



Air
Force

Civil Engineer

Vol. 21
No. 4
2013



2013 Almanac

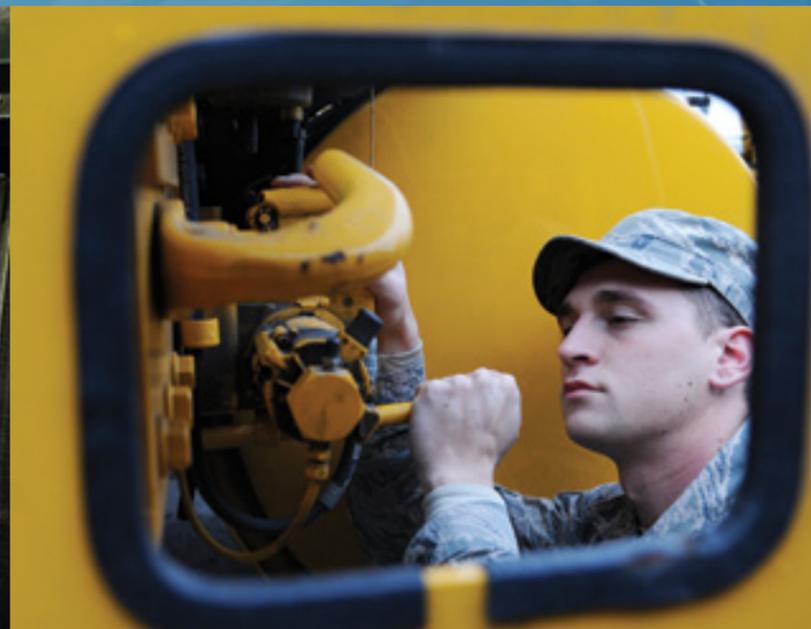
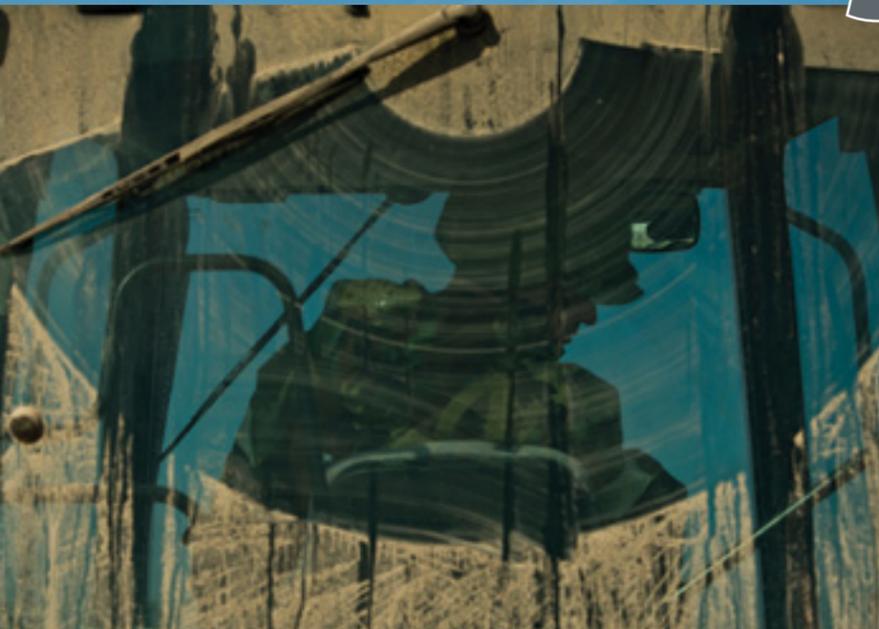


**Air
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On the front and back covers: Members of the 455th Expeditionary Civil Engineer Squadron spread concrete during a project on Bagram Airfield, Afghanistan, March 27, 2013. During January, February and March, the 455th ECES poured 83.5 cubic meters of concrete for 11 separate sites. (U.S. Air Force photo/Senior Airman Chris Willis)

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Photos: (left to right)
 Tech. Sgt. Bradley Garman operates a dust sweeper while repairing runway damage during an exercise at the Combat Readiness Center in Gulfport, Miss. (U.S. Air Force photo/Tech. Sgt. Efren Lopez)
 Naoki Nakamura and Oshiro Hidatake, 18th CES Barrier Maintenance technicians, work on an aircraft arresting system at Kadena Air Base, Japan. (U.S. Air Force photo/Staff Sgt. Darnell T. Cannady)
 Airman 1st Class David Cline, 354th CES heavy equipment operator, raises the rear cab on a snow plow during Snow School at Eielson AFB, Alaska. (U.S. Air Force photo/Senior Airman Ashley Nicole Taylor)
 Senior Airman Andrew Wright, 577th Expeditionary Prime BEEF Squadron electrician, assists with pouring concrete at Kandahar Airfield, Afghanistan. (U.S. Air Force photo/Senior Airman Kayla Newman)



The Civil Engineer
 Maj Gen Theresa C. Carter
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CEs Steadfast through

Challenges and Change

Ten years from now when we look back to 2013, I believe we'll see a year filled with challenges and change, highs and lows. This edition of our CE Almanac highlights just a few of the thousands of significant accomplishments across our major commands, the Air Force Civil Engineer Center and the air staff. I'm sure you'll agree after reading the articles that our engineers led the way in many areas this past year.

I'd like to focus my comments not on what we did, but rather on the people who made those feats possible: the talented enlisted, officer and civilian Airmen who proudly serve our Air Force as civil engineers or in support of our CE squadrons and staffs. This year brought many challenges — severe budget cuts and civilian furloughs driven by sequestration, development of a new identity and team at AFCEC and continued high demand for civil engineers in deployed locations around the world.

Time and again, our civil engineers met and exceeded every challenge. CE annual award winners like Senior Master Sgt. Daniel Clark, Superintendent for the 51st Civil Engineer Squadron's Engineering Flight, juggled multiple high-priority projects with ease, driving everything from energy conservation projects that saved \$800,000 per year to converting the overhead power grid to underground, cutting base power outages by 60 percent. Lt. Col. Shawn Larcher, Deputy Chief, Civil Engineer Division, at the Air Force District of Washington, leveraged regional water trailers and eight personnel in support of Hurricane Sandy relief operations, providing 13 million gallons of water to nearly 12 million storm victims. Housing professionals at the bases, MAJCOMs, AFCEC and air staff closed the remaining housing privatization projects.

You could argue change was the only constant this past year. We said farewell to Maj. Gen. Tim Byers after four distinguished years of service as the Air Force Civil Engineer and 32 years wearing our nation's uniform. We continued to change how we manage our physical plant, maturing our asset management philosophy and incorporating sustainable installation assessments into our vocabulary. Wayne Dyer said "If you change the way you look at things, the things you look at change." In CE squadrons around the globe, our engineers are asking different questions and coming up with innovative ways to make the most of the limited resources available to them. James Visinoni, Environmental Quality Element Chief for the 9th Civil Engineer Squadron, ensured compliance with stringent storage tank regulations, earned nearly \$400,000 through the base's qualified recycling program and saved thousands of staff man-hours through innovative management techniques. 1st Lt. Ryan Hill, civil engineer in the 60th Civil Engineer Squadron, excelled while deployed to Afghanistan, coordinating regional transfers of critical maintenance shelter assets to jump start four projects and save more than \$1 million.

There were many high points throughout the year. Once again civil engineers were recognized as some of the Air Force's 12 Outstanding Airmen. Staff Sgt. Joshua Hanna, EOD Journeyman for the 36th Civil Engineer Squadron and Master Sgt. Andre Davis, Unit Education Training Manager for the 203rd RED HORSE Squadron were singled out for their superior leadership and performance. The courage and heroism of EOD professionals Staff Sgt. Mark Hajduk, Senior Airman Garrett Amorose, Technical Sgt. Andrew Adrian, Tech. Sgt. Ronnie Brickey, Tech. Sgt. Jarrod Mills, and Staff Sgt. Nicole Nellist were featured in the Air Force's Portraits in Courage Volume 8. Hundreds of our civil engineers earned another stripe, pinned on a new rank or were promoted to new civilian positions of greater responsibility.

We also faced low points – furloughs for our civilian teammates, budget restrictions that forced us to forgo travel for training, customer support and the loss of several thousands of years of experience as long serving military and civilian members retired. We weathered these low points by staying firm in our resolve and commitment to providing ready and capable engineering support, at home or deployed, in support of the Air Force or combatant commander's mission. We will need your continued strength and determination in 2014 as we deal with an increasingly complex fiscal and security environment.

I'd like to close by simply saying thank you — thank you for your dedicated service and sacrifice. Your "can do, will do, have done" attitude is key to solving problems that may initially appear to be insurmountable. I'm exceptionally proud of each and every one of you and relish each day I have the opportunity to serve as your Air Force Civil Engineer. Keep up the great work and I look forward to reporting next year about the great work you accomplished in 2014!

Theresa C. Carter
Major General, USAF
The Civil Engineer



(Above) Tech Sgt. Andrew Adrian measures a mortar in the 673 CES Explosive Ordnance Disposal shop, Joint Base Elmendorf-Richardson, Alaska. (U.S. Air Force photo/Staff Sgt Robert Barnett)
(Left) In 2010, then Senior Airman Nicole Nellist, moved a case of 40-mm grenades to the bottom of a controlled detonation pit while deployed to the 447 ECES at Sather Air Base, Iraq. (U.S. Air Force photo/Senior Airman Perry Aston)

Air Force Civil Engineers

The duty titles for the individuals pictured reflect their changing responsibilities, the development of the career field and the transformation of the Air Force since 1944.

1944-1949 Director of Air Installations
 1949-1954 Director of Installations
 1954-1957 Assistant Chief of Staff, Installations

1957-1959 Director of Installations
 1959-1975 Director of Civil Engineering

1975-1991 Director of Engineering and Services
 1991 to present The Civil Engineer



Brig Gen Robert Kauch
 Sep 1944 – Jun 1948



Maj Gen Colby M. Myers
 Jun–Sep 1948, May–Dec 1950,
 Jan–Jun 1952



Maj Gen Grandison Gardner
 Sep 1948 – Mar 1949



Maj Gen James B. Newman
 Mar 1949 – May 1950



Lt Gen Patrick W. Timberlake
 Dec 1950 – Jan 1952



Maj Gen Lee B. Washbourne
 Jun 1952 – Jul 1957



Maj Gen Augustus M. Minton
 Jul 1957 – Jul 1963



Maj Gen Robert H. Curtin
 Jul 1963 – May 1968



Maj Gen Guy H. Goddard
 May 1968 – Dec 1971



Maj Gen Maurice R. Reilly
 Jan 1972 – Mar 1974



Maj Gen Billy J. McGarvey
 Mar 1974 – Apr 1975



Maj Gen Robert C. Thompson
 Apr 1975 – Jun 1978



Maj Gen William D. Gilbert
 Jul 1978 – Aug 1982



Maj Gen Clifton D. Wright, Jr.
 Aug 1982–Feb 1986



Maj Gen George E. Ellis
 Mar 1986–Feb 1989



Maj Gen Joseph A. Ahearn
 1 Mar 1989–31 Jan 1992



Mr. Gary S. Flora
 1 Feb 1992–27 Oct 1992



Maj Gen James E. McCarthy
 28 Oct 1992–21 Jul 1995



Maj Gen Eugene A. Lupia
 22 Jul 1995–23 Jul 1999



Maj Gen Earnest O. Robbins II
 23 Jul 1999–16 May 2003



Maj Gen L. Dean Fox
 16 May 2003–23 Jun 2006



Maj Gen Del Eulberg
 23 Jun 2006–5 Jun 2009



Maj Gen Timothy A. Byers
 5 Jun 2009–22 Jun 2013



Maj Gen Theresa C. Carter
 23 Jun 2013–present

Deputy Air Force Civil Engineers

TITLES:

1963-1969 Associate Deputy Director for Construction

1969-1975 Associate Director of Civil Engineering

1975-1991 Associate Director of Engineering and Services

1991-1999 Associate Air Force Civil Engineer

1999- Present Deputy Air Force Civil Engineer

1963–1969



Mr. John R. Gibbens

1969–1972



Mr. Rufus (Davy) L. Crocket

1973–1985



Mr. Harry P. Rietman

1985–1994



Mr. Gary S. Flora

1994–1997



Dr. Robert D. Wolff

1999–2002



Mr. Michael A. Aimone

2002–2007



Ms. Kathleen I. Ferguson

2007–2010



Mr. Paul A. Parker

Nov 2010–present



Mr. Mark A. Correll

CE Chiefs for Enlisted Matters

Sep 1989–Jun 1992



CMSgt Larry R. Daniels

Mar 1994–Jul 1995



CMSgt Larry R. Ward

Aug 1995–Jul 1998



CMSgt Kenneth E. Miller

Aug 1998–Jun 2000



CMSgt Richard D. Park

Jun 2000–Jun 2005



CMSgt Michael Doris

Jun 2005–Feb 2008



CMSgt Wayne Quattrone II

Feb 2008–Aug 2011



CMSgt Patrick D. Abbott

Aug 2011–present



CMSgt Jerry W. Lewis

Civil Engineer



LEADERS



Maj. Gen. Theresa C. Carter is the Air Force Civil Engineer, Headquarters U.S. Air Force, Washington, D.C. She is responsible for installation support functions at 166 Air Force bases worldwide with an annual budget of more than \$12B, and organizing, training and equipping the 60,000-person engineering force. Her responsibilities also include planning, development, construction, maintenance, utilities and the environmental quality of Air Force bases valued at more than \$251B, which includes services for housing, fire protection, aircraft crash and rescue, explosive ordnance disposal and disaster preparedness. She oversees the Air Force Civil Engineer Center, with locations at Joint Base San Antonio, Texas, and Tyndall AFB, Fla.

Carter entered the Air Force in September 1985 as a distinguished graduate of the Air Force ROTC program at Purdue University. She holds both Bachelor's and Master's degrees in industrial engineering. She has served in a variety of positions at the base, major command and Air Staff levels, and has commanded a civil engineer squadron, mission support group, and two air base wings. Prior to becoming the Civil Engineer, Carter commanded the 502nd Air Base Wing and Joint Base San Antonio. She is a registered professional engineer in the state of Virginia.



Mr. Mark A. Correll, a member of the Senior Executive Service, is the Deputy Air Force Civil Engineer, Headquarters U.S. Air Force, Washington, D.C., where he helps organize, train, and equip Air Force civil engineers for the development, construction, operation, maintenance and environmental quality of Air Force bases worldwide.

Correll was commissioned in the Air Force in 1981 after graduation from the Air Force Academy with a degree in civil engineering. He has a Master's degree in engineering management from the Air Force Institute of Technology, Wright-Patterson AFB, Ohio. He was previously the Civil Engineer, Air Education and Training Command Randolph AFB, Texas, where he provided functional leadership, direction, technical guidance and support to civil engineer units at 13 bases. Correll commanded two civil engineer squadrons, a mission support group and an air base wing. Correll retired from the Air Force as a colonel in 2010 and entered the Senior Executive Service. He is a registered professional engineer in the state of Texas.

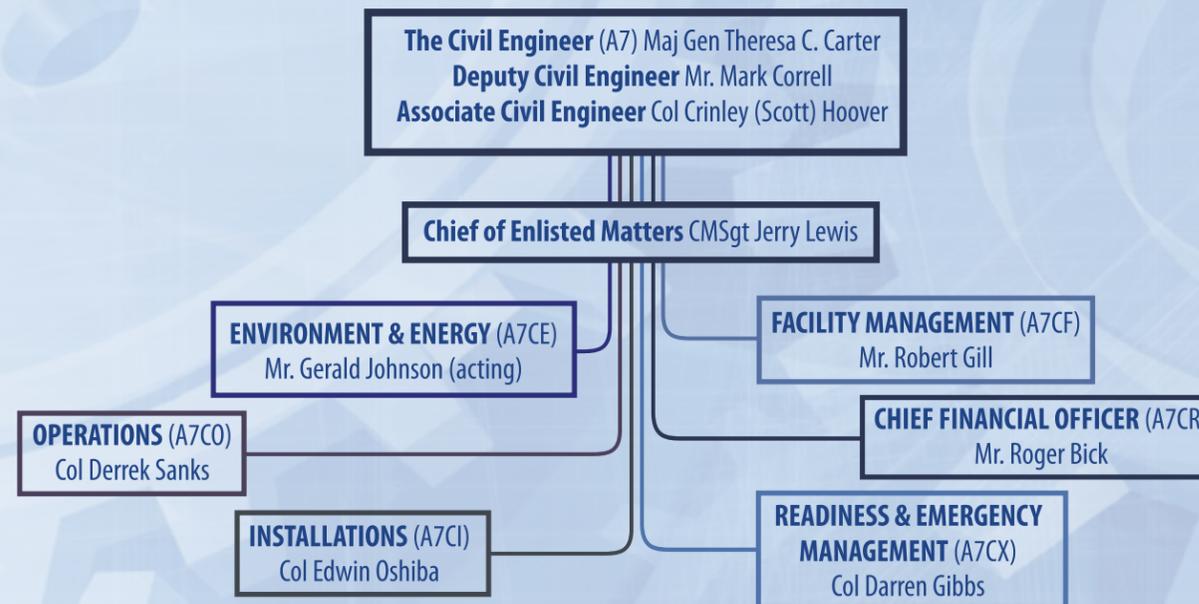


Chief Master Sgt. Jerry W. Lewis is the Chief for Enlisted Matters, Headquarters U. S. Air Force, Office of the Civil Engineer, Washington, D.C. He advises the Civil Engineer on matters affecting the Civil Engineering workforce with specific emphasis on readiness, morale, retention, training and workforce utilization. He serves as the functional manager for all Civil Engineering enlisted and wage-grade civilians. He chairs the Air Force Civil Engineer Chiefs' and Airmen's Councils to review issues affecting the workforce, communicate ideas and develop recommendations for senior leadership consideration.

Lewis enlisted in the Air Force in December 1985 as a Carpenter Specialist. He has a diverse military background serving with RED HORSE, Civil Engineering, and major command organizations during assignments that included bases in Massachusetts, Colorado, Florida and Hawaii, as well as Korea, Okinawa and Germany. Lewis has deployed in support of Operations NOBLE ANVIL, ENDURING FREEDOM, and IRAQI FREEDOM. In 1993, he was one of the Air Force's 12 Outstanding Airmen of the Year and in 2007, the winner of the Air Force Maj Gen Joseph A. Ahearn Enlisted Leadership Award.

Headquarters Air Force A7C Divisions

The Building Blocks for Ready Engineers, Great Leaders and Sustainable Installations



Environment and Energy Division (A7CE)

The Environment and Energy Division continued to support the initiatives and goals of the Office of the Civil Engineer in fiscal 2013.

The Energy Branch (A7CEN) continued support to the Air Force energy strategy to improve resiliency, reduce demand, assure supply and foster an energy aware culture. A7CEN provided policy, guidance, oversight and resource advocacy to conserve energy, increase energy development and manage energy costs. These combined efforts also contributed to the execution of \$157M in Energy Focus Funds and \$6M in third-party investments in the Air Force Energy program. Projects included recommissioning of facilities, chiller replacements, lighting projects and water conservation investments. The Air Force continues to exceed its energy intensity reduction goal through aggressive energy project investments and focus on appropriate Energy Savings Performance Contracts and Energy Conservation Investment Projects – ESPCs and ECIPs. The Air Force continued its progress toward renewable energy goals by executing two renewable energy projects and purchasing both commercial renewable energy and Renewable Energy

Certificates, or RECs. To mitigate energy vulnerabilities and increase energy reliability, the Air Force privatized three utilities systems in 2013.

The Environmental Branch (A7CEV) continued to invest in Air Force natural infrastructure to maintain compliance, reduce risk and continuously improve the mission and the environment. The Environmental Quality program officially began centralized execution in fiscal 2013 at AFCEC's Environmental Directorate. This transformation allowed the Air Force to centralize the prioritization methodology and the execution funding levels of all EQ projects through Air Force Common Output Level Standards, which lends uniformity to compliance risk across the Air Force based upon prioritized regulatory risk. Funding centralization also enabled looking for efficiencies in funding and contract options. For example, fence-to-fence contracting, where all of an installation's requirements are awarded on one contract, streamlines execution. The Environmental Restoration Program continued to realize savings in contract cost and completion time through performance-based restoration contracts. The annual environmental liabilities balance reported on the Air Force financial statements dropped more than \$400M in fiscal 2013, due in large part to savings in the ERP's long-term costs.



Facility Management Division (A7CF)

Created in fiscal 2013, the Facility Management Division combines elements of three former divisions: Programs, Resources and Housing. A7CF's mission is to provide policy, resourcing and oversight for military construction; non-appropriated funds; and facility sustainment, restoration, modernization, and demolition projects. On the MILCON front, the Air Force took a deliberate pause in fiscal 2013, requesting only the most immediate and critical projects while force structure decisions were being made that could affect decisions to pursue other projects. The resulting \$442M program included three dorms and projects to support new mission and combatant command requirements. The division developed a \$1.3B MILCON request for fiscal 2014, focusing on Pacific Airpower Resiliency, COCOM requirements and new mission beddowns for KC-46A tanker and F-35 Lightning II aircraft, as well as other high priority Air Force needs. On the SRMD front, A7CF updated and coordinated publication of Air Force Instruction 32-1032. The changes address new policy guidance from the Office of the Secretary of Defense and Congress and updated roles and responsibilities. The A7CF team processed 42 operations and maintenance facility repair projects, each totaling more than \$5M, and 41 MILCON cost variation or reprogramming packages for approval by the Deputy Assistant Secretary of the Air Force for Installations or for notification to Congress.

Installations Division (A7CI)

The Installations Division supported the full spectrum of decision makers and stakeholders from the installation level to senior levels of Headquarters Air Force and the Office of the Secretary of Defense.

The Strategic Planning and Integration Branch (A7CII) expanded their scope of responsibilities, taking on strategy development that tied installations to higher level DOD and Air Force objectives. A7CII's participation in the European Infrastructure Consolidation, Air Force 2023 integrated process teams and the Quadrennial Defense Review ensured our

Photos: (left to right) A demolition team uses an excavator to tear down a 1950s-era fuel cell maintenance hangar at Eglin Air Force Base, Fla. (U.S. Air Force photo/Maj. Karen Roganov) A team from the 1st Expeditionary Civil Engineer Group constructs a sun shade at an undisclosed location in Southwest Asia. (U.S. Air Force photo/Senior Airman Desiree W. Moyer) Karen Sebastian, 75th CES energy outreach coordinator, gives expert advice at the Energy Fair held at Hill AFB, Utah, Oct. 9, 2013. (U.S. Air Force photo/Alex R. Lloyd)

installations will be positioned to empower Air Force and joint combat power as an integral part of future defense strategy. The branch also continued creation of installation development plans, and provided oversight and input into key National Environmental Policy Act documents supporting basing actions for the F-35 and KC-46 and for initiatives supporting DOD's rebalance to the Asia-Pacific Theater.

The Installation Support and Strategy Branch (A7CIP), home of the Installation Support Panel, worked with HAF installation support integrated process teams; the agile combat support core function lead integrator at AFMC; and MAJCOM representatives to complete the fiscal 2014-2018 budget request and the fiscal 2015 program objective memorandum. Despite the uncertain budgetary environment and continued fiscal constraints, the ISP successfully advocated for resources to sustain installations, support CE readiness and enable Air Force and combatant command core capabilities. Their partnership with AFCEC's Planning and Integration Division will result in a risk-based installation investment strategy to build the fiscal 2016 POM.

The Strategic Initiatives Branch (A7CIS) provided direct support for MAJCOMs and installations implementing CE Transformation... Accelerated. The branch continues to use a range of media to communicate organizational and process changes associated with CET-A. A7CIS also continued updates to multiple CE process playbooks that, for a given program or topic area, outline processes and centralize guidance, forms, policies and templates in a single, easily accessible web-based tool. Finally, they led the successful business process reengi-

neering efforts for CE life cycle activities and the underlying strategic capabilities needed for execution that will form the basis for a revised CE strategic plan in 2014.

Readiness and Emergency Management Division (A7CX)

Our Readiness and Emergency Management Division continued to tackle a range of critical issues from the high tempo stress of our expeditionary engineers to the CSAF's number one priority to continue to strengthen the nuclear enterprise. Lessons learned from the successful Nuclear Accident and Incident Exercise, or NUWAIX, in May at Malmstrom AFB will be incorporated into Air Force policy over the next 12 months.

The Expeditionary Engineering Branch (A7CXX), in close coordination with MAJCOM global force providers, improved dwell ratios. Institutional forces are at a 1:4 dwell ratio, Reserve components at a 1:5 and operational forces at or near a 1:2. A7CXX is preparing for the new AEF construct, implementing a new force management concept that presents, generates and executes the total force as Air Force teams supporting combatant commander requirements. The branch also led joint collaborative efforts to modernize airfield damage repair capability for base recovery missions, and began procurement of improved crater repair equipment for select training and operational locations. A7CXX oversaw development of improved infrastructure hardening methods and helped advocate resiliency initiatives. The branch also advanced standardization of the RED HORSE force presentation model to give combatant commanders a clear and definable picture of RED HORSE capabilities.

The Emergency Services Branch (A7CXR) continues work on several important efforts to enhance the Installation Emergency Management, Explosive Ordnance Disposal, and Fire Emergency Services programs. A top priority is implementation of the recently signed DOD Mission Assurance strategy. Re-chartered in March, the HAF Emergency Management

Working Group prepared a 2014 execution plan for deliberate, purposeful coordination between multi-disciplinary and multi-functional stakeholders and leadership. A7CXR effectively advocated for Air Force priorities in the \$7.4B fiscal 2015-2019 DOD Chemical Biological Defense Program budget. All priorities were resourced, including the first-ever CBRN protective mask for F-22 Raptor aircrew.

EOD Airmen continue to conduct dangerous missions supporting Combined Joint Special Operations Task Force, Army maneuver forces and Air Force missions around the globe. The end of calendar year 2013 marks the first time in the last decade that EOD Airmen are supporting more Air Force deployments than joint expeditionary taskings. Air Forces Central Command EOD forces have conducted over 1,130 missions, including 155 IED defeat operations and 318 route clearance operations with Army and Marine engineer forces, and have been engaged in 52 enemy attack encounters. Outside the AFCENT theater, EOD Airmen responded to 1,920 missions.

In 2012, the EOD program director's focus areas were improved retention and recruitment of Airmen to increase EOD's overall manning numbers. Current efforts, such as the EOD preliminary schoolhouse at Sheppard AFB, Texas, have already reduced attrition rates 10 percent and increased fills of funded positions by nearly 10 percent.

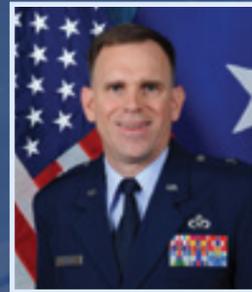
From the FES perspective, we supported the Firefighter Personnel Protective Equipment Strategic Sourcing initiative to provide a potential savings of \$10M over five years. AFCEC/CXF and A7CXR are working with OSHA to allow use of structural gear instead of proximity gear for aircraft firefighting. If approved, the savings will approach \$19M. Air Force FES and the Surgeon General's office developed, published and fielded emergency medical services protocols and emergency medical responder/technician equipment lists for better response capabilities and Air Force-wide standardization.

Editor's note: No input was received from the Operations Division (A7CO) and the Chief Financial Officer (A7CR).



ACC

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Brig Gen Timothy S. Green
 Director of Installations
 and Mission Support



CMSgt John A. Wilde
 Chief Enlisted Manager

COMMAND MISSION

Air Combat Command provides combat-ready forces for rapid deployment and employment while ensuring strategic air defense forces are ready to meet the challenges of peacetime air sovereignty and wartime defense. ACC operates more than 1,000 aircraft from 14 major bases, 22 Air Force wings and more than 500 organizations at 50 locations. As the Combat Air Forces lead agent, ACC develops strategy, doctrine, concepts, tactics and procedures for air- and space-power employment. The command provides conventional and information warfare forces to all unified commands to ensure superiority for America's warfighters and national decision-makers.

CE RESPONSIBILITIES

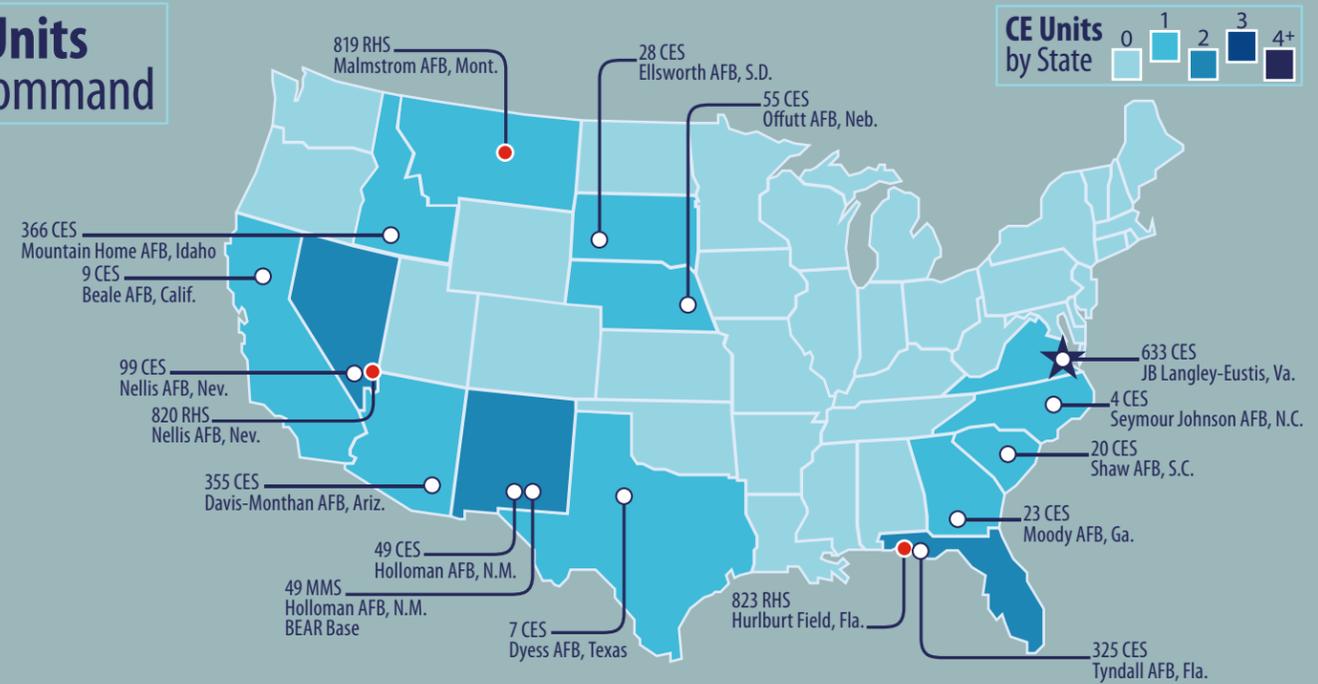
ACC A7 provides trained and resilient Civil Engineering and Security Forces personnel for home station and combatant commanders. A7 establishes policy, resources, base development, design, construction, operation, dorms, housing, quality of life, contingency response, emergency services, base defense, force protection, nuclear security, law enforcement and contracting transactions. As the Combat Air Forces lead agent, ACC A7 develops strategy, doctrine, concepts, tactics and procedures for RED HORSE, Prime BEEF, Explosive Ordnance Disposal, Fire Emergency Services, Emergency Management and Security Forces.

SIGNIFICANT ACCOMPLISHMENTS

- Developed a \$508M ACC facilities and infrastructure project investment plan (352 projects).
- Developed fiscal 2015-2019 future years defense plan with 38 projects (beddowns, combatant command and current mission) valued at more than \$760M.
- Conducted five site activation task forces for Air Force bed-downs; programmed 10 new MILCON (\$146M) and 49 new R&M (\$66M) projects for fiscal 2015.
- Programmed 10 congressionally approved MILCON projects (\$250M).
- Conducted three command-wide infrastructure assessment team visits, identifying more than 300 critical projects (\$292M) and prioritizing funding using AMP concepts.
- Awarded \$1.9M contract to inventory 4,700 real property installed equipment assets in more than 10.4M square feet of facilities at seven bases.
- Led enterprise-wide effort to standardize Preventive Maintenance; developed 171 Preventive Maintenance Task Lists to fill gaps identified in RSMeans CostWorks.
- Awarded 25 energy and water conservation construction (\$9.0M) and 22 design (\$1.6M) projects estimated to annually save 93.6M BTUs and \$1.7M.

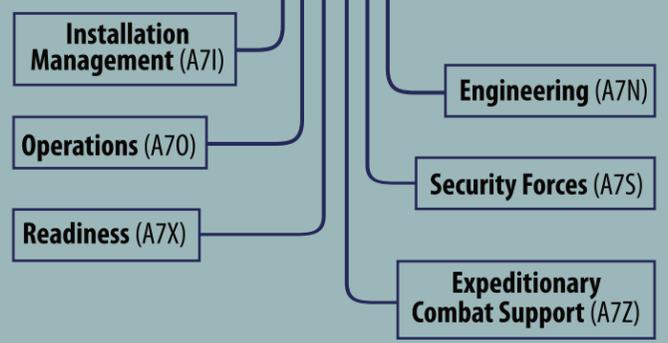
- Developed Asset Management Prioritized Asset List guidance, establishing a risk-based, in-house work program and training more than 100 personnel on asset oriented/data driven decision support.
- Closed housing projects (\$897M) at Mountain Home, Ellsworth and Seymour Johnson Air Force Bases.
- Developed CSAF Expeditionary Site Selection tool to provide a single source capability for strategic planning, crisis response and partner capacity building.
- Built the Air Force's first single geospatial data discovery tool, providing one-stop distribution of authoritative geospatial data worldwide.
- Completed development of Air Force GeoReach data model to ensure standardized approach for collecting and visualizing basing data on potential forward operating locations.
- Developed and fielded an Emergency Response Capabilities application to give leadership an additional Emergency Management tool.
- Two military senior NCO and two civilian FES leaders earned Chief Fire Officer designation, a significant national recognition.
- Merged RED HORSE troop training project selection process with Air Force's consolidated Integrated Priority Listing for SRM projects.
- As the Air Force Global Force Manager, managed 5,624 CE deployment requirements (3,211 Air Force, 2,270 joint expeditionary taskings, and 143 individual augmentee) supporting five COCOMs (ACC engineers filled 1,537 of these).
- Conducted 302 Explosive Ordnance Disposal operational missions; rendered safe 23 aircraft systems and 11,808 explosive hazards, including 17 suspect IEDs.

CE Units in Command



Director of Installations & Mission Support (A7)
Dep. Dir. of Installations & Mission Support (A7-2)
 Col Russell Hula

Chief Enlisted Manager



2013 Statistics

Major Bases	14
Plant Replacement Value	\$31B
Buildings	34.78M sq. ft.
Airfield Pavement	40.3M sq. yd.
Housing	11,644 units (92% privatized)
Dorms	10,847 rooms

ACC Personnel

Active Duty & Civilian	79,000
Reserve & Guard	51,000

CE Personnel

Active Duty	5,072
Reserve	1,609
Guard	4,504
Civilian	2,068
Contractor	2,187

MILCON	8 projects (\$197M)
SRMD	299 projects (\$158.1M)
Facilities Operation	(\$255.7M)



Firefighters from the 366th Civil Engineer Squadron extinguish a fire during a fire training exercise at Mountain Home Air Force Base, Idaho. Two teams worked in unison to push the fire back without it reigniting behind them. The training exercise was one component of a base-wide operational readiness exercise. (U.S. Air Force photo/Tech. Sgt. Samuel Morse)



AETC

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Col David Martinson
 Deputy Director of Logistics,
 Installations & Mission Support
 and the Civil Engineer



CMSgt Eric J. Honeycutt
 Superintendent, Civil Engineer

COMMAND MISSION

Develop America's Airmen today ... for tomorrow.

CE RESPONSIBILITIES

AETC CEs provide comprehensive land-use planning and design, construction and maintenance management for AETC installations and facilities. They plan and program MILCON, O&M and energy projects. AETC/CE is responsible for development, preparation, submittal and maintenance of financial plans, budget estimates and financial management systems. AETC/CE provides living quarters for permanent-party and transient military members, students and contractors. AETC/CE delivers fire protection and prevention, public education and emergency response services and locates, identifies and neutralizes explosive hazards threatening personnel and resources. AETC/CE trains, equips and deploys Prime BEEF personnel to support global operations and recovery from natural disasters and major accidents.

SIGNIFICANT ACCOMPLISHMENTS

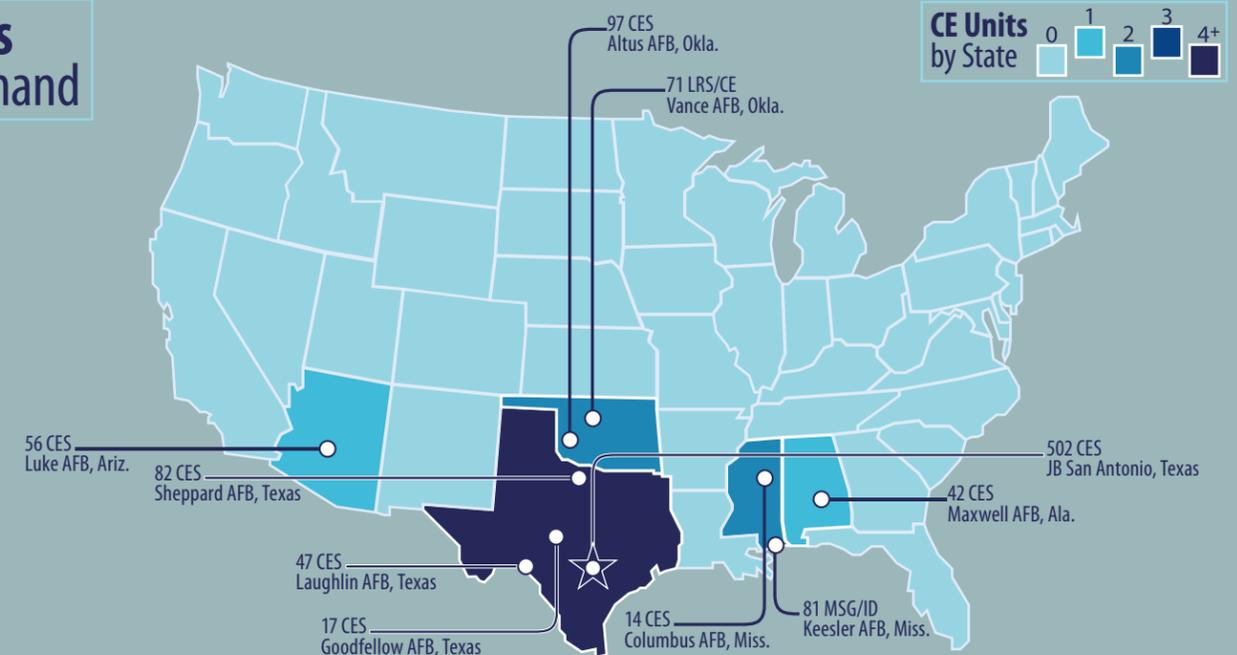
- Awarded a \$3M Energy Savings and Performance Contract at JB San Antonio-Lackland for lighting retrofits in 128 facilities, annually saving 17,678 MBTU.
- Designed and awarded a \$4.8M Energy Conservation Investment Program xeriscape project at Laughlin AFB, with projected annual savings of \$340,000 (185 MBTU energy and 70 million gallons of water).
- Awarded 16 Energy Focus Fund projects for \$10.5M with projected annual savings of \$2.1M (131,996 MBTU) and 13 project designs for \$709,000 with annual savings of \$1.8M (71,479 MBTU).
- Solicited award of a 50-year contract to complete the privatization of utility systems at JB SA; proposals received and source selection underway.
- Completed sustainable infrastructure assessments at five installations (JB SA and Columbus, Sheppard, Keesler and Laughlin AFBs) to determine the condition of 787 facilities, correct 1,087 real estate records and identify more than 1,264 energy conservation opportunities.
- Developed Prioritized Asset Listings for all AETC installations as part of the Air Force initiative to rightsize facility maintenance and repair activities differentiating require-

ments within corrective maintenance efforts and to shape resource allocation decisions for in-house work.

- Installed 104 new electric meters at five installations; this effort should be completed by May 2014.
- Acquired and installed four textile brake arresting systems to replace the aging BAK-9 systems at Luke AFB; funded one system for replacement at Maxwell AFB.
- Devised strategy for loss of wholesale electric contract at Vance AFB; worked with AFCEC to retain valuable hydro-power, saving approximately \$400,000 per year.
- Completed first new recruit (Basic Military Training) Air Training Center facility (original facilities were constructed the late 1960s and early 1970s).
- Deployed 130 personnel (Prime BEEF, Fire Emergency Services, Emergency Management, EOD) to Southwest Asia in support of AEF taskings.
- Keesler AFB won the 2013 Air Force Commander-in-Chief's Installation Excellence Award.
- The command's Emergency Manager captured the 2012 Air Force-level Emergency Manager of the Year Award.
- Executed the highest rate of CE major command mission ready training and advance course training — 100% for three consecutive years.
- AETC's fire departments responded to 7,369 Fire Emergency Service-related events, including 71 fires, 2,742 medical services calls, and 1,552 aircraft-related hazard calls.



CE Units in Command



Director of Logistics, Installations & Mission Support (A4/7)
 Ms. Barbara A Sisson
Principal Deputy Director of Logistics, Installations & Mission Support (A4/7D)
 Col Tony Pounds
Deputy Director of Logistics, Installations & Mission Support and the Civil Engineer (A4/7D-2)

Engineering (A7N)

Maintenance (A4M)

Resource Integration (A4P)

Operations (A7O)

Security Forces (A7S)

Logistics Readiness (A4R)

2013 Statistics

Major Bases	10
Plant Replacement Value	\$22B
Buildings	71M sq. ft.
Airfield Pavement	17.6M sq. yd.
Housing	5,742 units (100% privatized)
Dorms	18,043 rooms

AETC Personnel	
Active Duty	30,054*
Reserve	1,556
Guard	4,890
Civilian	15,438
Contractor	11,316

CE Personnel	
Active Duty	619
Reserve	31
Guard	236
Civilian	2,104
Contractor	1,521

MILCON	4 projects (\$42M)
SRM	163 projects (\$195.5M)
Facilities Operation	\$275.9M

*Does not include students

(facing page) Staff Sgt. Joshua Bynum, 97th Civil Engineer Squadron heavy equipment operator, guides a power screed over wet concrete. The 97th laid new concrete over an access road, which saved the base thousands of dollars in contracting costs. (U.S. Air Force photo/Airman 1st Class Franklin R. Ramos)



AFGSC

Barksdale AFB, La.
 AFGSCA7CWORKFLOW@US.AF.MIL
 318-456-2608
 DSN 781-2608



Col Richard H. Houghton
 The Civil Engineer and
 Chief, Operations Division



CMSgt Douglas E. Mitchell
 Chief Enlisted Manager

COMMAND MISSION

Develop and provide combat ready forces to conduct nuclear deterrence and global strike operations — safe, secure, and effective — to support the President of the United States and combatant commanders.

CE RESPONSIBILITIES

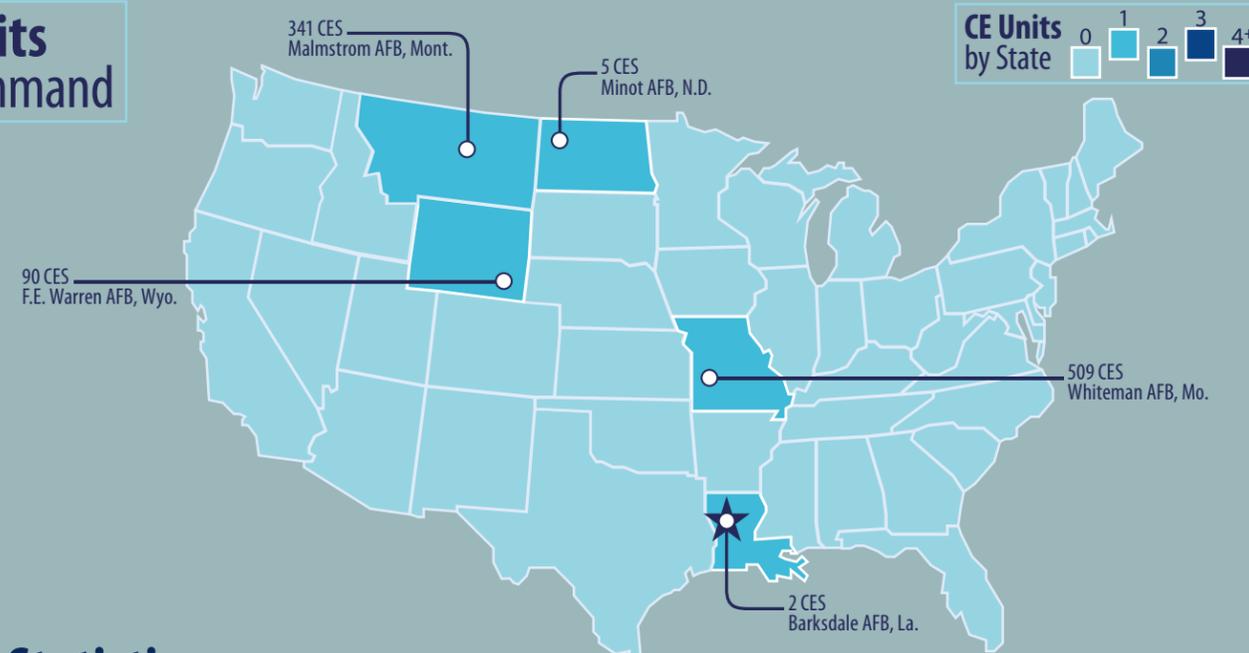
AFGSC engineers oversee planning, programming, policy and financial oversight for the command's civil engineering programs: fire protection; EOD; emergency management operations; maintenance; repair; MILCON; infrastructure; environmental; housing; energy; manpower and training; technical support; and facilities SRM. HQ AFGSC engineers also oversee the training, equipping, and deployment of Prime BEEF engineers in support of global contingency and combat operations.

SIGNIFICANT ACCOMPLISHMENTS

- More than 1,400 personnel participated in AFGSC's first national-level, interagency response task force exercise (NUWAIX 13) at Malmstrom AFB and Helena, Mont.; the exercise was recognized by the Defense Threat Reduction Agency as the "most complex" exercise to date in the Joint Chief of Staff-directed exercise series.
- Provided first ever AFGSC infrastructure assessment baseline by conducting infrastructure assessments at Whiteman, Barksdale and Minot AFBs; identified and validated \$92M in degraded and critical projects while earning the command inspector general's Superior Team award.
- Completed phase two of the \$70.5M, three-phase, three-year repair program for Minot's runway (the worst in the Air Force) to restore a vital piece of pavement to the strategic mission.
- Led design for demolition of ICBM silos to meet the requirements set by the New Strategic Arms Reduction Treaty.
- Continued execution of the \$107M AFGSC beddown program, completing facility renovations and providing office space for 750 people (85 percent of the command headquarters staff now in permanent buildings).

- Coordinated the 8th Air Force and 608th air operations center facility collocation, resulting in \$2M in renovation savings and contributing 56,000 sq. ft. toward Barksdale's 20/20 by 2020 reduction goals.
- Resourced and supported construction of a \$686,000 structural live firefighter trainer and effectively enhanced live fire training for firefighters from the 341 CES at Malmstrom AFB.
- Coordinated with AFCEC and supported the design completion, construction and testing of the B-2 live fire trainer in May 2013; coordinated resources and planning to relocate the trainer from Tyndall AFB to Whiteman AFB in fiscal 2014.
- Executed three energy projects (\$17.9M), including phase one of the DOD's largest Energy Conservation Investment Program project, which will decentralize and decommission the existing heat plant at F.E. Warren AFB and install individual natural gas-fired boilers in 85 buildings.
- Completed \$1.9B housing privatization project across the command, transferring more than 1,698 housing units at Minot to privatized control.
- Energized the Strategic Convey Oversight Utility Tracker; a real-time accurate and intuitive web-based tracking program for movement of strategic assets.
- Secured Nuclear Certification of Essential Facility Systems to ensure safety, security and reliability of Air Force nuclear assets.
- Developed the enterprise-wide encroachment management program; established quarterly team meetings to actively work installation challenges, and completed two Installation Complex Encroachment Management Action Plans, or ICEMAPs, with one more funded for fiscal 2014.

CE Units in Command



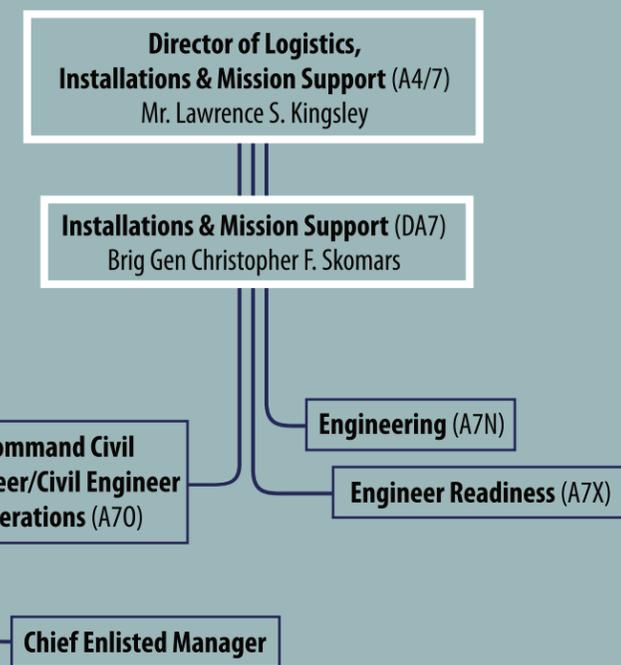
2013 Statistics

Major Bases	5
Plant Replacement Value	\$14.3B
Buildings	37.5M sq. ft.
Airfield Pavement	7.6M sq. yd.
Housing	5,453 units (100% privatized)
Dorms	4,557 rooms

AFGSC Personnel	
Active Duty	20,138
Reserve	1,658
Guard	1,055
Civilian	2,490

CE Personnel	
Active Duty	1,351
Reserve	161
Guard	75
Civilian	593

MILCON	3 projects (\$31.17M)
SRM	117 projects (\$95.6M)
Facilities Operation	\$62.6M



Senior Airman Trevor Walter, 341st Civil Engineering Squadron heating ventilation and air conditioning journeyman, mounts an external unit to the heating plant wall to hold conduit in place for a miniature split HVAC system. The system being installed will be used to cool vital computer-based equipment that aids in controlling the heating plant's operations. (U.S. Air Force Photo/Airman 1st Class Collin Schmidt)



AFMC

Wright-Patterson AFB, Ohio
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 937-522-2349
 DSN 672-2349



Mr. Terry Edwards
 Director of Communications,
 Installations and Mission Support



CMSgt Jeffrey L. Hurley
 CE Functional Manager

COMMAND MISSION

Deliver war-winning technology, acquisition, test, sustainment and expeditionary capabilities to the warfighter.

CE RESPONSIBILITIES

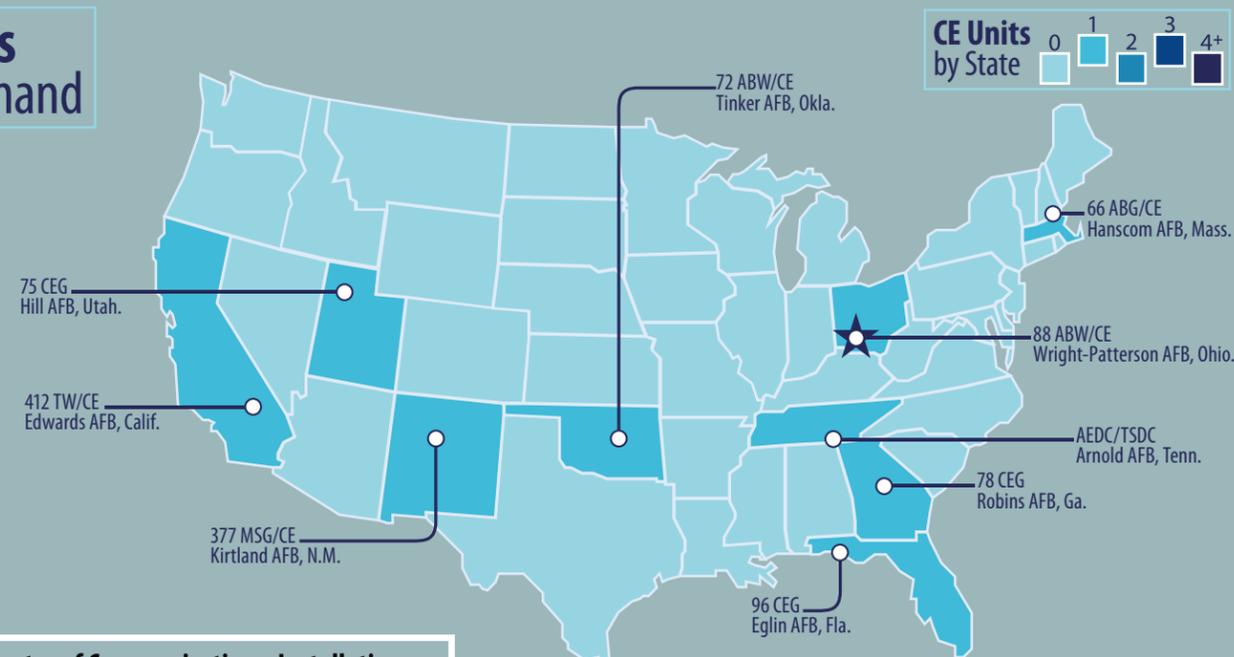
AFMC's engineers provide policy, guidance and technical support for the command's physical plants, property operations and emergency management services. They deliver on-target and responsive strategic facility, infrastructure and environmental planning, programming and execution oversight to sustain and enhance AFMC's real property assets. They provide advocacy, guidance, capitol asset expertise and functional oversight of the command's real estate, military family housing, environmental and foreign military sales programs. AFMC's engineers also provide resources to secure their command's operational, acquisition and sustainment mission capabilities and handle all aspects of the financial resources and manpower to support command installations.

SIGNIFICANT ACCOMPLISHMENTS

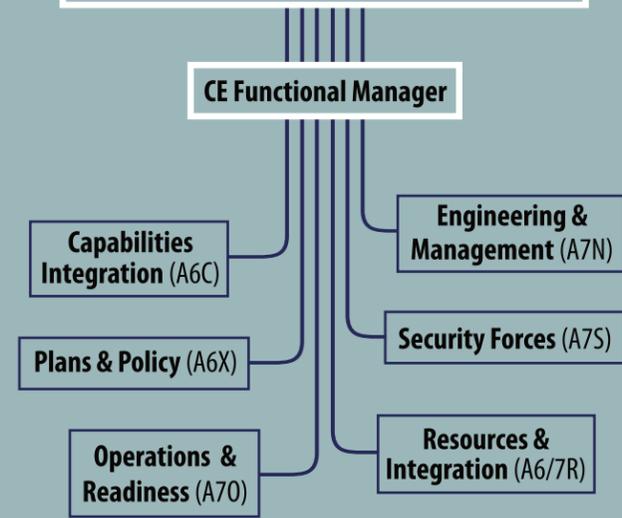
- Planned/executed a \$22.2M, 30,000 man-hour effort to conduct sustainable infrastructure assessments at seven AFMC installations.
- Completed Arnold AFB's \$9.6M housing privatization development project (began October 2011); demolished 40 dilapidated homes, constructed 22 modern homes, a community center and splash park, and repaired neighborhood's supporting facilities and infrastructure.
- Provided immediate response to unforeseen infrastructure failures at AFMC installations; secured \$3.1M emergency repair funds for catastrophic coal silo collapse, electrical outage and sewer main rupture.
- Provided 6.6MW from various renewable energy resources; planned/programmed development of a number of more ambitious projects, including a 220-MW photovoltaic array at Edwards, a 25MW woody biomass plant at Eglin and additional solar projects.
- Secured \$3.4M in Office of the Secretary of Defense's Readiness Environmental Protection funds to conserve critical habitat and prevent mission encroachment from incompatible land use at Robins and Eglin AFBs.

- Partnered with the Florida Dept. of Environmental Protection, the Trust for Public Land and a local landowner to secure \$10.2M to use in conjunction with \$1.8M in REPI challenge funds enabling the conservation of 20,850 acres of critical habitat land east of Eglin AFB.
- Led the Air Force in third-party investment opportunities using Energy Savings Performance Contracts; published three notices of opportunity, including the Air Force's data center consolidation (Edwards ESPC) that will serve as the model for service-wide implementation.
- Saved historic Cape San Blas Lighthouse in Florida from coastal erosion by relocating it to Port Saint Joe under a National Park Service program.
- Developed the first-ever agile combat support core function lead integrator new mission MILCON program submittal; integrated \$99.8M in active duty and Reserve component MILCON requirements.
- Responded to 9,008 FES-related emergencies, including 467 off-base responses under mutual aid agreement.
- Supported 46 U.S. Secret Service VIP taskings, expending 11,000 man-hours aiding and protecting the president, vice president and other heads of state.
- Sanitized 46,005 bombing range acres in support of 445 test/range/airfield damage repair clearance missions, providing 31,528 man-hours and destroying 22,681 ordnance items.
- Participated in first National Explosive Ordnance Disposal Exercise, EXERCISE HYDRA FURY, supporting assessment of personnel and assets from the Department of Energy, FBI, DOD and Sandia National Labs to identify and capture limiting factors within EOD site stabilization and special weapon recovery procedures.
- Established the EOD equipment reconstitution facility at Hill AFB, receiving \$72M in redeployed Air Force Central Command assets, enabling reconditioning and reissue to fill existing unit shortages, rebuild mobility sets, and resupply depot.
- Deployed 39 EOD and 70 CE Officer/Fire Emergency Service/Emergency Management/TCN Escort personnel to six locations in support of combat operations.

CE Units in Command



Director of Communications, Installations & Mission Support (A6/7)
Deputy Director of Communications, Installations & Mission Support and Command Civil Engineer (DA6/7) Col Jeffrey M. Todd



2013 Statistics

Major Bases	9
Plant Replacement Value	\$53.0B*
Buildings	134.2M sq. ft.
Airfield Pavement	24.6M sq. yd.
Housing	7,441 units (99% privatized)
Dorms	4,593 rooms

AFMC Personnel	
Active Duty	17,800
Reserve	767
Civilian	61,268
Contractor	18,911

CE Personnel	
Active Duty	270
Reserve	4
Civilian	4,224
Contractor	2,468

MILCON	0 projects**
SRM	195 projects (\$105.8M)
Facilities Operation	\$288M

* includes All AFMC installations, BRAC Locations, GSUs, and Air Force plants.
 ** no MILCON projects due to strategic pause.



Construction teams work to complete the new 96th Aerospace Medicine Squadron annex building at Eglin Air Force Base, Fla. The LEED-certified, contemporary, state-of-the-art facility houses flight medicine, inpatient records and public health. (U.S Air Force Photo/Master Sgt. Crystal Turner)



AFRC

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Col Roy-Alan C. Agustin
Deputy Director of Installations
& Mission Support and
the Civil Engineer



CMSgt Christopher A. Mozingo
Chief Enlisted Manager

COMMAND MISSION

The Air Force Reserve Command's Mission: Provide Combat-Ready Forces to Fly, Fight and Win.

CE RESPONSIBILITIES

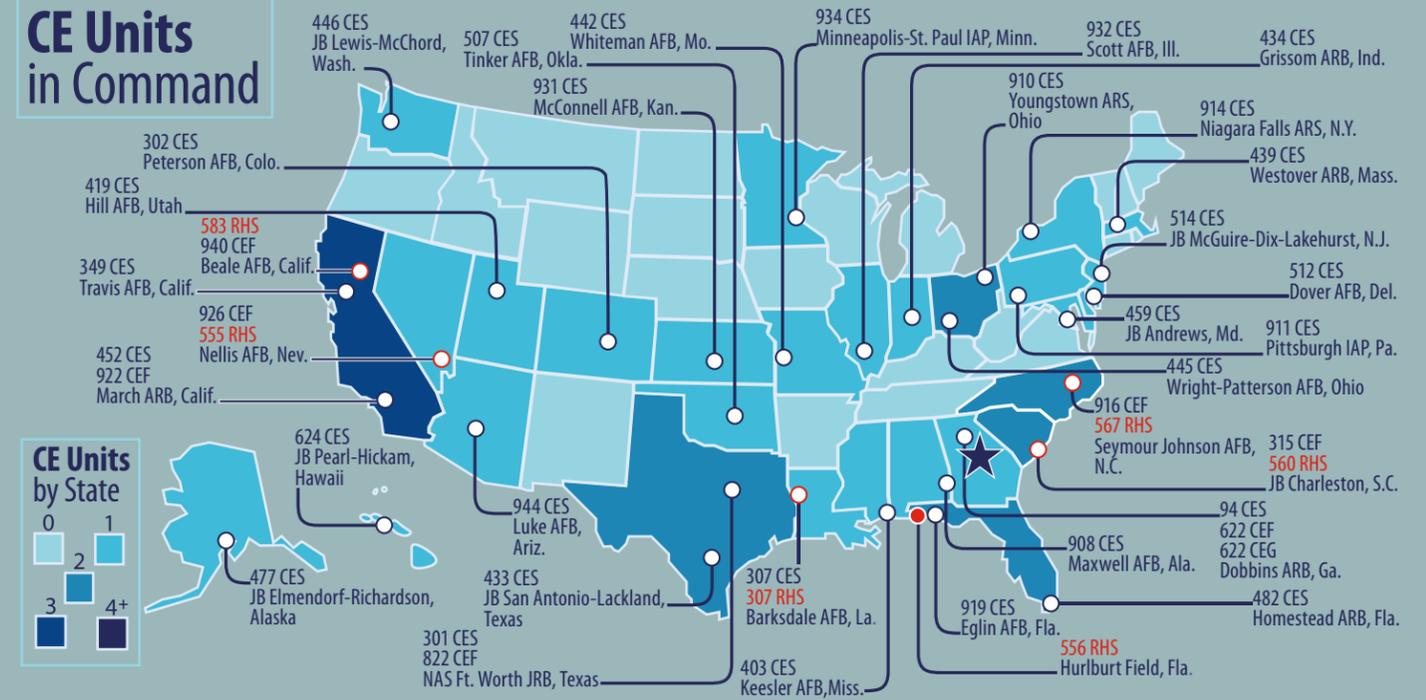
Air Force Reserve civil engineers directly support combat ready forces by providing basing structure, emergency management, explosive ordnance disposal and fire and emergency services for 74,000 Citizen Airmen worldwide. AFRC's Civil Engineer is responsible for the acquisition, operation, maintenance and repair of a \$6.1B physical plant, including 15M square yards of airfield pavements and 13M square feet of building floor space located at nine host and 57 tenant installations and ranges. AFRC engineers are also responsible for managing programs with an annual operating budget valued at \$373M. Moreover, AFRC organizes, trains, equips and prepares nearly 5,500 civil engineers in 44 units for worldwide contingencies.

SIGNIFICANT ACCOMPLISHMENTS

- Awarded 267 projects (\$90.2M) of fiscal 2013 facilities sustainment, restoration and modernization funds.
- Transferred 642,000 square feet of AFRC facility space at Joint Reserve Base Willow Grove, Pa., to the Air National Guard.
- Terminated all headquarters AFRC off-installation leases, saving the command \$900,000 in annual lease contracts.
- Acquired 27 acres of property for Homestead Air Reserve Base through a land exchange with Miami-Dade County, Fla.; the newly acquired property will enable AFRC to construct a unified facilities criteria compliant, \$9.8M main entry control point for the installation.
- Implemented the Air Program Information Management System command wide, which will give installations the ability to track and record air emissions using a new automated process and significantly lower potential for future air-related enforcement actions.
- Completed Facility Operations Capabilities and Utilization Surveys at seven AFRC operating locations; surveyed 609 facilities (2.1M sq. ft.), confirmed a space deficit of 358,000 sq. ft.; validated 270 projects (\$309.9M in work orders).

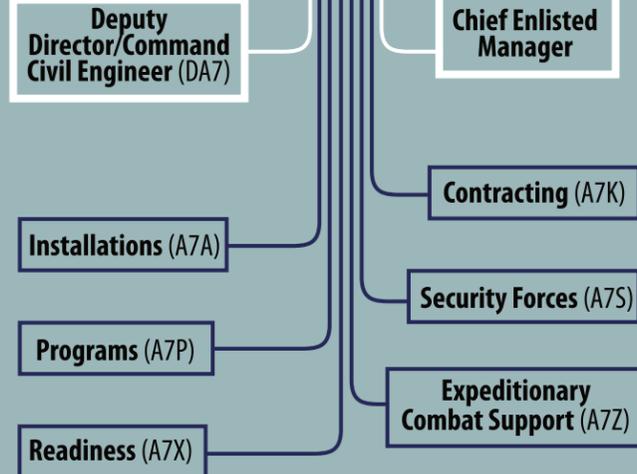
- Migrated and demonstrated operability of all geospatial system data to the new Spatial Data Standard framework one year ahead of schedule, providing valuable lessons learned for total Air Force.
- Provided critical individual reservist support to facilitate a majority of fiscal 2013 Air Force Community Partnership initiatives across 17 Total Force installations, reducing operating and service costs by leveraging military and local community capabilities.
- Activated the 583th RED HORSE Squadron (the sixth RHS) under the 622nd Civil Engineer Group at Beale AFB.
- Established an Army Research Lab-approved improvised explosive device detector lane, the first in the Air Force; it meets expeditionary/garrison detection and response objectives for the Total Force EOD community.
- Facilitated 178 Air Force Specialty-specific Mission Essential Equipment Training and specialty training events; expedited 982 Total Force Airmen, Soldiers and Marines to the fight.
- Designed \$8M development plan for Expeditionary Combat Support Training and Certification Center; nine facilities sited to boost throughput capability by 20 percent and reclaim 20 acres for host installation.
- Championed consolidation and centralization efforts at the Contingency Equipment Management Facility located at Grissom ARB; received 53,557 items —\$11.6M of AFRC and Air Force Civil Engineer Center assets.
- Trained 1,510 Prime BEEF and RED HORSE engineers at nine locations throughout CONUS, completing, \$3.6M of troop construction projects for upgrade and proficiency purposes; includes Innovative Readiness Training project at Clarksdale, Miss., (3,000-sq. ft. airfield operations facility, 10,000-sq. ft. hangar and 1,500-ft. taxiway).
- Deployed 493 personnel (Prime BEEF, Fire Emergency Services, Emergency Management, EOD and individual mobilization augmentees) in support of contingency operations in five countries.

CE Units in Command



Installations & Mission Support (A7)

Col Michael J. McCully



2013 Statistics

Major Bases	9
Plant Replacement Value	\$6.13B
Buildings	11.8M sq. ft.
Airfield Pavement	9.1M sq. yd.

AFRC Personnel

Traditional Reserve	48,557
Air Reserve Technicians	10,429
Active Guard and Reserve	2,911
Individual Mobilization Augmentees	8,503
Active Duty	245
Civilian	3,599

CE Personnel

Traditional Reserve	4,905
Air Reserve Technician	204
Active Guard Reserve	105
Individual Mobilization Augmentees	423
Active Duty	20
Civilian	786
Contractor	458

MILCON	\$6.1M
SRM	267 projects (\$90.2M)
Facilities Operation	\$112.6M



Members of the 307th RED HORSE attend the assumption of command ceremony for Lt. Col. Charles Chapman III at Barksdale Air Force Base, La. The squadron has more than 200 personnel. (U.S. Air Force photo/Master Sgt. Greg Steele)



AFSOC

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 850-884-2260
 DSN 579-2260/3169



Col David C. Piech
 Director of Installations
 & Mission Support



CMSgt Michael T. Irons
 CE Functional Manager

COMMAND MISSION

America's specialized air power ... a step ahead in a changing world, delivering special operations power anytime, anywhere. Air Force Special Operations Command provides Air Force special operations forces for worldwide deployment and assignment to geographic combatant commands. The command's SOF are composed of highly trained, rapidly deployable Air Commandos, conducting global special operations missions ranging from precision application of firepower to infiltration, exfiltration, resupply and refueling of SOF operational elements.

CE RESPONSIBILITIES

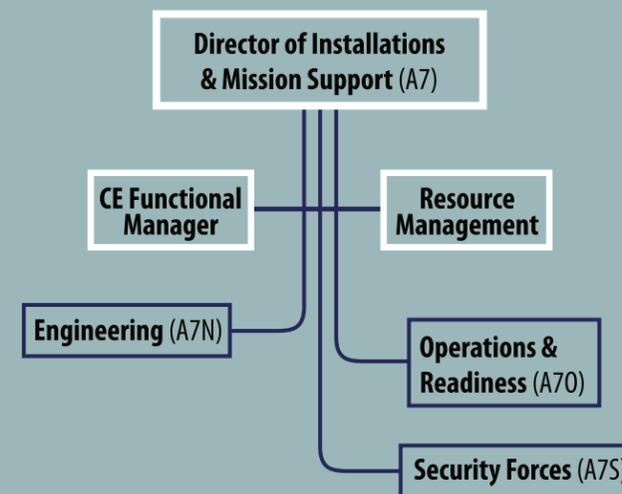
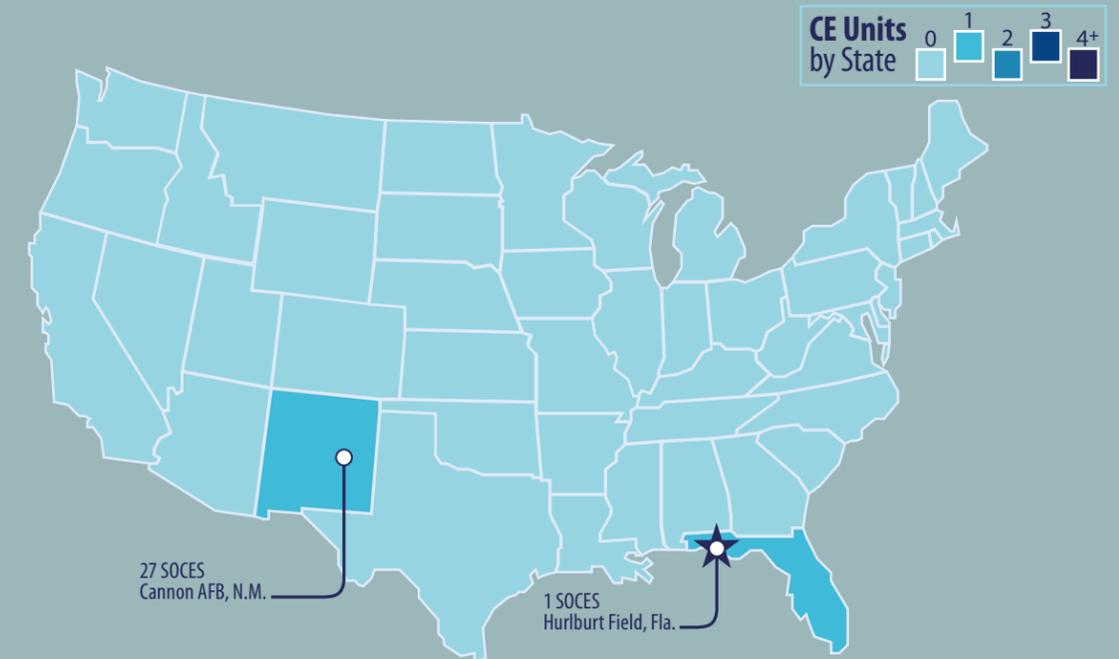
Plans, programs, resources and manages civil engineer processes and resources enabling the air component of U.S. Special Operations Command to execute its mission. Executes \$90M in annual appropriations, supports more than 15,000 special operations forces at 35 locations worldwide and advises the AFSOC commander on base development and sustainment, emergency response, contracting, integrated defense, security, force protection and expeditionary combat support. Provides specialized agile combat support by employing installation engineering, expeditionary engineering, readiness and emergency management, fire and emergency services and EOD in garrison and at overseas contingency locations. To further enable USSOCOM elite forces mission, provides expeditionary beddown support for deployed personnel in contingency locations for up to 30 days using AFSOC-unique Air Rapid Response Kits, or ARRKs.

SIGNIFICANT ACCOMPLISHMENTS

- Deployed 130 engineers (17 percent of the total force), for 25,095 man-days to 12 locations in Southwest Asia, Africa, Central America and an uncounted number of other locations in direct support of USSOCOM and Air Force missions.
- Supported five AFPAK Hands Airmen in Afghanistan, fostering long-term relationships with the Afghan people, governments and militaries.
- Planned, programmed and sustained \$1.2B Cannon AFB beddown (fiscal 2013 MILCON included \$166.5M).
- Executed MILCON valued at \$17.5M at Hurlburt Field, including a \$14.9M fuel storage facility and a \$2.6M non-appropriated funds temporary lodging facility.
- Executed \$41.2M for SOF Aviation Foreign Internal Defense Squadron Operations and Maintenance Facilities at Duke Field, Fla.

- Programmed for \$130.3M Future Years Defense Program investment at RAF Mildenhall, United Kingdom; started design for the \$69M beddown for the CV-22 Osprey, including a hangar/aircraft maintenance unit, airfield pavements, squadron operations and MRSP storage facility.
- Executed a \$1.8M add/alter project for 22nd Special Tactics Squadron operations at Joint Base Lewis-McChord, Wash.
- Executed \$56M for 113 Air Force and SOF operations and maintenance facility projects as well as designs, area development plans, comprehensive range plans, and environmental studies in support of basing options and sustainment, restoration and modernization of facilities and infrastructure.
- Completed \$4.9M wastewater treatment plant upgrade at Hurlburt Field, incorporating re-use water into the base irrigation system, reducing annual potable water use by 93M gallons and saving \$382,000.
- Completed fiscal 2011, 96-person dormitory (\$14M) at Cannon AFB.
- Streamlined furnishings management operations through business process improvement; provided blanket purchase agreement template to bases to facilitate movement and repairs of furniture.
- Transitioned 150 leased housing units at Cannon AFB back to project owner in anticipation of military family housing privatization.
- Executed 10 energy and water conservation projects (\$11.4M), estimated to annually save \$1.4M and reduce AFSOC's energy consumption by 18 percent.
- Managed \$5.7M energy and water conservation program; developed 14 projects estimated to annually save \$930,000 and 63,929 MBTUs of energy and 12.2 M gallons of water.
- Privatized 763 homes at Cannon AFB (1,038 end state) on Aug. 1 as part of the Northern Group; privatized 380 homes at Hurlburt Field (404 end state) on Sept. 13 as part of the Continental Group.

CE Units in Command



2013 Statistics

Major Bases	2
Plant Replacement Value	\$6.5B
Buildings	9.1M sq. ft.
Airfield Pavement	2.49M sq. yd.
Housing	1,143 units (100% privatized)
Dorms	1,772 rooms

AFSOC Personnel	
Active Duty	13,621
Reserve	1,286
Guard	1,490
Civilian	1,657
Contractor	1,248

CE Personnel	
Active Duty	510
Reserve	96
Guard	146
Civilian	238
Contractor	111

MILCON	3 projects (\$57.95M)
SRM	113 projects (\$56M)*
Facilities Operation	\$10.9M

*Excludes \$6.9M for preventive/corrective maintenance of facilities and infrastructure



Members of the 27th Special Operations Civil Engineer Squadron, Cannon Air Force Base, N.M., hold aloft the 2012 Major General Robert H. Curtin Award trophy presented to them by Maj. Gen. Timothy Byers (left), then the Air Force Civil Engineer. The 27 SOCES commander, Lt. Col. Anthony Figiera (right) looks on as the squadron receives the award for best small civil engineer squadron in the Air Force. (U.S. Air Force photo)



AFSPC

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719-554-8178
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Col Scott Jarvis
Deputy Director for Installations and Mission Support and Command Civil Engineer



CMSgt Tamera Olson
CE Functional Manager

COMMAND MISSION

Provide resilient and cost-effective space and cyberspace capabilities for the joint force and the nation.

CE RESPONSIBILITIES

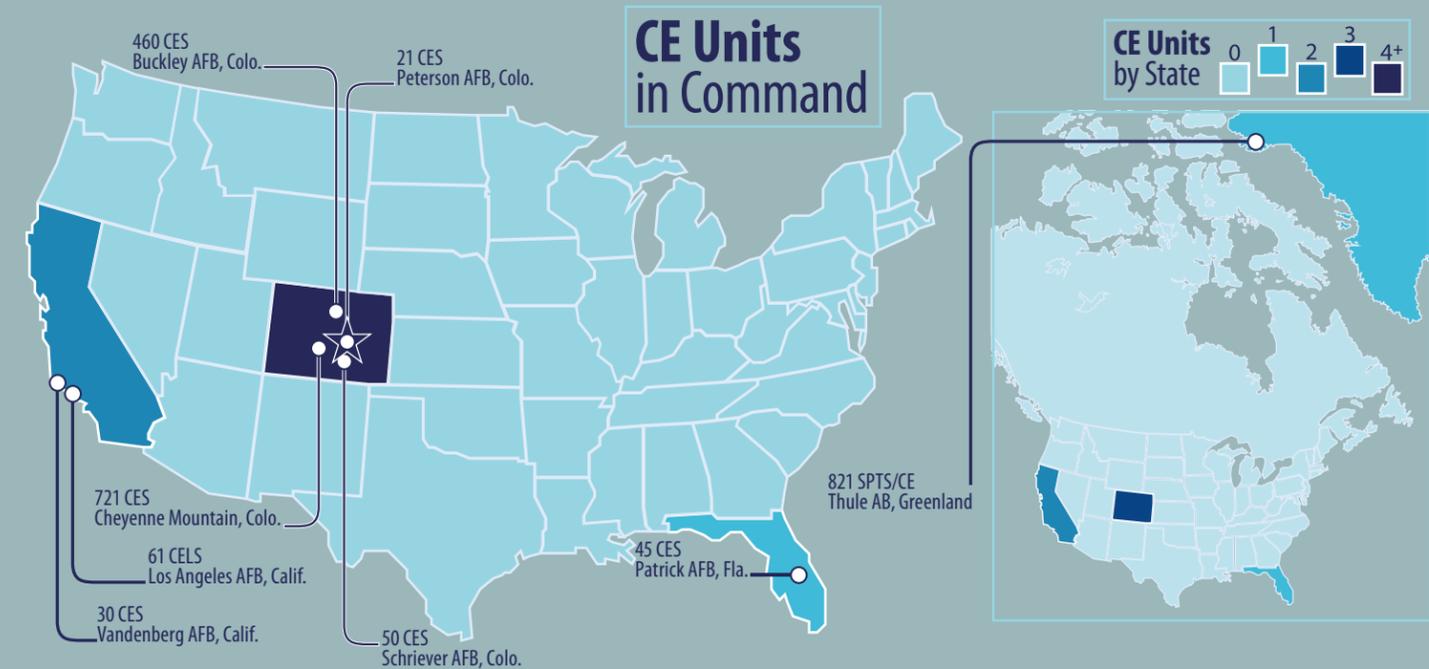
Space Command's A4/7 Directorate provides policy, guidance, resources and oversight to design, construct, renovate, operate, sustain and repair facilities and infrastructure to support the command's space and cyberspace missions and capabilities.

SIGNIFICANT ACCOMPLISHMENTS

- Greatly increased accuracy/validity of AFSPC power systems data supporting critical worldwide space and cyber missions; increased data accuracy for back-up power systems by more than 90 percent; formally certified and documented requirements for initial 20 percent.
- Analyzed commercial power reliability data for main installations and confirmed minimum of "three 9s" (i.e. 99.9 percent) reliability to prepare for aggressive validation effort of back-up power requirements.
- Installed two 1.6-MW wind turbines at Cape Cod AFS as part of \$11M Energy Conservation Investment Program project; with CCAFS's high electric utility rate (\$0.133 per kWh), the turbines have a 12-year payback and will save \$600K annually, offsetting more than 50 percent of electrical purchases.
- Completed initial damage assessment from flash flood damage at Cheyenne Mountain AFS; immediate execution recommendations garnered a \$600,000 contract to complete emergency repairs to minimize additional damage from 7,200 tons of debris.
- Centralized status of resources and training system-reportable training funds to maximize training flexibility and efficiencies; advocated for transfer of \$15.6M in mission funds per year into facilities operation to manage contract firefighter support, aligning resourcing with responsibility for fire emergency services at certain locations.
- Provided key support in response to Colorado Springs' Black Forest fire, the state's costliest wildfire; orchestrated support by five installations, including F.E. Warren AFB, Wyo.; a total of 2,900 man-hours were expended containing the fire and supporting the mutual aid effort.



- Closed final housing privatization project at Cavalier AFS, N.D.; includes demolition of 14 homes and construction of 14 new homes within six years as well as amenities such as a community center with indoor playground and splash park, tennis and volleyball courts, and other recreational facilities.
- All AFSPC Housing Privatization project scorecards rated "acceptable" (green) for the first time ever.
- Won the Air Reserve Component Non-Commissioned Officer Award (Tech. Sgt. Daniel R. Feland, 21 CES) and Senior Non-Commissioned Officer Manager Award (Senior Master Sgt. Terry L. Wooldridge, 45 CES).
- Won the Air Force 2012 Brigadier General Michael L. McAuliffe Housing Excellence Award (30 CES).
- Won the Air Force 2012 Major General Robert C. Thompson Award for Outstanding Resources Flight and General Thomas D. White Environmental Award for Sustainability, Individual/Team Excellence (61 CELS).
- Won the Air Force 2012 National Society of Professional Engineers Federal Engineer of the Year (Lt. Col. Michael E. Klapmyer, 61 CELS)
- AFSPC Energy Team was recognized at the National level by the Society of American Military Engineers with the Sustainability Award for Education and Outreach.



Director of Logistics, Installations & Mission Support

Mr. Jeffrey C. Allen

CE Functional Manager

Resources (A4/7R)

Programs (A4/7P)

Deputy Director for Installations & Mission Support and the Civil Engineer (DA7)

Col Scott Jarvis

Installation Management (A7M)

Operations & Readiness (A7O)

Security Forces (A7S)

Contracting (A7K)

2013 Statistics

Major Bases	7
Launch Ranges	2
Stations	10
Plant Replacement Value	\$34.5B
Buildings	29M sq. ft.
Airfield Pavement	4.1M sq. yd.
Housing	3,504 units (100% privatized)
Dorms	2,562 rooms

AFSPC Personnel

Active Duty	12,900
Reserve/Guard	9,700
Civilians	8,400
Contractors	≈9,600

CE Personnel

Active Duty	720
Reserve/Guard	440
Civilians	1,185
Contractors	1,530

MILCON	5 projects (\$81M)
SRM	96 projects (\$44.6M)
Facilities Operation	\$167M



(facing page) Engineers assess damage to the North Gate entrance of Cheyenne Mountain Air Force Station, Colo., following mud- and rock-slides caused by torrential rain and flooding that occurred in September 2013. (U.S. Air Force photo/Terry Seaman)

(left) As part of a joint response coordinated by AFSPC, U.S. Air Force Academy firefighters battle the Black Forest wildland fire near Colorado Springs, Colo., in June 2013. (U.S. Air Force photo/Master Sgt. Christopher DeWitt)



AMC

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Mr. John Bonapart
 Director of Installations
 and Mission Support



CMSgt Darryl D. Duffy
 CE Command Functional Manager

COMMAND MISSION

To provide airlift, air refueling, special air mission, and aeromedical evacuation for U.S. forces. AMC also supplies forces to theater commands to support wartime tasking. As the Air Force component of the United States Transportation Command, AMC is the single manager for air mobility.

CE RESPONSIBILITIES

Lead AMC's expeditionary combat support and garrison mission support group activities, including Civil Engineering, Contracting, and Security Forces. Provide AMC's air mobility wings resources and oversight of emergency services, base development, security operations, antiterrorism, force protection, housing, quality of life, acquisitions and installation excellence programs at 24 CONUS and overseas en route sites.

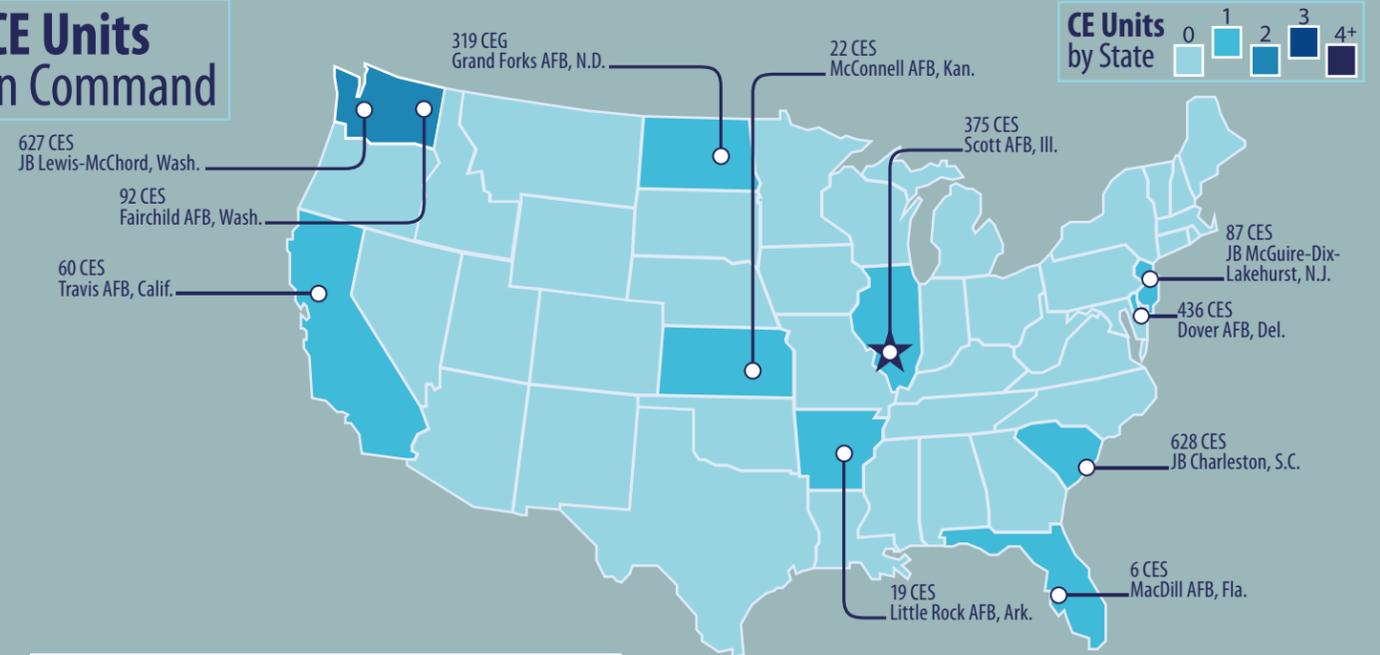
SIGNIFICANT ACCOMPLISHMENTS

- Built the fiscal 2103 MAJCOM Comprehensive Asset Management Plan under AMC's cross-functional Asset Management Integrated Working Group; prioritized and obtained AMC/CV and wing commander approval of 169 sustainment (>\$5M) and restoration and modernization centralized requirements totaling \$381M; prioritized 243 sustainment (<\$5M) requirements totaling \$194M.
- Conducted infrastructure assessment visits at MacDill and Dover AFBs; command-wide assessments have identified 202 critical projects valued at more than \$540M.
- Supported execution of sustainable infrastructure assessments, including audits for energy, space, infrastructure and sustainability, covering 11.8M sq. ft. at Travis, McConnell, Dover and Scott AFBs.
- Continued to implement AMC's space optimization initiative by analyzing space utilization data for more than 23M square feet (980 buildings).
- Finalized the two remaining AMC bases privatized housing transactions with transfer of 547 units at Grand Forks AFB on Aug. 1 and 364 units at McConnell AFB on Sept. 1.
- Managed the command's long-term runway construction program with projects completed at Travis AFB (\$64M), JB Charleston (\$43M), and McConnell AFB (\$47M); completed designs for Little Rock and Dover AFBs.
- Continued surpassing the command energy and water reduction goals; exceeded the fiscal 2013 energy goal of 24 percent by three points (27 percent) from 2003 baseline;

exceeded water reduction goal of 12 percent by rating an estimated 29% reduction from 2007 water baseline.

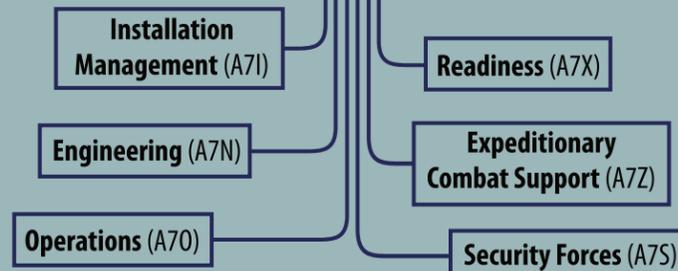
- Utilities Privatization Program awarded the Dover Water system, resulting in a \$21M cost avoidance over the 50-year contract.
- Funded \$2M of initial furnishings for new dormitories at Joint McGuire-Dix-Lakehurst and Travis AFB. Both McGuire and Travis were MILCON dorms.
- Air Force selected AMC's Senior Master Sgt. Michael Marascia as the GEICO Award Winner in the Fire Safety and Prevention Category; Marascia was also selected as the HQ AMC Senior NCO of the Year.
- Air Forces Central Command selected AMC's Senior Master Sgt. Mark Cornell as the Senior NCO of the Year.
- Air Force Times selected AMC's Master Sgt. William Janczewski III as the 2013 Airman of the Year.
- The VFW selected AMC's Master Sgt. Jason Barnard as the National Firefighter of the Year.
- Joint Base McGuire-Dix-Lakehurst supported beddown of 2,000 FEMA response team members and a military joint task force for Hurricane Sandy recovery operations.
- Fairchild AFB supported recovery operations following the crash of an EA-6B aircraft (assigned to Whidbey Island NAS) with a total of 4,900 labor hours expended.
- AMC EOD conducted 88 Very Important Persons Protection Support Activity missions (12,468 man-hours), performed 343 EOD missions and cleared more than 14,000 acres of bombing ranges.
- Responded to 7,397 Fire Emergency Service-related events, including 414 fires, 2,099 medical emergencies and 1,027 aircraft, hazardous materials, wildland and public service calls.
- Deployed 419 Prime BEEF, 61 Fire Emergency Services, 48 Explosive Ordnance Disposal and 22 Emergency Management active duty personnel, and mobilized 165 AMC-gained Air Reserve Component personnel in support of overseas contingency operations.

CE Units in Command



Director of Installations & Mission Support (A7)
Deputy Director of Installations & Mission Support (DA7)
 Col Douglas M. Hammer

CE Command Functional Manager



2013 Statistics

Major Bases	10
Plant Replacement Value	\$45.4B
Buildings	71.1M sq. ft.
Airfield Pavement	28.1M sq. yd.
Housing	10,015 units (100% privatized)
Dorms	11,245 rooms*

AMC Personnel

Active Duty	45,650
Reserve	43,787
Guard	34,425
Civilian	8,530

CE personnel

Active Duty	2,184
Reserve	3,054
Guard	3,183
Civilian	1,605

MILCON	1 project (\$23.5M)
SRMD	196 projects (\$223.8M)
TWCF	58 projects (\$33.1M)
Facilities Operation	\$225M

*Includes Air Force, Army, and Navy dorms at JB McGuire-Dix-Lakehurst and JB Charleston and Air Force dorms at JB Lewis-McChord and Pope AFB, N.C.)



Heavy equipment operators from the 375th Civil Engineer Squadron repair flood damage near a river channel at Scott Air Force Base, Ill. (U.S. Air Force photo/Staff Sgt. Christopher Boitz)



ANG

JB Andrews Naval Facility
Washington, Md.
ANGRC.A7@ANG.AF.MIL
240-612-8060
DSN 612-8060



Col Peter A. Sartori
Director of Installations
& Mission Support



CMSgt Daniel Eakman
Chief Enlisted Advisor

COMMAND MISSION

The Air National Guard Readiness Center develops, manages, and directs Air National Guard programs that implement national level policies set by the Department of Defense, the Air Force, and the National Guard Bureau. It also performs operational and technical functions to ensure combat readiness of ANG units and is a channel of communications between the NGB and the states on ANG operational activities.

SIGNIFICANT ACCOMPLISHMENTS

- Deployed more than 500 Guard engineers to support Operation ENDURING FREEDOM and more than 3,200 for training in CONUS and OCONUS.
- Guard engineers spearheaded design and build of Space Command's radar relocation to Western Australia, saving an estimated \$30M.
- Established Deployments for Training to Romania and Latvia supporting humanitarian civic assistance projects.

Director of Installations & Mission Support (NGB/A7)
**Associate Director of Installations
& Mission Support (NGB/A7) Mr. William Albro**

Chief Enlisted Advisor

Readiness (A7X)

Operations (A7O)

Resources (A7R)

Security Forces (A7S)

**Asset
Management (A7A)**

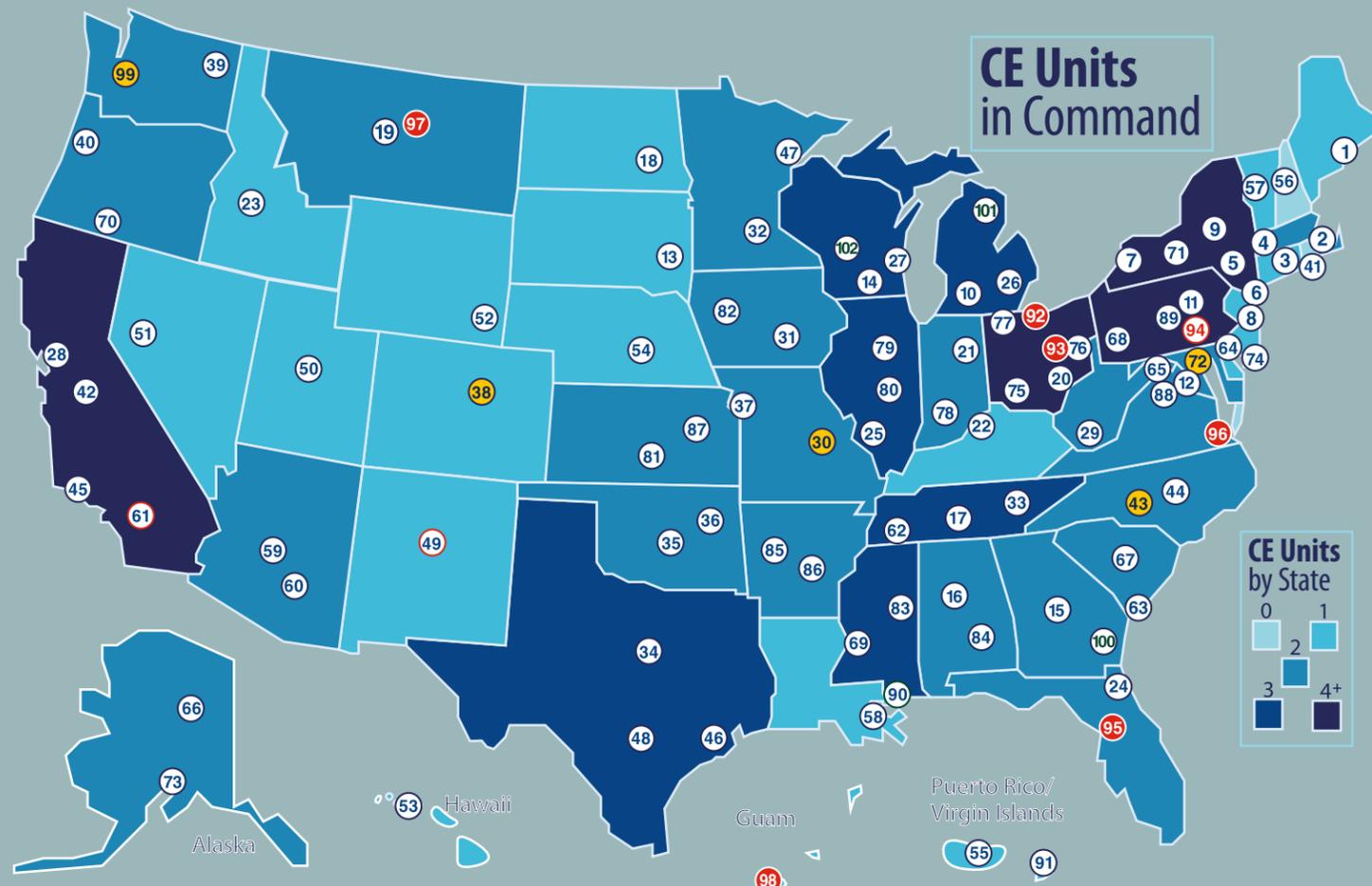
Master Sgt. Jeffery Dornin and Master Sgt. Randy Frantz, both of the 126th Civil Engineer Squadron, attached to the 126th Air Refueling Wing, Illinois Air National Guard, prepare to hook up an old air conditioner to a crane to remove it from the roof of a building at Holt Naval Communication Station, Western Australia. (U.S. Air Force photo/Airman 1st Class Elise Stout)

2013 Statistics

Major Bases	3
Plant Replacement Value	\$15.4B
Buildings	49.9M sq. ft.
Airfield Pavement	14.8M sq. yd.

ANG Personnel	
Active Guard Reserve	14,734
Drill Status Guard	90,666
Dual Status Technician	21,875
Civilian	350
CE Personnel	
Active Guard Reserve	552
Drill Status Guard	8,105
Dual Status Technician	476
Civilian	88

MILCON	4 projects (\$42.3M)
SRM	306 projects (\$296.4M)
Facilities Operation	\$274.9M



- | | | | | | |
|--|---|--|--|---|--|
| 1 101 CES
Bangor ANGB, Maine | 19 120 CES
Great Falls IAP, Mont. | 38 140 CES
Buckley AFB, Colo. | 56 157 CES
Pease AGS Portsmouth IAP, N.H. | 73 176 CES
JB Elmendorf-Richardson, Alaska | 92 200 RHS
Port Clinton, Ohio |
| 2 102 CES
Otis ANGB, Mass. | 20 121 CES
Columbus IAP, Ohio | 39 141 CES
Fairchild AFB, Wash. | 57 158 CES
Burlington IAP, Vt. | 74 177 CES
Atlantic City IAP, N.J. | 93 200 RHS Det 1
Mansfield, Ohio |
| 3 103 CES
Bradley IAP, Conn. | 21 122 CES
Ft. Wayne IAP, Ind. | 40 142 CES
Portland IAP, Ore. | 58 159 CES
NAS New Orleans, La. | 75 178 CES
Springfield-Beckley MAP, Ohio | 94 201 RHS
Fort Indiantown Gap, Pa. |
| 4 104 CES
Barnes ANGB, Mass. | 22 123 CES
Louisville IAP, Ky. | 41 143 CES
Quonset State AP, R.I. | 59 161 CES
Phoenix Sky Harbor IAP, Ariz. | 76 179 CES
Mansfield Lahm RAP, Ohio | 94 201 RHS
Fort Indiantown Gap, Pa. |
| 5 105 CES
Stewart IAP, N.Y. | 23 124 CES
Gowen Field, Idaho | 42 144 CES
Fresno IAP, Calif. | 60 162 CES
Tucson IAP, Ariz. | 77 180 CES
Toledo Express AP, Ohio | 11 201 RHS Det 1
Horsham AGS, Pa. |
| 6 106 CES
Gabreski AP, N.Y. | 24 125 CES
Jacksonville IAP, Fla. | 43 145 CES
Charlotte IAP, N.C. | 61 163 CES
March ARB, Calif. | 78 181 CES
Terre Haute, Ind. | 95 202 RHS
Camp Blanding, Fla. |
| 7 107 CES
Niagara Falls, N.Y. | 25 126 CES
Scott AFB, Ill. | 44 146 CES
Staley County, N.C. | 61 163 RTS
March ARB, Calif. | 79 182 CES
Peoria IAP, Ill. | 96 203 RHS
Virginia Beach, Va. |
| 8 108 CES
JB McGuire-Dix-Lakehurst, N.J. | 26 127 CES
Selfridge ANGB, Mich. | 45 147 CES
Channel Islands AGS, Calif. | 62 164 CES
March ARB, Calif. | 80 183 CES
Capitol AP, Ill. | 49 210 RHS
Kirtland AFB, N.M. |
| 9 109 CES
Schenectady County AP, N.Y. | 27 128 CES
General Mitchell IAP, Wis. | 46 148 CES
Ellington Field JRB, Texas | 63 165 CES
Memphis IAP, Tenn. | 81 184 CES
McConnell AFB, Kan. | 97 219 RHS
Malmstrom AFB, Mont. |
| 10 110 CES
W.K. Kellogg AP, Mich. | 28 129 CES
Moffett Federal Air Field, Calif. | 47 149 CES
Duluth IAP, Minn. | 64 166 CES
Savannah/Hilton Head IAP, Ga. | 82 185 CES
Sioux City AP, Iowa | 98 254 RHS
Andersen AFB, Guam |
| 11 111 MSG
Horsham AGS, Pa. | 29 130 CES
Charleston ANGB, W.V. | 48 149 CES
JB San Antonio - Lackland, Texas | 64 166 CES
New Castle County ANG, Del. | 83 186 CES
Key Field, Miss. | 30 231 CEF S-Team
Jefferson Barracks, Mo. |
| 12 113 CES
JB Andrews Naval Facility, Washington, Md. | 30 131 CES
Lambert St. Louis IAP, Mo. | 49 150 CES
Kirtland AFB, N.M. | 65 167 CES
Martinsburg, W.V. | 84 187 CES
Montgomery RAP, Ala. | 72 235 CEF S-Team
Martin State AP, Md. |
| 13 114 CES
Joe Foss Field, S.D. | 31 132 CES
Des Moines IAP, Iowa | 50 151 CES
Salt Lake City IAP, Utah | 66 168 MSG
Eielson AFB, Alaska | 85 188 CES
Fort Smith RAP, Ark. | 38 240 CEF S-Team
Buckley AFB, Colo. |
| 14 115 CES
Truax Field, Wis. | 32 133 CES
Minneapolis-St. Paul IAP, Minn. | 51 152 CES
Reno IAP, Nev. | 67 169 CES
McEntire Joint NGB, S.C. | 86 189 CES
Fort Smith RAP, Ark. | 43 245 CEF S-Team
Charlotte IAP, N.C. |
| 15 116 CES
Robins AFB, Ga. | 33 134 CES
McGhee/Tyson AP, Tenn. | 52 153 CES
Cheyenne MAP, Wyo. | 68 171 CES
Pittsburgh IAP, Pa. | 87 190 CES
Forbes AFB, Kan. | 99 248 CEF S-Team
Camp Murray, Wash. |
| 16 117 CES
Birmingham IAP, Ala. | 34 136 CES
Ft. Worth, Texas | 53 154 CES
JB Pearl Harbor-Hickam, Hawaii | 69 172 CES
Jackson IAP, Miss. | 88 192 MSG
JB Langley-Eustis, Va. | 100 CRTC GA
Garden City, Ga. |
| 17 118 CES
Nashville, Tenn. | 35 137 CES
Oklahoma City, Okla. | 54 155 CES
Lincoln, Neb. | 70 173 CES
Klamath Falls AP, Ore. | 89 193 SOCES
Harrisburg IAP, Pa. | 101 CRTC MI
Alpena, Mich. |
| 18 119 CES
Hector Field, N.D. | 36 138 CES
Tulsa, Okla. | 55 156 CES
Luis Muñiz Marin IAP, P.R. | 71 174 CES
Syracuse Hancock IAP, N.Y. | 90 209 CES
Gulfport, Miss. | 90 CRTC MS
Gulfport, Miss. |
| | 37 139 CES
St. Joseph, Mo. | | 72 175 CES
Martin State AP, Md. | 91 285 CES
Christianhead, Virgin Islands | 102 CRTC WI
Camp Douglas, Wis. |



PACAF

JB Pearl Harbor-Hickam, Hawaii
 PACAF.A7V3@US.AF.MIL
 808-449-3857
 DSN 315-449-3857



Col John R. Lohr
 Director, Installations and
 Mission Support



CMSgt David Linde
 Chief Enlisted Manager

COMMAND MISSION

PACAF delivers rapid and precise air, space and cyberspace capabilities to protect and defend the United States, its territories, interests, allies and the Compact of Free Association states (e.g., Micronesia, Marshall Islands and Palau). The command provides integrated air and missile warning and defense; promotes interoperability throughout its area of responsibility; maintains strategic access and freedom of movement across all domains; and is postured to respond across the full spectrum of military contingencies in order to restore Asia-Pacific security.

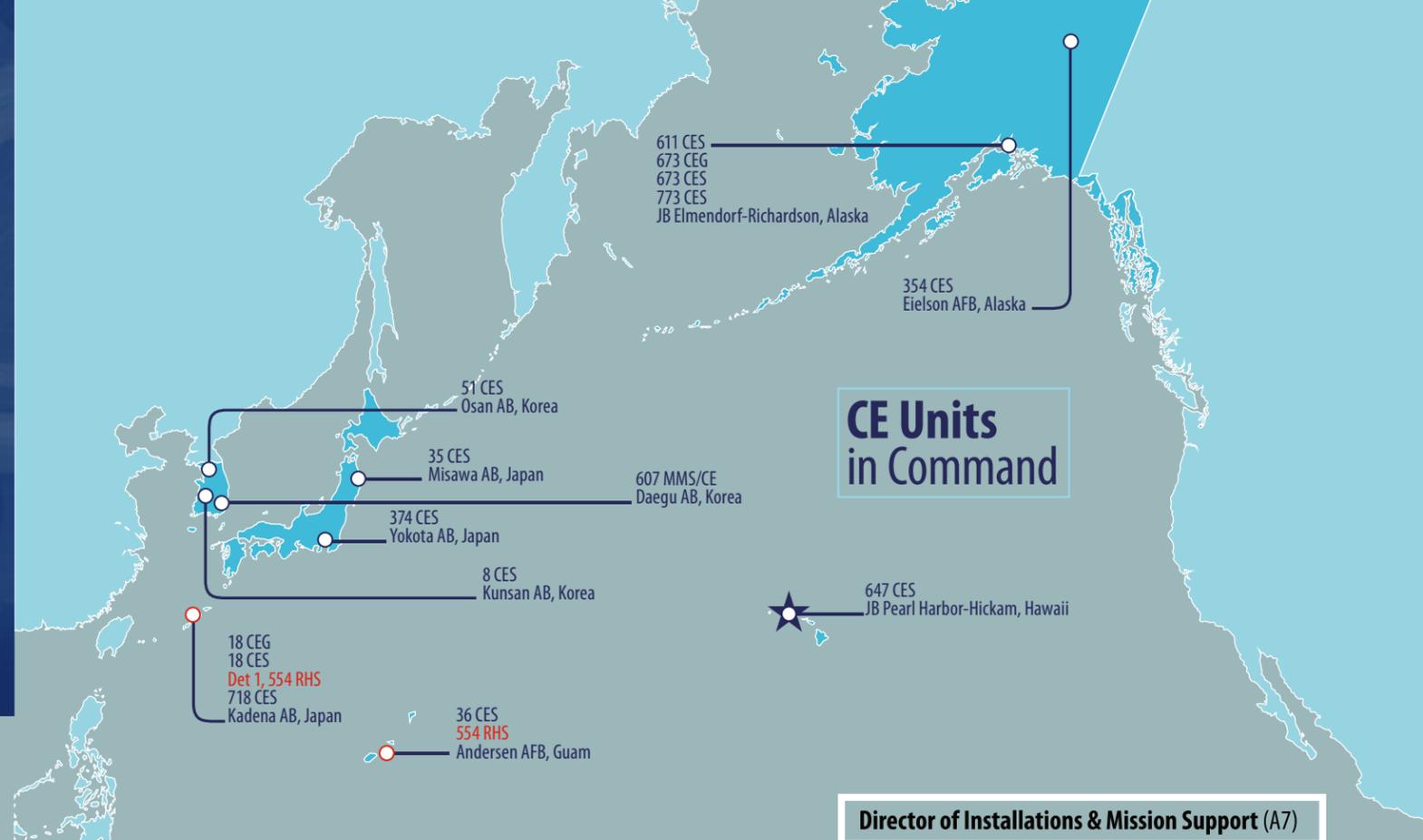
CE RESPONSIBILITIES

The Installations and Mission Support Directorate (A7) leads Civil Engineer, Contracting, and Security Forces activities supporting seven wings, four numbered Air Forces, three joint bases and 46,000 personnel throughout PACAF. The directorate manages policy, resources and execution of emergency services, base development, readiness environmental, force protection, housing and acquisition programs for \$43B in infrastructure and \$10B in annual contracts. A7 provides combatant commanders with trained agile combat support forces in support of theater operational plans.

SIGNIFICANT ACCOMPLISHMENTS

- Awarded \$66M in military family housing MILCON to improve 549,861 linear feet of MFH electrical, water and sewer systems at Misawa and Kadena ABs, and provide A/C for 416 units at Misawa AB, as well as \$170M in MFH operations and maintenance across PACAF bases for over 19,000 U.S. forces personnel and their families; Eielson AFB, one of six installations privatized under the Continental Group project closed on 1 Sep 13.
- Awarded \$32.1M in fiscal 2013 Dorm Focus Funds, enabling the command to eliminate four inadequate dormitories (596 rooms total) at Misawa, Japan and Osan and Kunsan, Korea; these projects enabled PACAF to achieve OSD goal of 90 percent adequate dorms.
- Reduced vulnerability from cyber attacks on industrial control systems by obtaining the authority to operate per ETL 11-1 for 50 percent of PACAF bases; on target to receive ATO for all bases by the end of 2013.

- Developed \$11.5M energy and water conservation projects ready to award, with estimated annual savings of \$3.3M in utility bills.
- Managed Defense Logistics Agency program, including multiple fuel facility projects in various stages of design and construction and funds of \$137M in MILCON, \$28M in SRM, \$24M in CMP, and \$66M in host nation construction. Noteworthy projects include a \$67.5M fuel transfer pipeline at Andersen AFB, a \$14.8M rail line upgrade at Eielson AFB and two hydrant fuel systems at Misawa AB (\$30.9M) and Osan (\$21.0M).
- Secured \$103M in fiscal 2013 host nation construction funding for MILCON projects at Osan and Kunsan ABs.
- PACAF Emergency Managers responded to three aircraft accidents, providing incident command support and critical C2 capability through the emergency operations center; response and recovery operations exceeded 4,000 man-hours.
- The Air Force selected Elizabeth Ross (773 CES, JB Elmendorf-Richardson) as the Civilian Emergency Manager of the Year.
- The Air Force selected Staff Sgt. Josh Hanna (Eielson AFB) as one of 2013's 12 Outstanding Airmen of the Year.
- EOD performed 238 missions, totaling 25,600 man-hours, clearing more than 11,000 munitions items during 14 range clearance missions; participated in 17 Joint POW/MIA Accounting Command field missions resulting in the repatriation of nine MIAs.
- Supported 31 PACOM/PACAF engagements and exercises, including 14 engineering civic action programs and 12 subject matter expert exchanges involving 23 partnering nations to increase theater security cooperation in the Pacific.



2013 Statistics

Major Bases	9
Plant Replacement Value	\$42.8B
Buildings	70.5M sq. ft.
Airfield Pavement	18.6M sq. yd.
Housing	19,528 units* (34% privatized)
Dorms	16,564 rooms

PACAF Personnel	
Active Duty	29,549
Reserve	523
Guard	3,824
Civilian	11,720
Contractor	3,496

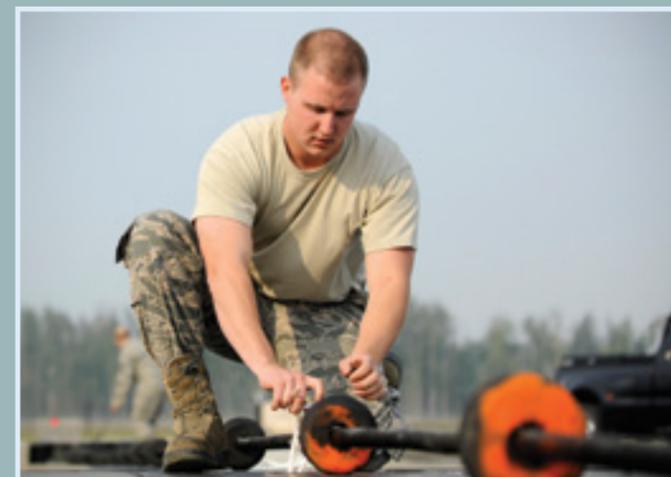
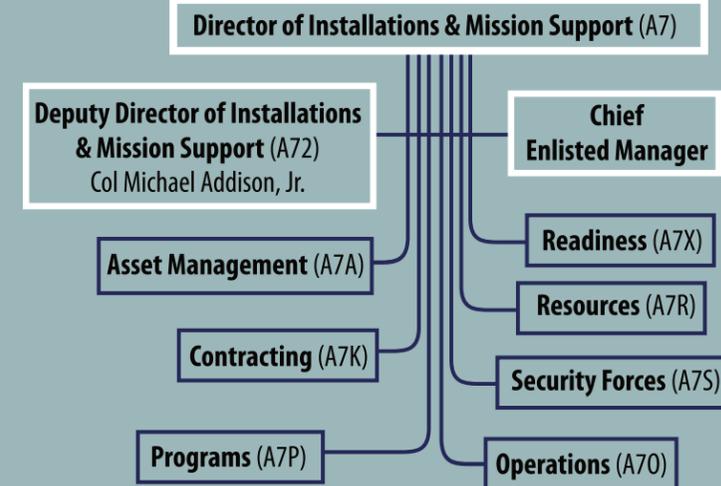
CE Personnel	
Active Duty	2,980
Reserve	193
Guard	281
Civilian	2,635
Contractor	1,747

MILCON	6 projects (\$101.8M)
SRM	145 projects (\$208.4M)
Facilities Operation	\$233.5M

*Excludes Anderson AFB family housing

In preparation for an exercise, Airman 1st Class Nathan Miles, power production technician with the 354th Civil Engineer Squadron, Eielson Air Force Base, Alaska, uses rope to secure an aircraft arresting system cable to accommodate the various participating airframes. (U.S. Air Force photo/Senior Airman Shawn Nickel)

CE Units in Command





USAFE/ AFAFRICA

HQ USAFE/AFAFRICA/A4/7
Ramstein AB, Germany
USAFE.A4.7@US.AF.MIL
49-6371-47-0707
DSN 314-480-0707



Col Stephen E. Shea
Deputy Director of Logistics,
Installations, & Mission Support
and the USAFE/AFAFRICA
Civil Engineer



CMSgt Nathan Adams
Chief Enlisted Manager

COMMAND MISSION

Executes the EUCOM and AFRICOM missions with forward-based air power to provide forces for global operations, ensure strategic access, assure allies, deter aggression, and build partnerships.

CE RESPONSIBILITIES

USAFE/AFAFRICA/A7 provides civil engineering programs expertise for senior U.S. Air Forces in Europe - Air Forces Africa leaders, and oversight, policy and guidance to USAFE-AFAFRICA civil engineers. A7 engineers provide expertise with oversight, policy and guidance in managing natural and built assets and their associated performance, risk and expenditures to a common level of service in support of missions and organizational goals. They also provide expeditionary and contingency engineering operational support and planning to enable combat, humanitarian, and building-partnership operations.

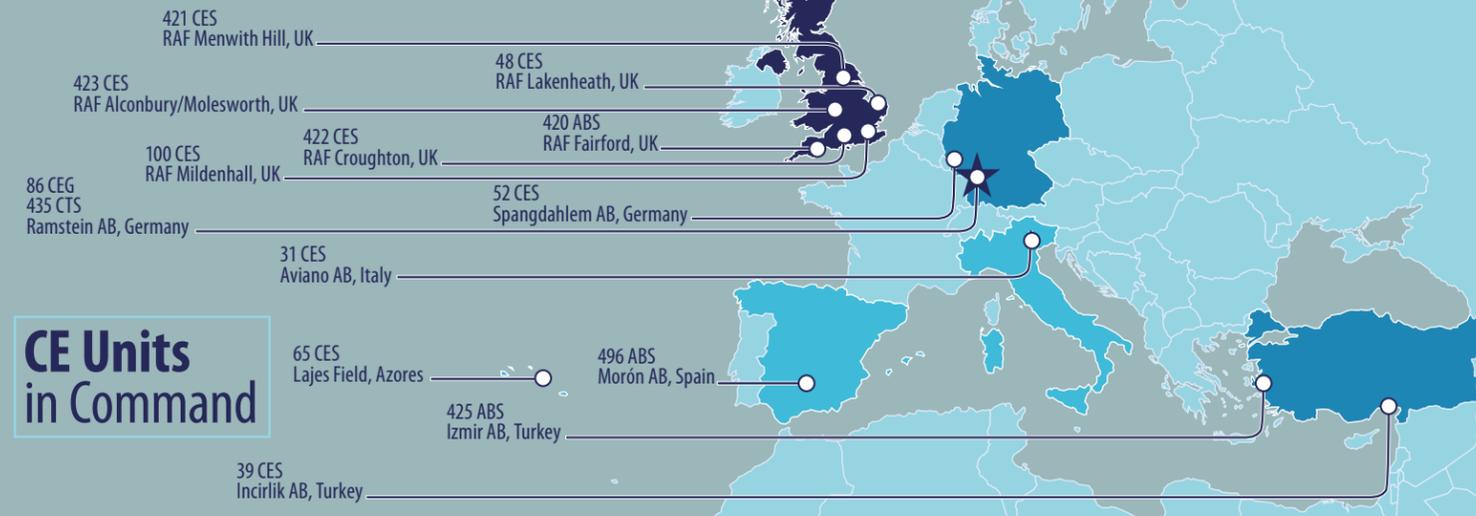
SIGNIFICANT ACCOMPLISHMENTS

- Accomplished Expeditionary Site Surveys for 19 airfields in seven countries throughout Europe and Africa; identified contingency operating locations and evaluated their capabilities to support future air operations.
- Developed and executed expeditionary bare base bed-down plans moving remotely piloted aircraft from Camp Lemonnier to Chabelley Airfield, Djibouti, providing operations anonymity from the International Airport and improving host nation relations.
- Developed and executed expeditionary bare base bed-down plans in Niamey, Niger, supporting intelligence sharing in West Africa.
- Managed \$1.3M humanitarian assistance construction program; seven projects in nine European and African countries.
- Worked with the RED HORSE, the 435 Construction Training Squadron and Navy Seabees to design and execute 11

exercise-related construction projects totaling \$5.1M in the Levant region.

- Awarded 239 projects (\$91.6M) in sustainment, restoration, modernization and demolition programs; funded critical upgrades throughout the command.
- Continued design and logistical support to the \$990M medical center project which recapitalizes Ramstein's medical clinic and Landstuhl Regional Medical Center.
- Negotiated a closure agreement for the Rhein-Main Transition Program with German funding partners for \$17.4M; provides U.S. complete flexibility to prioritize and remedy long standing program deficiencies.
- Partnered with various host nations throughout the USAFE-AFAFRICA AOR to execute more than \$118M NATO Security Investment Program-funded projects.
- Validated and received funds for \$7.6M in fiscal 2103 energy conservation projects; will save an estimated \$1.5M in annual utility funds.
- Worked with Air Force Petroleum Agency and DLA to program and execute \$60M in fuel projects; maintains custodianship for NATO Standardization Agreements, or STANAGs, concerning the design, construction and maintenance of USAFE airfield fuel systems.
- Initiated the command-wide military family housing Resident Energy Efficiency Program, cutting electricity consumption 25 percent and gas by 17 percent with projected annual savings of \$1.5M in MFH utility costs at test base.
- Developed joint service "strategic sourcing" blanket purchase agreement for housing furnishings; first purchase saved \$153,000.
- Spearheaded the divestment of 165 surplus MFH leases at Aviano and RAF Lakenheath, saving \$4.4M annually;

CE Units in Command



- awarded 64 projects valued at more than \$10.3M in the fiscal 2013 MFH real property maintenance program.
- Completed construction of a \$49M HQ USAFE renovation project, creating secure workspace for 842 staff, and enabling divestiture of nine facilities and 78,900 square feet, resulting in a consolidated USAFE-AFAFRICA and Third Air Force footprint.
 - Enabled the Office of the Secretary of Defense's European Infrastructure Consolidation effort, supporting data collection, validation and analysis efforts for 145 installations; provided input to scenario development that could annually save the Air Force more than \$200M.

2013 Statistics

Major Bases:	6
GSUs	114 (12 countries)
Plant replacement value	\$20B
Buildings	52M sq. ft.
Airfield pavement	12.4M sq. yd.
Housing*	5,572 (0% privatized units)

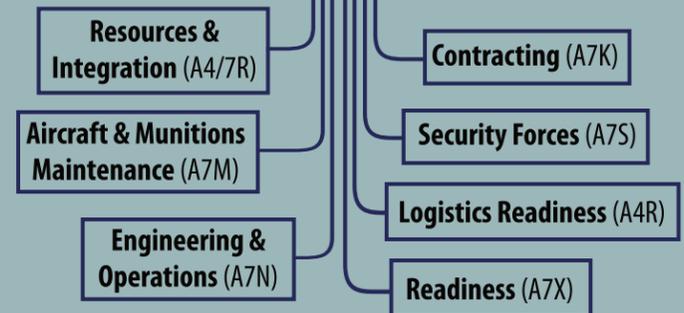
USAFE Personnel	
Active Duty	22,567
Civilian (U.S.)	1,892
Civilian (Local)	2,607
Contractor	2,466

CE personnel	
Active Duty	1,498
Civilian (U.S.)	93
Civilian (Local)	1,300
Contractor	1,000

SRM	239 projects (\$91.6M)
Facilities Operation	\$241M

**Director of Logistics, Installations
& Mission Support (A4/7)**
Brig Gen Bradley D. Spacy
**Deputy Director of Logistics, Installations &
Mission Support and the
USAFE/AFAFRICA Civil Engineer (A4/7D)**

Chief Enlisted Manager



Airman 1st Class Kyle Rivera, 786th Civil Engineer Squadron electrical systems section technician, opens the fixture to a ramp light that is exposed to weather from a broken fixture at Ramstein Air Base, Germany. The ramp lights consist of 25, 2000-watt light bulbs and are maintained every quarter to ensure all bulbs are in working condition. (U.S. Air Force photo/Senior Airman Chris Willis)





AFCEC

JB San Antonio-Lackland, Texas
AFCEE.CCE@US.AF.MIL
210-395-8002
DSN 969-8002



Mr. Joe Sciabica
Director



Dr. Marilyn Croach
Deputy Director

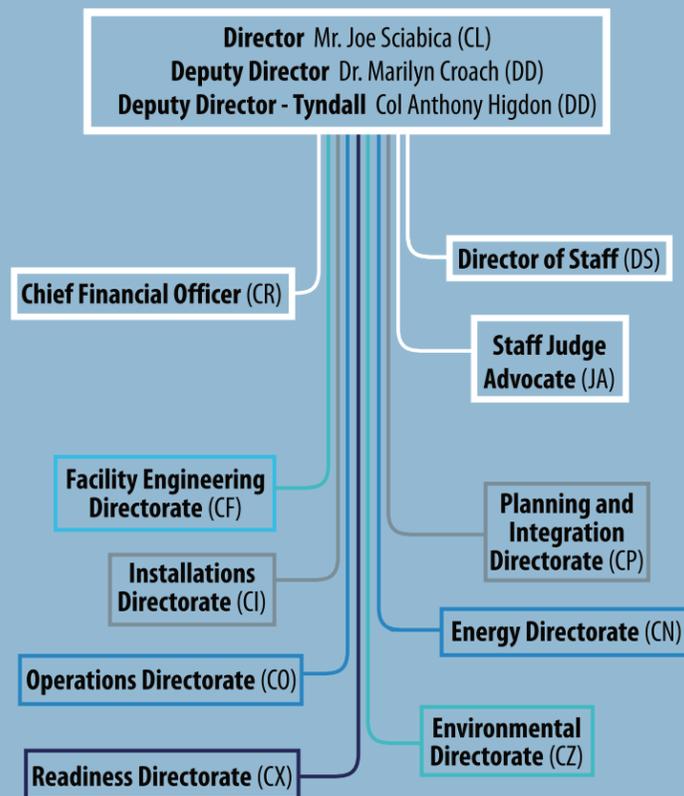


Col David Higdon
Deputy Director - Tyndall

MISSION

The Air Force Civil Engineer Center reached initial operating capability on Oct. 1, 2012, with full operating capability scheduled for Oct. 1, 2014. AFCEC's mission is to provide Civil Engineering services and enterprise lifecycle leadership to Air Force installations that enable the warfighter.

Headquartered at Joint Base San Antonio-Lackland, Texas, with Detachment 1 located at Tyndall AFB, Fla., AFCEC's areas of expertise include facility investment planning, design and construction, operations support, real property management, energy support, environmental compliance and restoration, readiness and emergency management, and audit assertions, acquisition and program management. The agency has more than 1,600 personnel and conducts operations at more than 75 locations worldwide.



Energy

- Published the Energy Evaluation Playbook and trained Asset Visibility Teams for the second four-year round of facility energy audits; produced an Energy Almanac, a full-spectrum view of installation-level facility energy performance.
- Provided Air Force Energy Reporting System (monthly reports) training to more than 30 MAJCOM and base energy managers; managed over 300,000 data points; and reported 10 facility energy metrics to congress.
- Managed the \$12M Resource Efficiency Manager program, realizing a 4-to-1 return on investment in tangible energy conservation opportunities.
- Supported the development/construction of Air Force's largest solar project, a 16.4-MW array at Davis-Monthan AFB, Ariz., and a 3.4MW wind project at Cape Cod AFS, Mass.; released solicitations for 4.5-MW waste-to-energy project at Dyess AFB and a 6-MW capped landfill solar project at Otis ANGB, Mass.
- Completed reviews of contract acquisitions at 19 installations, identifying \$13.2 in potential savings; supported the Utility Law Field Support Center with rate negotiations and interventions to create \$3.7M in cost avoidance.
- Validated and provided authority to advertise 225 energy projects with bids solicited and awards recommended for 174 projects totaling \$80M; the Air Force funded 104 energy projects worth \$45M (estimated savings of 472.3 billion BTUs and \$8.8M).
- Supported six Energy Conservation Investment Program projects (\$40M) to annually conserve 1,734 billion BTUs of energy and 2,001 million gallons of water. The largest ECIP project to date (\$15.5M) for heat plant decentralization at

- F.E. Warren AFB, Wyo., will save an estimated 100 billion BTUs per year.
- ESPC program management office centralized acquisition/legal review process at AFCEC; reduced process from two years to one.
- Scheduled 40 utility systems for privatization; three, valued at \$172.5M awarded, 24 continued into 2014 and 13 in economic exemption approval requests; to date, 62 systems privatized with contracts valued at \$2B, creating a cost avoidance of more than \$341M.



Solar panels were installed on housing at Peterson Air Force Base, Colo., as part of a 20-year lease that is expected to save more than \$1.1 million in energy costs. These savings will provide additional funds for neighborhood improvements. (U.S. Air Force photo/Staff Sgt. Aaron Breden)

Environmental

- Newly centralized enterprise-wide Environmental Compliance Program saved \$80M in first year, while enabling newly formed AFCEC to meet 80/20 obligations; executed about \$230M in EQ requirements; developed fiscal 2014 EQ enterprise integrated priority list and fiscal 2016 POM IPL.
- Awarded \$1B in 10-year ERA performance-based contracts for savings of 69 percent over program life-cycle and \$225M over period of performance; accelerated projected site clean-up progress 43 percent.
- Reached FOC for the National Environmental Policy Act Division; provided support for environmental impact statements for the KC46A beddown and the Eielson AFB Aggressor Squadron.
- Established installation and regional support teams; East ISTs conducted more than 230 base support visits.
- All Air Force bases now on eDASH using standardized configuration; implemented MAJCOM web-based training tool (ESOH-TN).
- Continued to implement efficiencies within the cleanup program to reduce life cycle cost by \$1B and accelerate site closures by 242 percent.
- Built MAJCOM commanders and environmental compliance performance dashboards for snapshot view of environmental performance at the senior leader and environmental program manager levels.
- Identified Air Force Civil Engineer Center-provided products and developed comprehensive tracking and reporting tool for all environmental plans and permits resulting in powerful program management/planning capability for AFCEC.

- Conducted 17 training classes for more than 200 IST/base personnel on e-DASH; enforcement actions; natural and cultural resources; planning, environmental programming and budget execution; and other topics.
- Completed Project RC-200720, Integrating Archeological Modeling in Defense Department Cultural Resources Compliance," for DOD-wide use.
- Provided expert technical support to the Deputy Undersecretary of Defense (I&E) Science and Technology Directorate, Chemical and Materials Risk Management Program, particularly in retraction of the USEPA assessment of short-term risks associated with trichloroethylene inhalation exposure, which resulted in estimated cost avoidance of \$9M.
- Prototyped technology designed to optimize and accelerate remediation of complex sites that pose long-term high-cost remediation challenges (only five percent of active sites but 60 percent of projected Environmental Restoration Program costs).
- Oversaw accreditation of more than 100 laboratories under the DOD Environmental Laboratory Accreditation Program, including 48 new or renewing accreditation visits.



After 14 years as a familiar landmark at the former McClellan Air Force Base, Calif., the "big white tent" that once covered tons of contaminated soil has come down. The tent provided shelter for cleanup crews and kept 23,409 cubic yards of contaminated soil at the site from being disturbed. (U.S. Air Force photo)

Facility Engineering

- Achieved a 100-percent award rate for sustainment, restoration, modernization and dorm projects in fiscal 2013, awarding \$344.3M across 244 projects.
- Awarded 60 percent of the fiscal 2013 MILCON program (18 of 30 projects), totaling \$695M.
- Awarded 86 energy-focused projects, totaling \$43M.
- Continued pursuing LEED Silver certification for 100 percent of all eligible fiscal 2013 projects.
- Managed design and construction for the F-35 beddown at Luke AFB, including a new training center, a new ops facility, and renovation/construction of two AMUs (\$82M).
- Managed construction of in-processing center (\$21.6M) at Joint Base San Antonio and a new center (\$27.5M) at the Air Force Academy; managed renovation of USAFE headquarters facility (\$45M).
- Broke ground on the almost one-million-square-foot U.S. Strategic Command command-and-control complex (\$524M) at Offutt AFB.

- Awarded phase four (\$18M) of the seven-phase, \$123M PACAF headquarters renovation at Joint Base Pearl Harbor-Hickam.
- Awarded two medical MILCON projects in Korea (more than \$30M combined) at Osan and Kunsan ABs; initiated design of the \$52M U.S.-funded MILCON portion of the new Korea Air (total \$45M at Misawa and Kadena ABs in Japan and a \$55M SRM power plant project at Eareckson AFS, Alaska).
- Managed planning for new high school construction (\$82M) and design for a Guardian Angel Operation Facility including three facilities totaling \$21M at RAF Lakenheath, UK.
- Directed a \$2.1B contingency construction portfolio across the Central Asia States, Africa and Gulf Cooperation Council countries.
- Drove construction efforts valued at \$118M for the Ministry of Defense Headquarters complex for the Afghan National Army; led construction of Afghan National Security University's second phase – a \$96M effort — and 63 projects (\$181M) for the Combined Security Training Command-Afghanistan Security Force program.
- Led continued expansion of Shindand Air Base in support of Afghan National Army Air Corps (three-year, three-phase, total \$100M); led the expansion and construction of the Afghan National Detention Facility (\$71M).
- Managed design and construction for projects (2.5B total) across three combatant commands (CENTCOM, AFRICOM and SOCOM) in seven countries, on two continents.
- Managed more than 150 task orders worth \$225M worldwide for the Defense Logistics Agency-Energy SRM fuels program.

Installations

- Signed an agreement to lease for 217 acres for 50 years with Grand Forks County, N.D. to develop an estimated 1.2M-square-foot business park focused on the unmanned aerial systems industry.
- Won honorable mention in the 2013 GSA Achievement Award for Real Property Innovation for the EUL at Eglin AFB.
- Delivered 1,148 new privatized homes, 767 renovated and 1,407 demolished units; executed construction at 100.2 percent of schedule; current end state inventory of 52,451 units (more than 98 percent privatized).
- Completed closings for the Northern and Continental HP projects — a total of 8,386 units (\$876M) — and achieved the high occupancy in program history (pro forma occupancy at 96 percent).
- Conducted more than 90 management review committee meetings as well as annual site visits at 27 bases; educated more than 765 stakeholders with HP training program.
- Achieved 96 percent BRAC property transfer (84,407 of 88,175 acres) to local communities, including 182 acres of the former Griffiss AFB and 528 acres at former McClellan AFB; completed the 31st and 32nd whole base transfers (former Onizuka and Mather AFBs).
- Led effort to ensure environmental cleanup meets requirements; remedies in place at 4,538 of 5,259 sites (86 percent) and on track for all sites by 2018; cleanup cost to date is \$3.7B.
- The Real Estate Transactions Division awarded \$8.5 in funds in fiscal 2013; other anticipated totals include more

than 24,500 acres protected and \$7.5M of Air Force funds used.

- Deeds of easements for four transactions totaled approximately \$6M and 2,800 acres; deeds in progress at the end of 2013 total more than \$3.1M and nearly 22,000 acres.
- Issued notice to proceed to 75 ABW EUL, providing authority for Sunset Ridge Development Partners to begin construction in support of the Falcon Hill Aerospace Park at Hill AFB.
- Developed EUL Budget Projector tool to calculate project-specific EUL budgets across all phases; developed a compliance matrix template for performing portfolio management on all UP projects.
- Provided training for the Real Estate career field, including hosting the Worldwide Real Estate Symposium and partnering with AFIT and the HAF Asset Management Division for the annual AFIT 424 satellite course.

Operations

- Completed first post-IOC asset visibility base assessment at Tyndall AFB, followed by Eielson and Hill AFBs to inform analysts which facility and horizontal infrastructure assets require resources.
- The Airfield Pavement Evaluation, or APE, team accomplished 44 detailed structural, friction and aircraft anchor evaluations airfields around the globe, including in Korea, Japan and Panama; trained 69 personnel to conduct contingency evaluations.
- Revised CE operations policies and procedures revising policies and procedures, primarily in the newly formed Operations Engineering flights and their subordinate Requirements and Optimization Sections to implement CE Transformation ... Accelerated directives.
- Revised decades-old sustainment work priorities, aligning them with industry standard practices and published an accompanying work priorities implementation plan; published revised ops engineering-related playbooks.
- Championed the Work Management data collection system (replacement of the Interim Work Information Management System), culminating in its first operational testing.
- Revised the Air Force common operating levels of service for the "big-3" service contracts (custodial, grounds and refuse).
- Subject Matter Experts guided 14 technical technology transfer criteria development projects totaling more than \$3.5M in airfield, pavements, wastewater and force protection and produced five ETLs, four AFI updates, one new AFPAM, and 18 UFCs (with Army and Navy).
- Worked on award of 36 pavement condition index surveys (\$3M) and 14 SME technical, material testing and APE team support and criteria development projects (\$5.6M).
- Conducted youth facility certification visits; completed 12 reports.
- The Civil Engineer Maintenance, Inspection and Repair Team, or CEMIRT (Tyndall and Travis AFBs) completed 607 specialized work requests (\$12.4M) on HVAC, aircraft arresting, industrial controls and electrical distribution and power generation systems.
- Conducted specialty training requirements team workshops for five CE Air Force Specialty Codes (see p. 46 for more information and updates on CE career fields)



Staff Sgt. Travis Ripple, a member of AFCEC's Airfield Pavement Evaluation Team, uses an auger to remove different soil layers during a destructive test on the Laughlin Air Force Base Auxiliary Number 1 Airport, near Spofford, Texas. (U.S. Air Force photo/Michael Briggs)

Planning and Integration

- As the only new directorate from the agency's stand-up, AFCEC/CP provided over-arching altruistic strategic oversight of planning, programming and procurement of requirements across the Air Force enterprise.
- Defined and embarked on centralized leadership of the Air Force Space Management Program, the Air Force Encroachment Management Program and prioritization/funding of SRM planning tools, moving toward transformation p-plan's FOC.
- Developed strategic, enterprise-wide approach to installation planning and capacity analysis; defined systems, data sources and processes required to affect strategic basing and other analysis driving Air Force investment decisions.
- Drove the procurement and execution of 32 installation development plans, six joint land use studies, six noise contour and two air installation compatible use zone studies within the enterprise structure, to enable MAJCOM operational level planning and further develop the data behind the Air Force enterprise strategic analysis capability.
- The Activity Integration Division managed \$750M fiscal 2013 portfolio through year of execution.
- Executed Air Force Asset Management Plan, or AFAMP, process to integrate and coordinate \$2B in requirements for a prioritized fiscal 2014 program.
- Created a new Real Estate Activity Management Plan to enhance asset management process.
- Managed a \$46B contract portfolio, supporting execution of 440 task orders totaling \$1B to deliver the right contract vehicle at right time.
- Established a five-year, 100-percent small business set-aside, \$950M Global Engineer, Integration and Tech Assistance (GEITA 2011) services contract to serve needs across the Air Force enterprise.

Readiness

- Created Apple/Android smart phone/tablet application with customizable emergency data/checklists (more than 6,000 downloads); "Be Ready" iOS mobile application on iTunes downloaded by 3,500.
- Created new CBRN Defense Awareness course for 190,000 students per year.
- Deployed in support of the Defense Threat Reduction Agency's Nuclear Weapons Accident/Incident Exercise supporting interagency response.
- Executed \$17.6M centralized funding program to sustain 246 Emergency Management UTCs and maintain serviceable chemical defense equipment for 155,000 Airmen and 21,000 aircrew personnel.
- Initiated an equipment shelf-life testing program that will save \$33.9M in 2015; implemented two policy guidance changes saving \$115.1M over the next five years.
- Began strategic sourcing initiative for firefighting personal protective ensembles with potential savings of \$21M over five years.
- Retrofitted 77 Air Force-designed aircraft fire training facilities with a 3-dimensional running fuel fire for training on this challenging scenario.
- Continued firefighting vehicle validation and realignment; contract awarded to purchase 130 vehicles, including 114 rapid intervention vehicles.
- Executed the airfield damage repair wet weather demonstration (36 participants from nine installations) as proof of concept for asphalt capping in inclement weather conditions.
- Fielded new BEAR hygiene kit, which incorporates commercial-grade fixtures and the new BEAR power unit, providing reliable replacement for the MEP-12 high-voltage generator.
- Developed an ADR table top training exercise to develop/test modernized ADR TTPs and C2 scenarios.
- Fielded first Sustainment Pavement Repair, or SuPR, Kit to Tyndall Silver Flag site (23 additional kits fielded over next 12 months).
- Processed 4,414 calls for assistance through the AFCEC Reach-Back Center.
- Developed/Published AFPAM 10-219V8 and AFH 10-222V17; published the revised War and Mobilization Plan, or WMP-1.
- Managed contingency training with throughput of 4,690 for Silver Flag and 1,046 for MEET in fiscal 2013.
- Implemented the RED HORSE Training Working Group to provide standardization, centralization and organization of RH special capabilities training.
- Deployed EOD Airman to Afghanistan; embedded with a SOF task force in Helmand Province; enabled 194 counter-insurgency missions (manually neutralized 21 IEDs and 1,000 explosive devices).
- Met break-even cost for AFCEC EOD equipment management facility, which has now recovered \$9M of equipment (more than the projected entire cost of the contract).
- The Requirements and Acquisition Division established initial operating capability on Oct. 1, 2013.



AFDW

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Col Calvin Williams
 Director, Logistics, Installations,
 and Mission Support

COMMAND MISSION

The Air Force District of Washington, located on JB Andrews, Md., reports to the Chief of Staff, U.S. Air Force, and serves as the Air Force service component to the Joint Force Headquarters-National Capital Region, providing the designated single Air Force voice for planning and implementing Air Force and joint solutions concerning the NCR. AFDW organizes, trains, equips and provides forces within the NCR for worldwide employment and Air Expeditionary Force deployments, and prepares and conducts, when directed, homeland operations within the NCR. AFDW executes specified Military Department statutory responsibilities for administration and support of Headquarters U.S. Air Force and assigned Air Force units and personnel within the NCR, and worldwide. AFDW provides headquarters support to the 11th Wing, 79th Medical Wing, 844th Communication Group and the U.S. Air Force Band and Honor Guard.

CE RESPONSIBILITIES

AFDW civil engineers perform the major command functions of organizing, training, equipping and providing assigned Civil Engineer forces from the Office of the Secretary of the Air Force, HAF, AFDW and other federal and civil agencies located worldwide to support global contingency operations and recovery from natural disasters and major accidents as well as provide regional warfighting support to JTF-NCR. They direct planning, programming, and oversight for installation construction, maintenance and operations projects. They are responsible for implementing Civil Engineering-specific and Joint Base-specific policies and directives. AFDW civil engineers maintain high-visibility areas such as the Air Force Memorial. They support HAF continuity of operations as well as the facilities and infrastructure required for Air Force One and other distinguished visitor aerial transportation assets. They are responsible for locating and neutralizing explosive hazards that threaten personnel, resources, and local, regional, and national interests, and support the VIP protection activity.

SIGNIFICANT ACCOMPLISHMENTS

- Established procedures, issued policies, and provided programming guidance for more than 200 SRMD, MILCON, DLA and storm damage projects, worth more than \$250M.
- Secured \$1.85M in emergency funding under P-341 Program to construct a taxiway for the Aerospace Control Alert mission at Joint Base Andrews (AFNORTH's #1 priority).
- Began construction of JBA's new \$219M Ambulatory Care Center, which will consolidate all medical support departments from 12 buildings into one new, 345,000-square foot

facility to provide world-class medical services to wounded warriors and the area's active duty and retired service members.

- Gained responsibility for JBA's west runway resulting from the \$88M reconstruction project that replaced a 50-year old runway and awarded \$8.6M to reconstruct an important taxiway; both projects are part of recapitalization of the airfield supporting multiple, national, "no fail" missions including support to the President and Air Force 1.
- Demolished several excess facilities including the 347,000-square-foot former Air Force Systems Command HQ to exceed with AF's 20/20 by 2020 demolition goal.
- Developed and executed \$19.5M end-of-year fiscal 2013 straddle bid program, including runway and infrastructure repair projects.
- Identified, validated and programmed requirements to construct a \$30M helicopter operations facility and secure project funding in fiscal 2014.
- Provided EOD support to the Very Important Persons Protection Support Activity, U.S. Secret Service and Department of State ensuring the safety and protection of the President while fulfilling 22.5 percent of the Air Force total missions and 8.2 percent in the total DOD mission.
- Provided critical support in both personnel and equipment in the Hurricane Sandy relief.
- Secured \$250K to fund the Installation Development Plan for JBA, which transforms the General Plan to serve as a decision-making tool to guide future development for JBA over the next 20 years.
- Oversaw joint basing program for two joint bases, including one Air Force-led.
- Fostered positive relationships with the Office of the Secretary of Defense and other federal agencies by hosting the National Capital Planning Commission and DOD representatives for a tour of JBA and hosting the 2013 Joint Basing Program Management Review.

CE Units in Command



2013 Statistics

Major Bases	1
Plant Replacement Value	\$5.6B
Buildings	6.7M sq. ft.
Airfield Pavement	2.5M sq. yd.
Housing	1,141 units (100% privatized)
Dorms	827 rooms

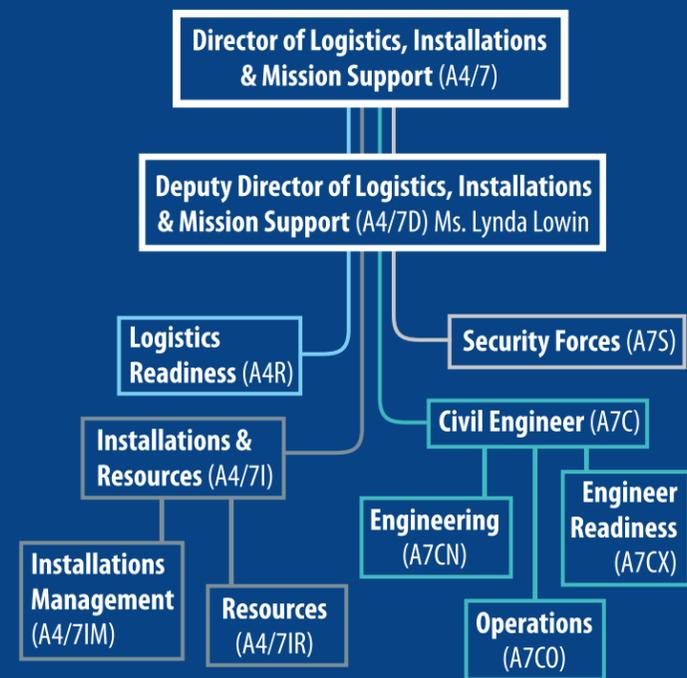
AFDW Personnel	
Active Duty	4,037
Reserve	113
Civilian	1,030

CE Personnel	
Active Duty	337
Reserve	6
Civilian	154

MILCON	2 projects (\$219M)
SRM	66 projects (\$46.78M)
Facilities Operation	\$39M

representatives for a tour of JBA and hosting the 2013 Joint Basing Program Management Review.

- Earned recognition under the 2012 Air Force Design Award with a Merit Award for the design of the William A. Jones III building.



The William A. Jones Building, a LEED Gold facility, supported execution of BRAC '05, currently houses 2,250 government workers and is home to Headquarters AFDW, 11th Wing, the Air Force Legal Operations Agency and elements of Headquarters U.S. Air Force. The Jones Building was selected as a 2012 Air Force Design Award winner. (U.S. Air Force photo)





USAFA

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Mr. Carlos Cruz-Gonzalez
Director of Installations



Col Gregory Seely
Permanent Professor and
Head of the Department
of Civil and Environmental
Engineering



Lt Col Patrick J. Carley
10 CES Commander

MISSION

The essential and enduring mission of the U.S. Air Force Academy is "To educate, train and inspire men and women to become officers of character motivated to lead the United States Air Force in service to our nation." The Officer Development System provides all members of the Academy constituency a framework and set of strategies to accomplish this mission. Within the ODS the Academy executes a single integrated course of instruction in which cadets receive an accredited bachelor of science degree and an intensive program of physical education and develop enduring leadership competencies through military development.

CE RESPONSIBILITIES

USAFA Civil engineers develop future leaders through instruction, mentoring and through the provision of world-class infrastructure and facilities. The Department of Civil and Environmental Engineering has responsibility for two accredited majors: Civil and Environmental Engineering. Graduates receive civil or environmental engineering bachelors of science degrees and go on to meet mission needs as pilots or engineers. The Directorate of Installations prioritizes, advocates and coordinates reach back support for USAFA facility requirements. The 10th Civil Engineer Squadron provides emergency services and operates, sustains, and modernizes infrastructure and facilities on USAFA.

SIGNIFICANT ACCOMPLISHMENTS

- Graduated 76 cadets in Class of 2013: 68 civil engineering, seven environmental engineering and one dual civil/environmental engineering majors; 36 will enter Civil Engineering career field and 40 other career fields.
- Completed 20th offering of CE 351 at the Field Engineering and Readiness Lab, or FERL; under guidance of 70 active duty, Guard and Reserve mentors and 13 senior cadets, 62 students (53 USAFA, five West Point and four Naval Academy) constructed two Navajo homes for the Southwest Indian Foundation.
- Deployed seven military firefighters to Afghanistan, Kyrgyzstan and Jordan to support downrange COCOM mission and one civilian to Afghanistan on a one-year tasking to support drawdown.
- Hosted 12 airshow-equivalent events including the National Character and Leadership Symposium, Cadet Graduation, USAFA Falcons home football games and numerous other NCAA events, Parents' Weekend, and the Fall CORONA conference.

- Converted turf to xeriscape and reduced potable water consumption by more than 36%.
- Implemented Defense Connect Online XMPP Desktop Client and improved USAFA's Disaster Response Force's ability to communicate critical incident information.
- Updated fire alarm systems in more than 20 buildings; reviewed plans for more than 25 building system upgrades.
- Hosted a Fire Officer Academy; 47 personnel from USAFA took part in the training.
- Provided support for the Black Forest Fire with 35 firefighters working with local, state and federal fire organizations over a three-day period; USAFA fire crews were responsible for saving more than 100 buildings, including two schools and 60 homes.
- Completed construction of \$6.7M, 8,531-square foot permanent large vehicle inspection station (FY12 MILCON).
- Completed \$4.1M, seventh-phase renovation of Mitchell Hall, adding warehouse space to service level, repairing vestibules and updating mechanical, electrical, plumbing, and life, health and safety systems.
- Completed \$1.95M repair of Community Center Drive with 13,000 feet of asphalt, curb and gutter; striping; and potable water line.
- Completed \$0.73M repair of Pine Drive; 9.5K feet of asphalt, curb and gutter and striping.
- Completed \$14.2M final phase of Vandenberg Hall renovation; repairs included courtyards, stairwells, handrails, mechanical/electrical/plumbing systems and life, health and safety systems.
- Completed \$7.14M fourth-phase and \$7.10M fifth-phase renovation of the Cadet Gymnasium, including lower level locker rooms, intramural spaces, mechanical/electrical/plumbing systems and life, health and safety systems deficiency upgrades.
- DFCE Faculty published two papers and three conference posters and made two presentations.

CE Units in Command

CE Units by State 0 1 2 3 4+



Superintendent (CC) Lt Gen Michelle D. Johnson

Director of Installations (A7)

Dean of the Faculty (DF)
Brig Gen Andrew P. Armacost

Head, Dept. of Civil & Environmental Engineering (DFCE)

10 ABW Commander (CC)
Col Stacey T. Hawkins
10 MSG Commander (CC)
Col Martin K. Schlacter
10 CES Commander (CC)

Resources (CER)

Readiness (CEX)

Engineering (CEC)

Asset Management (CEA)

Operations (CEO)

Programs (CEP)

Fire & Emergency Services (CEF)

2013 Statistics

Major Bases	1
Plant Replacement Value	\$9.1B
Buildings	6.7M sq. ft.
Airfield Pavement	5.32K sq. yd.
Housing	671 units (100% privatized)
Dorms	2,458 rooms

Command Personnel	
Active Duty	1,792
Civilian	1,582
Cadet	4,000
Prep School	182
Contractor	1,582

CE Personnel	
HQ USAFA/A7	
Active Duty	0
Civilian	3
Contractor	0

HQ USAFA/DFCE	
Active Duty	19
Reserve	3
Civilian	7

10 CES	
Active Duty	28
Civilian	92
Contractor	559

MILCON	2 project (\$34.18M)
S/R&M	134 projects (\$67M)
Facilities Operation	\$28.2M



The Civil Engineer School

At The Air Force Institute of Technology

THE CIVIL ENGINEER SCHOOL MISSION

Providing vital, relevant and connected education that enables Airmen to be ready engineers and great leaders who know how to build sustainable installations to last while leading the change for the Civil Engineering career field.

The school's faculty and staff include 18 military personnel, 12 civilians, and seven contractors.



Col Paul Cotelleso
 Dean

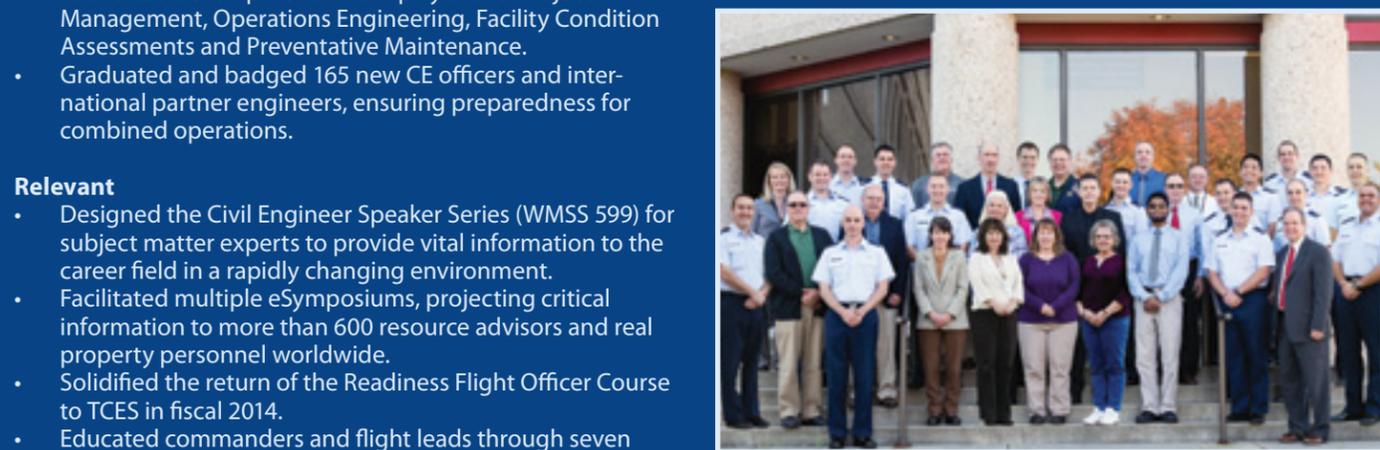


Dr. Jared Astin
 Associate Dean

SIGNIFICANT ACCOMPLISHMENTS

The Civil Engineer School directed approximately 110 courses and taught about 4,500 civil and environmental engineers in residence and at on-sites as well as online and by DVD, satellite and esymposiums in fiscal 2013. Below are some of the highlights:

- Selected by the Society of American Military Engineers as the national 2012 Public Agency Award winner for the school's eminent contributions to SAME.
- Partnered with contingency asset experts from the 49th MMG to host a force beddown exercise, enabling real-time collaboration between initial skills students and contingency planning experts from the field.
- Collaborated with six countries during the Gulf Cooperation Council Water Resources Management and Development for Military Operations Workshop in Amman, Jordan
- Provided consultation services for issues in management (e.g., operations, housing, Prime BEEF wartime skills), engineering (e.g., Airfield pavements, HVAC control systems, roofing, Micro-paver) and environmental (hazardous waste management, pollution prevention).



The faculty and staff of the Civil Engineer School includes military, civilian and contractor personnel. (U.S. Air Force photo)

- Integrated Active Duty, Guard and Reserve engineer officers and civilian engineers into the career field's first "Total Force" initial skills badge-awarding course, ensuring consistent training across the board.
- Air Force Senior Facilitator for six Joint Engineer Operations Courses; 360 engineers ready and certified for JTF J7 operations.
- Facilitated development of four playbooks: Project Management, Operations Engineering, Facility Condition Assessments and Preventative Maintenance.
- Graduated and badged 165 new CE officers and international partner engineers, ensuring preparedness for combined operations.

- Designed the Civil Engineer Speaker Series (WMSS 599) for subject matter experts to provide vital information to the career field in a rapidly changing environment.
- Facilitated multiple eSymposiums, projecting critical information to more than 600 resource advisors and real property personnel worldwide.
- Solidified the return of the Readiness Flight Officer Course to TCES in fiscal 2014.
- Educated commanders and flight leads through seven separate course offerings for varying leadership and position levels.



GRADUATE SCHOOL OF ENGINEERING & MANAGEMENT

The faculty is responsible for all aspects of the graduate engineering management program. The GEM program is responsive to the needs of the Air Force CE community, developing courses and tailoring curriculum to prepare graduates for the future. Students are educated to plan, organize and lead in a technology-focused organization and to apply critical thinking skills and analytical techniques to solve the most challenging problems. The students collaborate with Air Force agencies in conducting defense-focused independent research. The faculty conducts independent research and their technical expertise is proven by the program's journal publication track record.



Lt Col Tay W. Johannes, Ph.D., P.E.
 Program Director

- GEM Faculty:**
- Col Paul Cotelleso, Ph.D. (adjunct)
 - Maj Greg Hammond, Ph.D., P.E.
 - Lt Col Tay W. Johannes, Ph.D., P.E.
 - Al Thal, Ph.D.
 - Maj Vhance Valencia, Ph.D., P.E.

GEM PROGRAM DESCRIPTION

The GEM program is designed for individuals who desire to integrate technical and managerial skills in preparation for operating within a technical environment. Students learn to define problems, formulate approaches to investigate the problems, collect and analyze data with appropriate analytical tools, and interpret findings for managerial action. With coursework in management science, project management, decision and risk analysis, systems analysis and behavioral science, students are able to develop their management proficiency within an area of technical specialization (e.g., infrastructure, construction or crisis management). The program's strength lies in its multidisciplinary approach — core management principles are integrated with graduate-level technical education.

The program includes several civil engineer specific courses, including those on the following topics: construction management, inspection, contracts and law, and risk and finance; asset management modeling; infrastructure asset management and risk analysis; geographical information systems; and crisis management.

SIGNIFICANT ACCOMPLISHMENTS

- **GEM 13**
 - Ten graduates; two P.E.s; two certified project management professionals
 - Eight conference papers accepted for peer-review conferences (only two presented due to restrictions with non-DOD conference attendance)
 - Three peer-reviewed journal papers submitted and in review
 - Supporting research sponsored by external grants valued at approximately \$320,000
- **GEM 14**
 - Twenty-one current students (18 captains, two lieutenants and one master sergeant)
 - All student research projects sponsored by external stakeholders

- Supporting research sponsored by grants valued at approximately \$450,000

Representative Articles and Conference Proceedings

- Griffin, JS, Thal, AE., Jr, & Leach SE. "Enhancing Asset Management Through a Better Understanding of Energy Consumption." International Journal of Strategic Property Management. (in press).
- Ochs, KS, Miller, ME, Thal, AE Jr, & Ritschel, JD. "A Proposed Method for Analyzing Infrastructure Investment Decisions Involving Rapidly Evolving Technology: A Case Study in LED Streetlights." Journal of Management in Engineering (in press).
- Chun, W, Feng PP, Thal AE Jr, & Badiru AB. 2013. "Life-Cycle Assessment of LEED vs. Conventionally Constructed Residential Units." Industrial and System Engineering Research Conference, San Juan, PR, May 18-22. (Finalist for Best Paper Award in Engineering Management Track)
- Hammond, GD & Bier VM. 2013. "Alternative Evacuation Strategies for Nuclear Power Accidents." American Nuclear Society's Winter Topical Meeting: Risk Management for Complex Socio-technical Systems", Washington, D., Nov 10-14.
- Johannes, T. 2013. "Creating Effective Response Communications." In Handbook of Emergency Response: A Human Factors and Systems Engineering Approach, A. Badiru and L. Racz (eds.). Boca Raton, FL: CRC Press, pp. 597-609.
- Murley, DJ, Thal, AE Jr, Wyatt, LJ, Johannes, TW & Badiru AB. 2013. "Development of a Cooling Load Model for Geospatial Analysis of Energy Efficient Technology in Austere Environments." Industrial and Systems Engineering Research Conference, San Juan, PR, May 18-22.
- Hammond, GD & Bier, VM. 2012. "Improving protective-action strategies following a nuclear-power accident." Annual meeting of the Society for Risk Analysis, San Francisco, CA, Dec 9-12.
- Gannon, T, Feng, P, & Sitzabee, W. 2012. "Reliable Schedule Forecasting in Federal Design-Build Facility Procurement." Lean Construction Journal, pp. 1-14.

Air Force Civil Engineering History

Significant Events Timeline



- 4 Jun 1940 • The 21st Engineer (Aviation) Regiment was activated at Ft. Benning, Georgia.
- Sep 1944 • Brig Gen Robert Kauch became Chief, Air Installations Division.
- 18 Sep 1947 • The Air Force became a separate service, responsible for operation and maintenance of its installations and airfields. The Army was designated the construction agent for the Air Force and the agent for acquisition and disposal of real estate.
- Oct 1947 • The Air Installations School was created at the Air Force Institute of Technology at Wright Field, Ohio.
- 10 Oct 1947 • The Air Force established the Directorate of Air Installations under the DCS Materiel.
- 11 Jul 1950 • Company A of the 802nd Engineer Aviation Battalion became the first Aviation Engineer unit to land in Korea, where they began work on a 500-foot extension to the runway at Pohang AB.
- 1954 • The monthly publication Installations Engineer Beacon, the forerunner of today's Civil Engineer Magazine, was begun to inform the field activities on important policies, procedures, and new ideas.
- 4 Jun 1954 • The Air Force Academy Construction Agency was established to oversee work for the new institution.
- Feb 1957 • DoD Directive 1315.6 entitled Responsibilities for Military Troop Construction Support of the Department of the Air Force was issued to clarify the responsibilities for airfield construction and maintenance in overseas contingency situations.
- 1959 • Air Force Installation Representative (AFIR) offices were redesignated Air Force Regional Civil Engineers. The AFIRs originally had been organized and collocated with Corps of Engineer Division Offices in 1948. In 1968, the number of AFRCs was reduced to three.
- 28 Feb 1959 • The Installations Engineering Occupational Field title was changed to Civil Engineering.
- 1 Oct 1964 • The Prime BEEF program was officially implemented.
- 6 Aug 1965 • The first Prime BEEF teams deployed to Bien Hoa, Tan Son Nhut, and Da Nang Air Bases, Vietnam, to construct revetments.
- Feb 1966 • The first two RED HORSE units, the 554th and 555th Civil Engineering Squadrons (Heavy Repair), deployed to Vietnam.
- 1 Apr 1966 • The Civil Engineer Construction Operations Group, the forerunner of AFCEC, was created at Wright-Patterson AFB, Ohio.
- 15 Nov 1966 • Tuy Hoa AB, Vietnam, the only Vietnam-era base built by the Air Force, became operational.
- 15 May 1967 • The 1st Civil Engineering Group (Heavy Repair) formally activated to provide command and control for the five RED HORSE squadrons in Vietnam.
- 5 Feb 1968 • The 557th Civil Engineering Squadron (Heavy Repair) was activated and quickly deployed to Korea in April 1968 to provide engineering support following the North Korean seizure of the USS Pueblo.
- Aug 1975 • The HQ USAF Directorate of Engineering and Services was created with the merger of the two functional areas.
- Jun 1986 • First Readiness Challenge competition held at Eglin AFB.



- Jan 1988 • RED HORSE opened to women.
- Sep 1989 • CMSgt Larry R. Daniels became the first Chief of Enlisted Affairs for Engineering and Services.
- Aug 1990 • Air Force civil engineers began deploying in support of Operation DESERT SHIELD.
- 1991 • AFESC was redesignated as the Air Force Civil Engineering Support Agency.
- 23 Jul 1991 • The Air Force Center for Environmental Excellence was activated at Brooks AFB, Texas.
- 3 Oct 1991 • The Vice Chief of Staff aligned Airbase Operability, Disaster Preparedness, and Explosive Ordnance Disposal under Civil Engineering.
- 15 Nov 1991 • The Air Force Base Disposal Agency was activated, a forerunner of the Air Force Real Property Agency.
- 1 Mar 1993 • Det 1, 823rd RED HORSE Squadron was activated to assume responsibility for the new Silver Flag Exercise Site at Tyndall AFB, Florida.
- Aug 1993 • The Air Force Fire School moved from Chanute AFB, Illinois, to Goodfellow AFB, Texas.
- 11 Sep 2001 • In the aftermath of the World Trade Center and Pentagon bombings on 11 September 2001, Air Force civil engineers provided a wide range of support to the recovery efforts and homeland defense initiatives.
- Sep 2001 • Operation ENDURING FREEDOM Prime BEEF teams conducted beddown operations at bases in Southwest and Central Asia. 823 RHS undertook construction projects, including major MILCON projects.
- 10 Oct 2001 • An Air Force civil engineer became the first fatality of Operation ENDURING FREEDOM. MSgt Evander E. Andrews, assigned to the 366 CES at Mountain Home AFB, Idaho, died in a heavy equipment accident at Al Udeid AB, Qatar.
- 19 Mar 2003 • Operation IRAQI FREEDOM began as Air Force engineers opened new bases, expanded additional bases, and recovered captured Iraqi bases.
- 1 Feb 2006 • HQ USAF/ILE was redesignated A7C as part of the HAF transition to the A-Staff structure.
- 19 Oct 2006 • Gen John Corley, AF/CV, signed a memo approving Civil Engineering's five transformation proposals: centralizing capital construction execution at AFCEE; reengineering fire emergency operations based on risk assessment; reengineering three AFMC CE Groups to smaller units; realigning military positions into EOD and RED HORSE; and restructuring CE units at all organizational levels.
- 1 Jun 2007 • The Air Force Center for Environmental Excellence was renamed the Air Force Center for Engineering and the Environment.
- Sep 2009 • The first-ever Expeditionary Prime BEEF group and squadrons were activated in Afghanistan.
- 16 Nov 2009 • The Air Force Real Property Agency moved from Rosslyn, Virginia, to Kelly Annex, Lackland AFB, Texas.
- Dec 2011 • The last AF CE members left Iraq.
- 1 Oct 2012 • CE Transformation... Accelerated reached IOC with a ceremony establishing the Air Force Civil Engineer Center, a combination of AFCEE, AFRPA, and AFCESA.
- 22 Jun 13 • Maj Gen (S) Gen Theresa C. Carter became the first female to serve as The Civil Engineer.





3E0X1

ELECTRIC

Fiscal 2013 proved to be another busy year for the 3E0X1 community. The Air Force Research Laboratory and Kinectrics of Canada accomplished the American Society for Testing and Materials F1959 (Test Method for Determining the Arc Rating of Materials for Clothing) tests on the 50-percent nylon/50-percent cotton airman battle uniform and the Operation ENDURING FREEDOM camouflage pattern uniform. These uniforms were directly exposed (not protected) to Hazard/Risk Category 2 arc flashes (8 cal/cm²). Surprisingly, when directly exposed to an 8 cal/cm² arc flash, the 50-percent nylon/50-percent cotton ABU and OCP uniforms offered more potential protection than the regular NFPA-compliant 100-percent cotton ABU. Despite these favorable test results, the 50-percent nylon/50-percent cotton ABU and OCP did not achieve the prescribed 8 cal/cm² or greater arc thermal performance Value required to be

utilized as standalone personal protective equipment. [Again, both the ABU and OCPs are not considered PPE and technicians must still adhere to UFC 3-560-01, section 4 PPE guidelines when entering an energized work site.] One positive result of the testing is that AFCEC will issue guidance that will permit the partial wear of ABUs and OCPs under the appropriate Arc Flash PPE, as long as certain conditions are met.

light emitting diodes, renewable energy sources and advanced airfield lighting controls, while bolstering our supplemental courses with more in-depth industry standard practices. Look for the revised courses to become available during fiscal 2014. The career field is committed to keeping our training as close as possible to industry standards, while still maintaining and improving our wartime skillsets.

The Electrical Systems Career Field held a Specialty Training Requirements Team workshop in February 2013 and performed a top-to-bottom scrub of the Air Force's electrical training curriculum. With the help of subject matter experts from all of the MAJCOMs, the team was able to cut 107 hours from the basic electrical and supplemental courses. These cuts allowed course developers to incorporate new emerging technologies such as

SMSgt Alexander Thomson
3E0X1 Force Development Manager



3E0X2

ELECTRICAL POWER PRODUCTION

In March 2013, the Electrical Power Production career field underwent a top-to-bottom scrub of its entire education and training program by MAJCOM experts meeting at Sheppard AFB, Texas. Upcoming changes to the apprentice level course include an almost two-day reduction from the overall course length; removal of the MEP-12A generator; and the addition of the BEAR Power Unit. After a review of the supplemental courses a decision was made to combine five advanced courses into two core supplemental courses that focus on power production equipment troubleshooting and contingency power generation equipment. When the new CFETP is published, everyone is expected to read it to understand the upgrade training, certifications and courses available.

The newest contingency power generation equipment entering the Air Force inventory, the BEAR power unit, is in the final stages of contract requirements and being prepared for delivery to Air Force contingency and formal training sites, with follow-on deliveries to War Reserve Material inventories. Vendor training was provided to personnel from various training sites to aid in the development of the BPU curriculum. The first round of BPU training is expected to roll out at the Tyndall Silver Flag exercise site in early 2014, and at USAFE and PACAF Silver Flag exercise sites beginning late 2014. Silver Flag curriculum will still include the MEP-12A and interim power unit for the foreseeable future to ensure technicians are prepared for missions that include multiple models of high power generation units. Mission essential equipment training curriculum is in development and will be delivered at the ANG regional

training sites, AFRC ESC-TCC and PACAF and USAFE Silver Flag sites. The 40-hour BPU MEET curriculum is expected to begin in late 2014 with full implementation at all MEET training locations by early 2015.

During 2013, changes to publications that affect how Electrical Power Production operates have been coordinated through the MAJCOM experts. AFI 32-1062 is currently in draft and, if approved, would consolidate AFIs 32-1062 and 32-1063 and ETL 10-7 and 13-4 into one central document. ETL 11-21, Chg 2 was superseded by ETL 13-4. ETL 06-6 was rescinded because it was incorporated into the revision of AFI 32-1043.

SMSgt Samuel Schmitz
3E0X2 Force Development Manager



3E1X1

HVAC & REFRIGERATION

This past year, the career field took huge steps to improve the contingency equipment for the deployed technician. Currently, the improved environmental control unit, or ECU, is being put to the test at an AOR site. The overall footprint is smaller, which allows more per pallet. It also has a built-in variable frequency drive to eliminate inrush current, which helps reduce energy use and, most importantly, it has more cooling capacity, approximately 60K BTUs. Again, this is a trial phase and a formal request has not been submitted to add this equipment to the inventory.

Additionally, more progress was made to get the new TriCon refrigerated container system introduced to the field. This is a joint initiative with the Army to put a more reliable and user-friendly cold storage system in the hands of the deployed

technician. Just recently, two Airmen from Patrick AFB, Fla., along with two Soldiers, conducted the log demo at the manufacturer's location. They executed setup, troubleshooting, and replacement work packages following the joint technical manual. All 3E1s need to be aware that they could see two different types of containers in the field: type 1 that meets Army requirements and type II, designed to meet Air Force requirements.

Lastly, AFCEC created a refrigerant management tracker that is located within AFPAM 32-7089, Refrigerant Management. This excel spreadsheet will capture required information for tracking purposes, but be advised that its use is not mandated. Other types of tracking systems are acceptable as long as they meet the requirements for tracking leak rates. Some units have

purchased quality tracking software that works well for their particular installation and program. However, the recommendation is to use the AFCEC tracking system for initial startup of a new program, to back up data in the event of commercial program failure or loss and for base-to-base or MAJCOM compilation purposes.

Refer to AFPAM 32-7089 para 1.1 (http://static.e-publishing.af.mil/production/1/af_a4_7/publication/afpam32-7089/afpam32-7089.pdf)

MSgt Christopher Tilstra
3E1X1 Force Development Manager



PAVEMENTS & EQUIPMENT

Some big changes have taken place in the Pavements and Equipment Career Field this past year. A new CFETP was published on Sept. 16, 2013 that will shape the life cycle training of Pavements & Equipment Airmen. One significant impact was the addition of basic tractor-trailer skills to the technical training course at Ft. Leonard Wood, Mo. This change reflects the increased occurrences of 3-levels operating tractor-trailers at their first duty station and will also reduce on-the-job training time. Another impact is the roll out of new qualification training packages, updated CDCs and changes to your 5- and 7-level upgrade training requirements.

The Guard and Reserve have beta tested an advanced tractor-trailer training course at Dobbins ARB, Ga., in fiscal 2103. This course is a total force initiative aimed at training Airmen with

an in-service window of four to 10 years on advanced driving practices. The course is expected to be fully operational in late fiscal 2014 and will be offered at both Dobbins ARB and at the Regional Equipment Operator Training Site at Ft. Indiantown Gap, Pa.

The crane licensing policy has changed: completion of an AFCEC-approved certification course is required for all CE operators. This brings the career field in line with new OSHA requirements and ensures DirtBoyz are operating safely in all environments.

On the horizon are huge changes in the airfield damage repair process. This will change the way you train to fight in a war-time scenario and will have huge impacts on Civil Engineering

as a whole. It will be crucial that DirtBoyz pave the way and lend a hand as their fellow AFSCs jump on board to help get an airfield back to operational capability.

MSgt Eric G Johnson, Jr.
3E2X1 Force Development Manager



STRUCTURAL

As a result of the 2012 Specialty Training Requirements Team and 2013 Utilization and Training Workshop, the Structures career field has made significant efforts to modernize its training to meet operational Requirements.

Changes were made to more than 50 tasks in the Specialty Training Standard which drove numerous changes to the 3E3 Apprentice course curriculum. In addition, Career Development Courses, Specialty Knowledge Tests and an updated Career Field Education and Training Plan are being published and will be available to the field by October 2015.

A Structures Contingency Course was developed and will include items such as deployed locksmithing and the Medium Shelter System. Land-use agreements at the Naval Construction

Battalion Center in Gulfport, Miss., are nearly complete and the course is projected to open its doors as soon as May 2014.

The Roof Inspection Maintenance and Repair, or RIMR, course underwent an extensive overhaul to include the construction of new training mock-ups. The new and improved course is projected to come online in June 2014.

SMSgt Todd Davis
3E3X1 Force Development Manager



WATER AND FUEL SYSTEMS MAINTENANCE

Airmen in the 3E4X1 career field are responsible for some of the most critical resources provided to support the flying mission during peace and wartime.

The STRT met in May 2013 and great strides were made to correct training deficiencies left from the 2009 career field merger. Obsolete items have been deleted and focus on current industry standards added. Revisions were made to the Advanced Fuel System Maintenance Technician course as well. This course is not a bridge course. Knowledge of fuel systems is required prior to attending or most will struggle to pass and there is a CBT prerequisite. If all changes approved during the workshop go through, the WFSM course will be shortened by roughly 106 hours.

The decision has been made to halt the Backflow Prevention Devices Testing Course (MTT) for CONUS locations as of fiscal 15. The classes scheduled for the rest of fiscal 14 will not be affected. The course will remain for USAFE and PACAF bases.

With utility privatization still on the horizon, many CONUS units will lose exterior water and wastewater distribution systems over the next five years. NCOs are charged with maintaining knowledge and proficiency core tasks lost through privatization, in accordance with the CFETP. Each UP contract has a provision to allow training with the utility system owner to maintain knowledge and proficiency.

The new arc flash training CBT is mandatory training for all 3E4X1 personnel. Training at Silver Flag will be increased as part of this requirement.

Finally, the new BEAR program management office has fielded the new hygiene system to complement the current latrine and shower/shave kit. BEAR will continue to maintain both old and new systems until funding supports the new hygiene system UTCs. The programs of instruction are being written with Tyndall's Silver Flag site as the lead.

SMSgt Michelle Lafferty
3E4X1 Force Development Manager



3E4X3

PEST MANAGEMENT

The Pest Management career field has made some changes to ensure 3E4X3 personnel are prepared to accomplish their mission in a safe and efficient manner. The force development manager along with the Armed Force Pest Management Board is constantly reviewing training courses to ensure Pest Management personnel are getting quality training.

As part of CE Transformation ... Accelerated, AFCEC has become the focal point for pest management issues for Air Force Space Command, Air Force Global Strike Command, Air Force Materiel Command, Pacific Air Forces and Air Education and Training Command. AFCEC has hired two new entomologists, Armando Rosales and Richard Johnson to cover pest management for these commands. Don Teig is the Air Force pest management subject matter expert.

The Operational Entomology Course is no longer a 7-level prerequisite for upgrade. Pest Management personnel need to follow AFI 32-1053, Integrated Pest Management; AFI 32-1074, Aerial Application of Pesticides; DODI 4150.07; and local laws for issues regarding pest management.

MSgt Chris Beach
3E4X3 Force Development Manager



3E5X1

ENGINEERING

In May 2013, functional leaders from every command participated in the Specialty Training Requirements Team process to update the CFETP. Significant changes were proposed and will be finalized at the utilization and training workshop held later in 2014. Expect more emphasis on construction management and surveying.

Geographic Information System/Geospatial Engineering, similar to materials testing, remains a doctrinal responsibility for Engineering operations; however, the supplemental course will be adjusted to 7-skill level to support CE operations/linear segmentation and deployed capabilities. In fiscal 2014 the career field's involvement in construction project documentation and "as-built" facility record maintenance will increase. MILCON projects are starting to be accepted in a building information

modeling format, so BIM has been incorporated into the CFETP. Additional guidance and training avenues will be provided.

In June, functional leaders met to recommend changes to the Prime BEEF equipment and supplies list. Equipment (hardware and software) changes are forecasted due to industry changes. Details are forthcoming. However, in the meantime, do not send surveying equipment to DRMO or dispose of otherwise. Please maintain the equipment and report to your MAJCOM representative.

ADR modernization will also be dictating changes to the career field. Earlier in the year, ETL 13-3 regarding minimum airfield operating surface selection and repair quality criteria was released. The GeoExPT tool has been updated to incorporate

the new BEAR order of battle and UTCs. Future spirals will incorporate a multi-platform (desktop/web) on an Autodesk engine that is flexible enough to support the Joint Construction Management System initiative. Additionally, ACC/A4RXB has fielded the BEAR Planning and Power Distribution Tool to assist in the planning stage of setting up austere bases. Contingency training site curriculums (wartime task standard) will be reviewed to support these and other ADR Modernization efforts.

SMSgt Rigo Chacon
3E5X1 Force Development Manager



3E6X1

OPERATIONS MANAGEMENT

Operations Management Airmen will experience many challenges in the coming year. Processes that have been in place for many years are getting overhauled to allow for the new work priorities and prepare the Civil Engineer community to focus on asset management. During this transition, guidance will be provided on the AFCEC Operations Work Force Management Portal page <https://www.my.af.mil/gcss-af/USAF/content/g7v8Q>. A Work Prioritization Implementation Plan, FAQs, playbooks and a work classification brochure are located on the site as guidance and to assist you in providing your customers with pertinent information on the new work priorities. The site is not the only avenue offering information on these changes; the Air Force Institute of Technology has a course available should you want to sharpen your knowledge on the new Operations Engineering Element.

AFIT has updated the WMGT 436 Operations Support course to reflect the changes in the new CEOE. It covers the roles of this element and how to assist the operations flight chief in workforce integration and optimization with focus on corrective maintenance planning, scheduling the workforce and prioritizing work. This satellite course is open to all CE officers, enlisted 5-, 7- or 9-levels and civilian equivalents. You can apply for the course at the following link: http://www.aft.edu/cess/Course_Desc.cfm?p=WMGT%20436

Lastly, the Occupational Analysis Survey is complete and available for your review on the Occupational Analysis Division's website at http://oa.aetc.af.mil/Enlisted_OARs_Index.html. Your participation in this survey was vital because the information collected is used to make decisions concerning the training

needs of the career field, development of the CFETP and career development courses.

SMSgt Marla Manyweathers
3E6X1 Force Development Manager



3E7X1

FIRE EMERGENCY SERVICES

The Fire Emergency Services Air Force Manpower Standard was published after a four-year effort. The new AFMS computes FES core firefighter requirements during the weekdays using a full FES capability while lowering the level on weekends to align with risk management philosophy. (The AFMS is a methodology to compute requirements, not dictate how to man operations.)

The CE transformation fire vehicle recapitalization initiative continued to be a success story. The first 90 rapid intervention vehicles were delivered and an additional 114 were placed on contract for purchase. As a result of this initiative, FES has reduced the average age of the fleet from 22 years to 17.2 years, the fleet value from \$840M to \$675M and the recapitalization rate from 33.6 to 20.2 years, saving over \$183M.

The emergency medical services initiative continues to progress. Air Force delivery protocols and standardized equipment lists have been developed. The memorandum of understanding detailing EMS delivery has been signed by the Air Force Civil Engineer and the Surgeon General.

In partnership with AETC, an effort to correct the issue of “anytime, anywhere” access to the Advanced Distributed Learning System was initiated. Work has begun to move 35 fire certification courses along with five total force courses to an OPM site which can be accessed from any domain. This effort is the test for the Air Force’s next-generation ADLS.

Senior leaders approved the acquisition sourcing strategy for the procurement of firefighter personal protective ensembles

and advanced inspection and cleaning services across the enterprise. The 771st Enterprise Sourcing Group will use PPE specifications that were developed by applying the requirements from the enterprise risk assessment.



CMSSgt Kevin Matlock
3E7X1 Career Field Manager



3E8X1

EXPLOSIVE ORDNANCE DISPOSAL

The EOD Preliminary Course has increased throughput by 33 percent (358 in fiscal 2012 and 534 in fiscal 2013), resulting in 100 percent utilization of Air Force seat allocations at the Naval School EOD. At the same time, the NAVSCOLEOD apprentice course attrition was driven down to about 20 percent, an all-time low that put Air Force production above force sustainment level.

Air Force EOD was short notice tasked for Afghanistan Village Stability mission in support of Special Operations Forces. This effort conveyed innovative new training, equipping and operations posturing solutions for the career field. AFCEC/CXD established new training programs incorporating operating detachment-alpha resources and establishment of a five-week

SOF EOD course in partnership with the Army and Joint IED Defeat Organization.

The EOD program has surpassed the break-even point with the equipment management facility at Hill AFB, Utah, and is already “making money” for the Air Force’s Civil Engineering EOD program. The EOD reconstitution contract investment from July 2011 through December 2015 is \$9.3M, which includes all labor, facilities, consumables, travel, shipping and other direct costs. The total payback in savings and cost avoidance as of September 2013 was \$27.6M, including a \$10M reutilization of EOD specialized equipment.

CMSSgt James Brewster
3E8X1 Career Field Manager



3E9X1

EMERGENCY MANAGEMENT

The career field is working with their expeditionary engineering colleagues to transform equipment UTCs into packages that are better suited and staged to meet mission requirements. EM also launched a handy training tool to help flights manage their in-house training program, and a BE READY smartphone application to help individuals, families and communities prepare for emergencies. You can download the app and get valuable information at www.BeReady.af.mil.

The schoolhouse at Fort Leonard Wood hosted 16 apprentice, eight craftsman, and two flight officer courses. They also helped save the Air Force \$285,000 in training dollars by conducting four CBRN (chemical, biological, radiological, and nuclear) cell mobile training team courses for 42 Airmen.

In 2013, EM provided formal training and certification to 308 Emergency Managers, 21 Readiness and Emergency Management flight officers and 175 DOD HAZMAT technicians. The Air Force Certified Emergency Management Program is surging along, and to date, has issued certifications to 14 all hazards responders (Level I), four associate emergency managers (Level II); and seven certified emergency managers (Level III).

The government shutdown situation caused cancellation of AETC-provided courses, which resulted in an increase to the list of EM Airmen requiring professional development training.



CMSSgt Claudette Watler-Hall
3E9X1 Career Field Manager

CEs are among 2013 OUTSTANDING AIRMEN OF THE YEAR



TSgt Joshua L. Hanna
36 CES, Andersen AFB, Guam

Tech. Sgt. Joshua Hanna, an Explosive Ordnance Disposal journeyman with the 36th Civil Engineer Squadron deployed supporting Operation ENDURING FREEDOM where he executed 151 joint combat missions in Kandahar. He led robot operations for 65 IED responses, ensured freedom of movement in a 24-kilometer area for Soldiers working reconstruction projects in Kandahar and supported 23 Army dismount operations. Hanna used his expertise to train 347 coalition forces on IED search techniques and mentor 10 Afghan technicians to prepare Afghanistan for an increased security role. On being named PACAF's Airman of the Year, Hanna said, "I had a lot of support from everyone in my flight and my squadron.... To look at this award and say it is something that 'I' achieved would be a lie."



Master Sgt. Andre S. Davis
203 RHS, Joint Base Langley-Eustis, Va.

As his unit's education training manager, Master Sgt. Andre S. Davis directly bolstered the experience and education of Airmen through training and education initiatives. He facilitated 228 career development course examinations and conducted 65 professional military education tests for joint service officers. He designed a training process that streamlined skill-level upgrades. He acted as a career and education advisor, mentoring 30 junior enlisted Airmen on education opportunities. He also coordinated college enrollment for 20 Airmen, adding 30 courses and nine degrees to his team's accomplishments. In an interview after winning the Guard SNCO of the Year, Davis said that he keeps airmen motivated by "finding out what personal reasons they had for enlisting and reminding them of the goals they have set for themselves."

CEs featured in PORTRAITS IN COURAGE

In 2005, then Airman 1st Class Ronnie "Bo" Brickey appeared on the front cover of the CE Magazine (Vol. 13, No. 2) as an Explosive Ordnance Disposal apprentice with the 48 CES at RAF Lakenheath. Now the force protection branch NCOIC for the Air Force Special Operations School at Hurlburt Field, Fla., Master Sgt. Brickey is one of six Civil Engineering Airmen featured in the most

recent edition of Portraits in Courage, Volume 8. According to his "portrait," Brickey is only the fifth Airman in Air Force History to receive five or more Bronze Star Medals.

His story and those of five other EOD professionals — Master Sgt. Andrew Adrian, Tech. Sgt. Jarrod Mills, Staff Sgt. Mark Hajduk, Staff Sgt. Nicole Nellist and Staff Sgt. Garrett Amorose — join with the stories of 16 other Airmen to illustrate "what it truly means to serve." You can read them at <http://static.dma.mil/usaf/courage/>



Master Sgt. Ronnie Brickey (right) poses with his mentor, Chief Master Sgt. James Brewster, the EOD Career Field Manager, following the presentation of his fifth Bronze Star Medal at Hurlburt Field, Fla.



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* These numbers will change in March 2014. Please contact the AFCEC Reach-back Center at 888-232-3721 (toll-free) or 523-6995 (DSN) for updated numbers.

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126 CES	ANG	30	186 CES	ANG	30	434 CES	AFRC	22	82 CES	AETC	16
127 CES	ANG	30	187 CES	ANG	30	435 CTS	USAFE	34	820 RHS	ACC	14
128 CES	ANG	30	188 CES	ANG	30	436 CES	AMC	28	821 SPTS/CE	AFSPC	26
129 CES	ANG	30	188 RHTC	ANG	30	439 CES	AFRC	22	822 CEF	AFRC	22
130 CES	ANG	30	189 CES	ANG	30	442 CES	AFRC	22	823 RHS	ACC	14
131 CES	ANG	30	19 CES	AMC	28	445 CES	AFRC	22	86 CEGS	USAFE	34
132 CES	ANG	30	190 CES	ANG	30	446 CES	AFRC	22	87 CES	AMC	28
133 CES	ANG	30	192 MSG	ANG	30	45 CES	AFSPC	26	88 ABW/CE	AFMC	20
134 CES	ANG	30	193 SOCES	ANG	30	452 CES	AFRC	22	9 CES	ACC	14
136 CES	ANG	30	2 CES	AFGSC	18	459 CES	AFRC	22	90 CES	AFGSC	18
137 CES	ANG	30	20 CES	ACC	14	460 CES	AFSPC	26	908 CES	AFRC	22
138 CES	ANG	30	200 RHS	ANG	30	47 CES	AETC	16	910 CES	AFRC	22
139 CES	ANG	30	200 RHS Det 1	ANG	30	477 CES	AFRC	22	911 CES	AFRC	22
14 CES	AETC	16	201 RHS A	NG	30	48 CES	USAFE	34	914 CE	AFRC	22
140 CES	ANG	30	201 RHS Det1	ANG	30	482 CES	AFRC	22	916 CEF	AFRC	22
141 CES	ANG	30	202 RHS	ANG	30	49 CES	ACC	14	919 CES	AFRC	22
142 CES	ANG	30	203 RHS	ANG	30	49 MMS	ACC	14	92 CES	AMC	28
143 CES	ANG	30	209 CES	ANG	30	496 ABS	USAFE	34	922 CEF	AFRC	22
144 CES	ANG	30	21 CES	AFSPC	26	5 CES	AFGSC	18	926 CEF	AFRC	22
145 CES	ANG	30	210 RHS	ANG	30	50 CES	AFSPC	26	931 CES	AFRC	22
145 RTS	ANG	30	219 RHS	ANG	30	502 CES	AETC	16	932 CES	AFRC	22
146 CES	ANG	30	22 CES	AMC	28	507 CES	AFRC	22	934 CES	AFRC	22
147 CES	ANG	30	23 CES	ACC	14	509 CES	AFGSC	18	94 CES	AFRC	22
148 CES	ANG	30	231 CEF S-Team	ANG	30	51 CES	PACAF	32	940 CEF	AFRC	22
149 CES	ANG	30	235 CEF S-Team	ANG	30	512 CES	AFRC	22	944 CES	AFRC	22
150 CES	ANG	30	240 CEF S-Team	ANG	30	514 CES	AFRC	22	96 CEG	AFMC	20
151 CES	ANG	30	245 CEF S-Team	ANG	30	52 CES	USAFE	34	97 CES	AETC	16
152 CES	ANG	30	248 CEF S-Team	ANG	30	55 CES	ACC	14	99 CES	ACC	14
153 CES	ANG	30	254 RHS	ANG	30	554 RHS	PACAF	32	AEDC/TSDC	AFMC	20
154 CES	ANG	30	27 SOCES	AFSOC	24	554 RHS, Det 1	PACAF	32	CRTC GA	ANG	30
155 CES	ANG	30	28 CES	ACC	14	555 RHS	AFRC	22	CRTC MI	ANG	30
156 CES	ANG	30	285 CES	ANG	30	556 RHS	AFRC	22	CRTC MS	ANG	30
157 CES	ANG	30	30 CES	AFSPC	26	56 CES	AETC	16	CRTC WI	ANG	30
158 CES	ANG	30	301 CES	AFRC	22	560 RHS	AFRC	22	REOTS	ANG	30

CE Portal – the first stop for all things Civil Engineering
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CE FLICKR & CE YouTube – CEs in action, and in motion
<http://www.flickr.com/photos/airforcece/>
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AFCEC Reach-Back Center – technical engineering support and questions
 DSN: 312-523-6995; Comm: 850-283-6995; toll-free: 888-232-3721
 Email: Afcec.rbc@tyndall.af.mil

AFCEC PA – general engineering support and information
 DSN: 969-8008; Comm: 210-395-8008
 Email: Afcec.pa@us.af.mil
 URL: <http://www.afcec.af.mil>

E-Dash – environmental and sustainability guidance, tools and answers
 URL: <https://cs1.eis.af.mil/sites/edash/SitePages/Home.aspx>

AFCEC Technical Information Center - research and reference assistance for the CE community
 DSN: 312-523-6285 / 6138; Comm: 850-283-6285/6138
 Email: tic@tyndall.af.mil

Basic Expeditionary Airfield Resources (BEAR) – mission-ready equipment for global reach and power
 Contact: 49th Materiel Maintenance Group BEAR Reach-back
 DSN: 312-572-5015
 Email: 49.MMG.Operations.Center@holloman.af.mil

AFCAP – rapid response contingency contract tool
 DSN: 523-6216; Comm: 850-283-6216
 24/7 Reach-back: DSN 523-6995; Comm: 850-283-6995

AFIT – CE educational opportunities and class schedules
 The Civil Engineer School
 DSN: 785-5654; Comm: 937-255-5654
 URL: <http://www.aftit.edu/cess/>

Graduate School of Engineering & Management
 DSN: 785-3636; Comm: 937-255-3636
 Email: CESS@aftit.edu
 URL: <http://www.aftit.edu/en/>

Force Development – online resources
For Everyone:
 MyPers: https://gum-crm.csd.disa.mil/app/answers/detail/a_id/13759/kw/32e/p/8%2C9

For Officers:
 MilBook: <https://www.milsuite.mil/book/groups/32e-oat-ce-assignments>

For Enlisted:
 AFSC Sharepoint: <https://cs3.eis.af.mil/sites/OO-EN-CE-A6/24048/default.aspx>
<http://www.facebook.com/AirForceEM>

For Civilians:
 CE Career Field Sharepoint: <https://cs3.eis.af.mil/sites/OO-MS-AF-25>

