

HQ, USACE  
441 G ST NW  
Washington, DC 20314  
021900NOV2011

**Operation Order 2011-72 (Notification of Intent to Formally Establish USACE Center(s) of Expertise for Energy, Sustainable Design and Life Cycle Cost Analysis)**

**References:**

- a. U.S. Army Corps of Engineers (USACE) Campaign Plan, Goal 3: "Deliver innovative, resilient, sustainable solutions to the Armed Forces and the Nation" and Goal 4: "Build and cultivate a competent, disciplined, and resilient team equipped to deliver high quality solutions."  
<http://www.usace.army.mil/about/campaignplan/Pages/Home.aspx>.
- b. Engineering Regulation 1110-1-8158, Corps-Wide Centers of Expertise Program. <http://140.194.76.129/publications/eng-regs/er1110-1-8158/toc.htm>.
- c. PL 109-58 Energy Policy Act, 2005 (EPAct).
- d. PL 110-140 Energy Independence and Security Act, 2007 (EISA).
- e. Executive Order (EO) 13423, Strengthening Federal Environmental, Energy, and Transportation Management, Jan 26, 2007.
- f. Executive Order 13514, Federal Leadership in Environmental, Energy, and Economic Performance  
<http://edocket.access.gpo.gov/2009/pdf/E9-24518.pdf>.
- g. Army Energy Strategy and Campaign Plan.  
<http://army-energy.hqda.pentagon.mil/programs/plan.asp>.
- h. Memorandum for Agency Senior Sustainability Officers - Executive Office of the President of the United States, Ms. Nancy Sutley, Chair of the Council on Environmental Quality et al, SUBJ: Supporting Energy and Sustainability Goal Achievement Through Efficiency and Deployment of Clean Energy, 16 August 2011  
[http://ww1.eere.energy.gov/femp/pdfs/ceq\\_espc\\_memo082011.pdf](http://ww1.eere.energy.gov/femp/pdfs/ceq_espc_memo082011.pdf).

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Time Zone Used Throughout the Order: ROMEO (Eastern Time)

1. **Situation.**

a. **Purpose.** Energy security and conservation is a national priority that requires our embracement, leadership and engagement at all levels within our Command. We are challenged by the energy targets set by law and methods and means to deliver these results through unknown, emerging and in some cases existing technology not before effectively applied. Industry is moving with us, we have an opportunity to lead. We must accelerate our learning and knowledge transfer and create a base level of technical competency throughout our organization to deliver the expectation of our customers.

b. **Background.** Energy security is a force multiplier. Energy saved translates into real dollars available to resource other critical needs. New technologies are emerging every day. We must actively seek out these technologies, understand their benefits and limitations and offer to our customers' appropriate choices that optimize their investments.

2. **Mission.** USACE executes the FY2012 and Future Year Programs incorporating life cycle cost effective energy and sustainable design solutions for the Army, Air Force, Defense Agencies, U.S. Government Agencies, and foreign governments into all projects.

3. **Execution.**

a. **Commander's Intent.**

(1) **Purpose.** To build competency in energy, sustainable design and life cycle cost evenly across all Districts within USACE. Establish the minimum number of technical centers as required and phase out these centers as competency is gained.

(2) **Key Tasks.**

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- (a) Perform a Hedgehog Analysis of capability and technical competencies
- (b) Perform a Gap Analysis of capabilities within a region and across regions
- (c) Establish Regional Technical Centers of Expertise, one per MSC.
- (d) Establish a National Technical Center (TCX) that fills the gaps and serves as a resource to accelerate learning, as needed.
- (e) Stand down centers as appropriate.

(3) **End State**. USACE successfully delivers all FY12 and future year Military Programs requirements in addition to select OMA (or Restoration and Modernization) projects in support of the Department of the Army and other customers. Energy and Sustainable design principles are embraced at all levels within our command. USACE consistently offers investment choices to our customers that enhance the performance of their building, supported by life cycle cost analysis.

b. **Concept of Operations**. Establish Headquarters led team of MSC Regional Technical Centers supported by HNC, a national TCX (if required) and ERDC (CERL and other labs) for program and technical guidance. This team will be responsible for establishing policy and shaping programs for implementation that execute mission and build technical competency. Each MSC/Center shall establish an energy sustainable design and LCC program manager who will oversee the activities within the region and be the primary point of contact with Headquarters and the Regional Technical Center for policy, training and reporting. Each Regional Technical Center shall appoint technical lead who coordinates operations of the center focused on implementing the technical competencies into the design and construction processes that lead to high performing energy and sustainable buildings. Each MSC and regional center is encouraged to initially dedicate a

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full time resource to the positions of program and technical lead and then back off commitments as appropriate as we begin to institutionalize our processes. A full time resource will create opportunities to accelerate learning for the betterment of mission. Commanders may resource the center as appropriate with on site staff or use a virtual resource.

**c. Tasks to Subordinate Units.**

**(1) HQ USACE Staff (Engineering and Construction).**

(a) NLT 01DEC11 establish and lead an Energy, Sustainable Design and Life Cycle Cost Management Board with representation by the MSC Program Lead, the regional center technical lead, HNC and ERDC (CERL and other labs).

(b) Upon receipt review the Hedgehog and Gap Analysis provided by the MSCs and Centers and evaluate the need to create a National TCX in accordance with guidance defined by Reference E.

(c) Coordinate the activities of the Management Board with the USACE Strategic Sustainability Committee and the Energy Governance Council.

**(2) All MSC's.**

(a) NLT 15NOV11 appoint a MSC program lead and regional center technical lead to serve as your representative on the Energy, Sustainable Design and Life Cycle Cost Management Board.

(b) NLT 01DEC11 review the list of technical competencies provided by attachment and perform a hedgehog and gap analysis across your MSC.

(c) NLT 01DEC11 nominate one Commander (Division or District) to lead the establishment of your regional technical center and governance structure/process.

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(3) HNC and ERDC (CERL and Other Labs).

(a) NLT 15NOV11 appoint a program and technical Lead to support policy development, and provide technical guidance to the Energy, Sustainable Design and Life Cycle Cost Management Board and regional technical centers.

(b) NLT 01DEC11 Review the list of technical competencies provided by Annex A (List of Technical Competencies) and perform a Hedgehog and Gap Analysis across your organization.

**d. Coordinating Instructions.**

(1) MSCs/Center program leads meet virtually to finalize final format for Hedgehog Analysis worksheet. The meeting will take place on an agreed upon time once Program and Technical leads have been identified. Annex B (MSC/Center Report Format for Hedgehog/Gap Analysis) provides a starting point as an initial rough draft.

(2) HQ/MSCs/Centers complete Hedgehog/Gap Analysis review and develop recommendations for presentation at Winter Leaders Conference (23-27JAN12) and the National Management Board as appropriate. The creation of a National Technical Center (TCX) for Energy, Sustainable Design and Life Cycle Cost Analysis may be required to fill gaps and serve as a resource to accelerate learning.

(3) Headquarters and MSC's coordinate to stand up and down centers as appropriate. The centers may not necessarily be a permanent organization.

(4) Provide names of the Program and Technical leads to Mr. Lea, Chief of Military Branch Engineering Construction, at [George.o.lea@usace.army.mil](mailto:George.o.lea@usace.army.mil).

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4. **Sustainment**. Resources provided in accordance with Military Programs OPORD's and Campaign Funds as appropriate.
5. **Command and Control**.
  - a. **Command**. NA
  - b. **Signal**. POC for this action is George Lea at 202.761.7775; [George.o.lea@usace.army.mil](mailto:George.o.lea@usace.army.mil)

**ACKNOWLEDGE:**

TEMPLE  
MG, USA  
Acting Commander

**OFFICIAL:**  
SMITH  
COL, G-3

**ANNEXES:**

- A - List of Technical Competencies
- B - Hedgehog/Gap Analysis

**DISTRIBUTION:**

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Commander, CEHNC  
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    Dr. James R. Houston  
Deputy Director, CEERD, ATTN: Dr. Jeffery P. Holland  
Chief, Programs Office, CEERD,  
ATTN: Mr. Donald J. Morgan  
Commander, CETAC  
Commander, Gulf Region Division  
Commander, Afghanistan Engineer District

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Annex A

List of Technical Competencies of Proposed CX

A. Program Level

- Formulate, interpret and issue policy
- Issue implementing guidance
- Develop and conduct training
- Provide field assistance evaluations
- Knowledge of energy modeling, energy analysis
- Knowledge of high performance building design
- Knowledge of passive haus techniques, building envelop, thermal bridging
- Knowledge of emerging technology
- Ability to partner with other Federal Agencies, DOE, Navy and Air Force
- Knowledge of area development planning
- Knowledge of utility distribution systems
- Knowledge of co-generation
- Knowledge of smart grid technology
- Knowledge of renewal sources
- Knowledge of measurement and verification systems, advanced meter technology and requirements
- Expert in structuring public private partnerships
- Knowledge of life cyclic cost analysis, building design, formulation of projects and site planning
- Expert knowledge of LEED (NC and EB) on-line
- Expert knowledge LEED (NC and EB) documentation and reporting
- Expert knowledge of Federal Guiding Principles for High Performance Sustainable Buildings (HPSB) (NC and EB)
- Knowledge of federal energy and sustainability requirements and implementing guidance
- Knowledge of Federal Energy Management Program (FEMP) and Implementing Guidance
- Knowledge of renewable energy sources and technology
- Knowledge of Renewable Energy Credits (RECs)
- Knowledge of greenhouse gas accounting and reporting

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- Knowledge of Facility Energy Manager/Resource Efficiency Manager requirements
- Knowledge of Climate Change Adaptation
- Knowledge of Energy Savings Performance Contracts, Utility Energy Service Contracts, and Power Purchase Agreements
- Knowledge of Enhanced Used Leases authority and use

B. Technical Level

- Interpret policy and implementing guidance
- Assist in providing training as needed
- Provide field assistance evaluations
- Expert energy modeling, energy analysis
- Expert high performance building design
- Expert passive haus techniques, building envelop, thermal bridging
- Expert use of emerging technology
- Expert renewal sources
- Expert in measurement and verification systems, smart meter technology
- Expert in life cyclic cost analysis, building design
- Proficient at review and writing technical publications, UFC's and Guide Spec's
- Expert on enhanced commissioning
- Expert low impact development
- Expert of utility distribution systems
- Expert co-generation
- Expert on smart grid technology
- Expert knowledge of Federal Guiding Principles for High Performance Sustainable Buildings (HPSB) (NC and EB)
- Expert Knowledge of federal sustainability requirements and implementing guidance
- Expert Knowledge of Federal Energy Management Program (FEMP) and Implementing Guidance
- Expert Knowledge of renewable energy sources and technology
- Expert Knowledge of greenhouse gas accounting and reporting

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- Expert Knowledge of Facility Energy Manager/Resource Efficiency Manager requirements
- Expert Knowledge of Climate Change Adaptation
- Expert Knowledge of Energy Savings Performance Contracts, Utility Energy Service Contracts, and Power Purchase Agreements

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Annex B

MSC/Center Report Format for Hedgehog Gap Analysis

[See Spreadsheet Attached]