Army Design & Construction Programs

Moderator:
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Speakers:
• Lloyd Caldwell, P.E., SES, Director of Military Programs, HQ USACE
• Ray Alexander Jr., SES, Chief, Interagency & International Services, HQ USACE
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SAME FY17 DoD and Federal Program Briefing: 

USACE Military Programs

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Deliver innovative, resilient, and sustainable solutions to the Department of Defense and the Nation.

**Military Construction**
Army / Air Force

**Overseas Contingency Operations (OCO)**

**Support to Combatant Commands**

**Installation Support**

**Environmental**

**Real Estate**

**Interagency and International**

**Energy and Sustainability**
Enabling Mission Success through Principles-Based, Collaborative Initiatives

- **Disciplined, consistent & integrated mission delivery**
- **Enterprise relationship strategy**
- **Scalable solutions**
- **Performance measures**
- **Stakeholder-aligned capabilities & competencies**

**Outcomes:**
- Creates efficiencies
- Maximizes outcomes
- Enables holistic solutions
- Strengthens partnerships
- Promotes stewardship of public resources
- Fosters knowledge and information sharing
Standards and Processes

- **USACE standards and processes** apply on all projects across the enterprise
  - Our assurance of quality
  - Integrated project Teams, PM Led
  - Design Management(DBB and DB)
  - Bid-ability, Constructability Reviews
  - Three phase inspection
  - Partnering
  - And more....

- **Criteria, UFC’s and UFGS apply**, 
  - Will accept user criteria after review provided we can maintain USACE standards and accepted industry practices
  - Will not deviate from building codes

- **Sustaining Technical Competency through in-house design**
USACE Resilience Definition:

"resilience means the ability to anticipate, prepare for, and adapt to changing conditions and withstand, respond to, and recover rapidly from disruptions."

Presidential Executive Order 13653, Preparing the U.S. for Impacts of Climate Change (NOV 2013)
USACE Resilience Initiative

Military Programs
- Architecture & Sustainability
- Construction
- Energy
  - NetZero
  - Energy Conservation & Security
  - Smart Power
  - Cybersecurity
- Environmental
- Interagency and International Services
- Master Planning

Civil Works
- Climate Preparedness & Resilience
- Committee on the Marine Transportation System
- Critical Infrastructure Protection & Resilience Program
- Dam & Levee Safety
- Drought
- Ecosystems and Natural Resources
- Engineering disciplines: Geotechnical, Hydraulic, Structural
- Silver Jackets Program
- Planning
- PL 84-99 Activities
- Regulatory
- Tribal Liaison

Research & Development
- Coastal Engineering Research
- External Research Partnerships
- Natural and Nature-Based Features
- NETZERO tool
- Resilience Matrix / Tool Development & Testing
- Social Vulnerability Research
- Systems Approach to Geomorphic Engineering (SAGE)
Challenges and Opportunities

- Advancing Implementation of BIM
  - Tagging attributes
  - Quantity take-offs
- Risk Identification
  - Risk Registers
- Time and Cost management, all phases of the project
- Predicting Construction Duration
- Earned Value Management
- Infusion of new technologies
- Cybersecurity
Installation Management Community Initiatives

Facility Life Cycle Management

- Master Planning
  - ADPs
  - 1391s/Charrettes
- Design
  - MILCON P&D Construction Agent
- Construction
  - MILCON Construction Agent
- SRM O&M Installation
- Disposal O&M Installation

Future Trends

- Increase in SRM workload as a result of:
  - Facility investment strategies focused on modernization & re-purposing of existing facilities and reducing 20%-25% excess DoD Real property inventory (“Reduce the Footprint”)
  - Installation facility management staffing reductions
  - Use of multi-year SRM execution approach
  - Increasing requirement to assure facility cyber security and energy security
  - Emphasis on improving turnover of completed facilities

Promoting public-private partnerships through Energy Savings Performance Contracting (ESPC) initiatives
Installation Management Community Initiatives

Sustainment Management System (SMS) - BUILDER

Asset management tool using facility condition assessments and comprehensive engineering data in an objective, efficient manner to inform future investment decisions and reduce risk.

**Background:**
- Recommended by National Academies of Science
- Assesses and predicts facility component condition (Roofs, HVAC, etc.)
- Uses scenario-based planning to inform prioritized investment strategies
- Mandated by OSD in Sep 2013 for DoD implementation by Sep 2018
- Working to integrate BUILDER with other systems/programs (GFEBS / Master Planning and Energy/Sustainability programs)

**Master Planning**

Enabling the development of sustainable, energy-efficient installation master plans IAW UFC 02-100-01 and USD(ATL) 2013 memo mandating compliance by 2018

**USACE Responsibilities:**
- Develop technical criteria and standards that meet planning, sustainability and energy efficiency mandates
- Proponent/Instructors for DoD Master Planning Institute and PROSPECT courses

**Key Initiatives:**
- Master planning training
- Leveraging Regional Master Planning Support Centers
- Developing DoD planning metrics
- Establishing USACE master planning product standards
- Planning for resiliency/ climate change
- Sustainability and Net Zero modeling
Cyber Security

USACE provides Industrial Control System (ICS) Cyber Security (CS) technical expertise throughout the enterprise to ensure the delivery of secure facilities to its military missions clients.

ICS CS Technical Center of Expertise in Huntsville:
- Established Jan 2015
- Provides ICS cybersecurity technical services for MILCON, SRM and O&M projects
- Assists HQUSACE with policy and guidance
- Expands ICS CS community knowledge
- Influences Army and OSD ICS CS policy

Energy

- Partnering with Energy offices across the Army to enable the achievement of Army Energy and Water Management Program outcomes including:
  - Implementing cost-effective, large-scale renewable energy projects on Army installations
  - Integrating energy and sustainability into Army plans, programs, policies, and regulations
  - Achieving NetZero goals
  - Utilizing private sector financing to reduce initial capital investment outlays
  - Serving as the Army’s Metering Program Manager
  - Collaborating with installations to support cost-effective acquisition and sale of reliable utilities services through the Commercial Utilities Program

Net Zero Installation Research

- Modeling & Simulation
- Building Materials Reuse & Recycling
- Technology Demonstrations
- Advanced Insulation Materials

Army Energy Conservation Program (ECIP)
- FY14: 11 projects; ~$43M
- FY15: 11 projects; ~$48M
- FY16: 7 projects; ~$46M
- Project Categories: renewable energy, energy efficiency, and water conservation
Enabling National Security

- **Engagement (130+ Countries)**
- **Physical Presence (34 Countries)**

**Divisions**
- **Northwestern Division** (Portland)
- **North Atlantic Division** (New York City)
- **South Atlantic Division** (Atlanta)
- **Trans-Atlantic Division** (Winchester, VA)
- **Pacific Ocean Division** (Honolulu)

**Regions**
- **Lower Mekong**
- **Brazil**
- **Tanzania**
- **Pakistan**
- **India**
- **Bangladesh**
- **Georgia**
- **Ghana**
- **Mongolia**
- **Turkmenistan**
- **Lebanon**
- **Guatemala**

**Countries**
- **Afghanistan**
- **MOSUL**
- **Lebanon**
Interagency and International Program Initiatives

Support to Combatant Commands

Serving as a vital engineering enabler for the Army, Combatant Commands, and our interagency partners by delivering scalable technical and engineering solutions that address a dynamic and broad range of global and regional challenges.

Key Initiatives:
- Assisting strategic partners to address critical water security and climate change challenges
- Building partner disaster preparedness and response capacity around the globe
- Capacity Development and access opportunities
- Sharing technical and engineering best practices and information through exchanges, consultations, and assistance
- Providing forward deployed and reachback engineering support for contingency and current operations

Security Assistance

Delivering engineering services to NATO and 41 countries across the globe through 110 cases totaling $3.3B.

Countries with Existing Workload

USACE anticipates workload growth in the following countries:
- Brazil
- Bahrain
- Kuwait
- Qatar
- Saudi Arabia
- India
- Israel

Diagram:

- **NORTHCOM** 1 Case ($10M) Canada
- **AFRICOM** 21 Cases ($16.7M) Burkina Faso, Chad, Djibouti, Kenya, Liberia, Mauritania, Mozambique, Niger
- **CENTCOM** 52 Cases ($2.5B) Afghanistan, Bahrain, Egypt, Iraq, Jordan, Kuwait, Lebanon, Pakistan, Qatar, Saudi Arabia, Tajikistan, U.A.E., Yemen
- **PACOM** 4 Cases ($285M) Australia, India, Korea, New Zealand**

*UK case is in Bahrain (case included under CENTCOM figures)
**New Zealand case in Afghanistan (case included under CENTCOM figures)

Does Not Include Supply Service Complete Cases
Delivering Enduring Engineer Support to the Nation

DVA Denver-Aurora Medical Center - CO

DOE PANTEX Building – Amarillo, TX

Mosul Dam Iraq

DOT IG Railroad Bridge Inspections

Value
Trusted Agent
Experience
Professionalism
Partnership
Delivering Engineering Solutions

- Facilities & Infrastructure
- Technical Services
- Science & Technology Applications

A-E Firms
- Critical Technical Resource
- Perform > 65% of Planning and Design
- 5,000 Employees

Construction Contractors
- Unlimited Capability
- Perform 100% of Civil Works and Military Construction
- 300,000 Employees (daily)

33,000 Employees
- Perform government functions