ensured a successful outcome.

Mr Steve Jackson
Southeast Region Energy Office
Category – Individual Achievement

Steve Jackson has provided tremendous leadership for the US Army Installation Management Agency, Southeast Region (IMA-SER) energy program through instituting an energy management analysis and planning process to reach the goals of Executive Order 13123. The IMA-SER has been a leader among the IMA Regions in promoting energy and water efficiency and providing the tools and support to achieve the energy goals and reduce costs. Mr. Jackson has established a process for energy planning that includes installation specific long-range energy management plans, comprehensive energy assessments, and project development assistance for appropriated funding and alternative financing. The IMA-SER has teamed with 16 Army installations in the Region, the Department of Energy's (DOE) Southeast Regional Office, Huntsville Corps of Engineers, and Pacific Northwest National Laboratory (PNNL), to institute this comprehensive energy management program.

In FY 2004, the IMA-SER saved \$23,448,015 and 1,437,466 MMBTUs from the ESPC and UESC projects implemented since FY 1999. Over \$23 million in Energy Conservation Investment Program (ECIP) projects have been awarded or are planned for SE Region installations for implementation in FY 2004, 2005, or 2006. Many of these projects were identified as a result of facility energy assessments conducted at the installations. Reaching the goals of EO 13123 by 2010 would save the IMA-SER an additional \$35 million annually.