



**US Army Corps
of Engineers®**

ENGINEERING AND CONSTRUCTION BULLETIN

No. 2009-8

Issuing Office: CECW-CE

Issued: 10 March 2009

Subject: Workshop on Energy Conservation/ Mold and Mildew Remediation in Barracks

Applicability: Information

1. Energy conservation is our fastest growing technical field. In addition, mold and mildew have been longstanding problems in many environment conditions. It is critical that Corps Engineering and Construction and Army DPW staffs be effectively trained in the latest developments in both of these fields. This bulletin is to inform you of a valuable training opportunity. It is useful not only for HVAC designers, but also for project managers of new construction and renovation projects, architects, structural engineers, installation energy managers, master planners and O&M personnel. Feedback from previous students has been overwhelmingly positive. While the workshop focuses on barracks, it covers other types of Army facilities as well.

2. The ENERGY CONSERVATION/ MOLD AND MILDEW REMEDIATION IN BARRACKS workshop will be held 20-24 April 2009 in Honolulu, Hawaii. Compared to two previous workshops conducted at Ft. Bragg, this workshop will address in more detail the current energy conservation requirements contained in EPACT 2005, EISA 2007 and ASHRAE 90.1 2004 and 2007. The additional material necessitates making this a full 5-day workshop. Please ensure the widest dissemination of this notice and strongly encourage participation by your organization, especially those in climatic zones susceptible to mold and mildew in their buildings, and those who have not had anyone attend previous sessions.

3. This is a joint course offering between HQ IMCOM and HQ USACE. They have centrally funded the course costs for this session, but each attendee must pay their own travel and per diem costs. To attend please email your name and contact information to Dale Herron at ERDC (Dale.L.Herron@usace.army.mil). The workshop will be held at the Hyatt Regency Waikiki Beach Resort & Spa. To reserve a room, contact the hotel at 808-237-6300 by 31 March 2009 and ask for the "US Army Corps of Engineers Workshop" rate. The room cost is within local per diem (\$177) and includes continental breakfast.

4. A draft list of the subjects to be covered follows:

- a. Energy Conservation Requirements- EPACT 2005, EISA 2007, ASHRAE 90.1
- b. Biologicals and Indoor Air Quality
 - Relative Humidity
 - Mold, Mildew, Fungi, Bacteria
 - Moisture Transport Mechanisms
 - Dilution and Source Control Differences Based on Climate

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- Surface Temperature Control Versus Moisture Control
- c. Keeping the Rain Out of Buildings
 - Drainage Planes
 - Rain, Holes and Forces
 - Traditional Stucco, EIFS, and Brick Veneer
 - Face Seal, Barrier Walls, and Rain Screen
 - Pressure Equalization and Water Managed Systems
- d. Vapor Diffusion Retarders, Air Flow Retarders and Roof/Attic Ventilation
 - Thermal Gradients and Condensing Surfaces
 - Difference Between Vapor Diffusion and Air Transported Moisture
 - Impermeable and Permeable Sheathings
 - Insulating and Non-Insulating Sheathings
- e. Mechanical Systems and Controlled Ventilation
 - Using HVAC to Control Humidity in Buildings
 - Dedicated outdoor systems
 - Radiant Cooling
 - Keycard and Infrared In-room Energy Management Systems
 - Exhaust vs. Supply Ventilation vs. Balanced Ventilation
 - Preconditioning of Makeup Air
- f. Requirements for building air tightness and pressure tests

5. HQUSACE Engineering and Construction point of contact for this bulletin is Bob Billmyre, 202-761-4228 or Bob DiAngelo, 202-761-0703.

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