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Subject: Release of MILCON Energy Efficiency and Sustainability Study of Five Types of Army Buildings Summary Report

References:

- a. Energy Policy Act of 2005
- b. Energy Independence and Security Act of 2007
- c. U.S. Green Building Council (USGBC) Leadership in Energy and Environmental Design (LEED) NC rating tool v2.2 and 2009/v3
- d. ANSI/ASHRAE/IESNA Standard 90.1: Energy Standard for Buildings Except Low-Rise Residential Buildings

Applicability: Information

1. The purpose of this ECB is to announce the release of an energy efficiency and sustainability study of five types of Army buildings that was conducted jointly by the U.S. Army Corps of Engineers (USACE) and the Department of Energy.

2. The *Military Construction (MILCON) Energy Efficiency and Sustainability Study of Five Army Buildings Summary Report* investigated current building features and construction methods and materials to optimize energy reduction and sustainability. The study investigated various energy efficiency packages and sustainability features for the five selected standard designs to meet all applicable energy reduction and sustainable design policies. The building types studied were:

- Unaccompanied Enlisted Personnel Housing (UEPH, 72111)
- Tactical Equipment Maintenance Facility (TEMF, 21410)
- Company Operations Facility (COF, 14185)
- Brigade Headquarters (Bde HQ, 14182)
- Dining Facility (DFAC, 72210)

The study also determined the cost and scope impact of adding energy enhancements and sustainability features to existing facility designs by performing extensive cost estimates, developing energy models and working with Centers of Standardization (COS) while accounting for the impact on operations and maintenance by energy systems. In addition to the analysis that was performed there are many useful conclusions and recommendations that resulted from this study.

3. The field is encouraged to use this Summary Report as a reference tool in developing facility designs that meet current energy efficiency and sustainability mandates and targets. The study showed that significant energy savings are possible for all climates. The extent of energy

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savings achieved is dependent on both the type of facility and the location and site of the facility. This report is not intended as a one-size-fits-all prescriptive guide for designing energy efficient and sustainable Army facilities. The burden is on the designers to take a performance-based rule set and apply it to an individual building by defining strategies that result in achieving overall energy reduction targets and sustainability goals.

4. In addition to the study, several tools were developed to help the USACE COS, District, and Army Installations staff better understand the technologies and mandates they are facing. Nineteen TechNotes, brief summaries of new technologies, were developed and posted to <http://mrsi.usace.army.mil/sustain> to provide brief overviews of specific technologies that are either new or not widely used.

5. The *MILCON Energy Efficiency and Sustainability Study of Five Army Buildings Summary Report* is posted at the following location:

http://mrsi.usace.army.mil/sustain/Documents/2011_EISA_Study.pdf

It can also be found at the TEN website in the “General Information” folder of the “Documents” section of the following link:

<https://ten.usace.army.mil/TechExNet.aspx?p=s&a=AREASOFEXPERTISE;522>

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