

CE CAREER FIELD

CMSgt Paul Legg
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AFCEC's Force Development Division is responsible for training approximately 32,000 Civil Engineer enlisted active duty, Guard and Reserve personnel in 12 Air Force specialty codes. Experts in each of the AFSCs, known as force development managers, work with career field managers in the 3E7X1, 3E8X1 and 3E9X1 and the Air Reserve Component as well as career field representatives at the MAJCOMs, Air Staff and Air Force Personnel Center to provide guidance and civil engineer classification.

The FDMs develop career field education and training plans, or CFETPs, and manage over 270 web-based courses on the Advanced Distributed Learning Service and the Civil Engineer Virtual Learning Center sites. Over the past year, the FDMs have conducted five specialty training requirements team workshops, for the 3E0X1, 3E0X2, 3E3X1, 3E4X1 and 3E5X1 AFSCs. At the STRT workshops, they and MAJCOM representatives performed a top-to-bottom review of training requirements in three areas: initial skills, supplemental and upgrade. They recommended deleting, adding and updating numerous training items to ensure specialty training remains relevant to home station and deployed site requirements. Additionally, the 3E2X1, 3E3X1, 3E8X1 and 3E9X1 AFSCs held utilization and training workshops to approve recommendations from their 2012 STRT workshops. The subsequent actions of the workshops will also lead to new career development courses, CFETPs and qualification training packages for each of the career fields mentioned. The following pages provide specific information regarding the current status of the enlisted CE career fields. Points of contact are listed for each AFSC and they can be reached through AFCEC's Reachback Center (1-888-232-3721 or DSN 312-523-6995; AFCEC.RBC@us.af.mil). Up-to-date information and guidance for individual AFSCs can be found on the CE Force Development SharePoint <https://cs3.eis.af.mil/sites/OO-EN-CE-A6/24048/default.aspx>. Please take advantage of these resources.

UPDATE

CMSgt Trevor Shattuck
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2013 was an eventful year for the Air Force Reserve Command Civil Engineer training community. The 622th Civil Engineer Group Expeditionary Combat Support Training Certification Center, along with the Air National Guard Regional Equipment Operators Training School conducted a beta tractor trailer training, or 3T, course. This is an initiative to train Air Force CE tractor trailer operators to the same standard as their civilian counterparts. The 3T course addresses recommendations from the Commercial Driver's License Program Review, which was conducted by a taskforce convened by the U.S. Secretary of Transportation. The 3T course is built on the practical skills training platforms required by the Federal Motor Carriers Safety Administration, as well as training standards required by the Professional Truck Driver Institute for Commercial Driver's License training. The AFCEC 3T Integrated Process Team will meet in October 2014 to finalize tractor trailer training course specifics, exactly one year to the month after President Obama signed into Law the Military CDL Act. Contact ECS-TCC or REOTS for a schedule of fiscal course offerings.

During fiscal 2013, the ECS-TCC hosted a pre-deployment Class IV Material Acquisition Course that ensures all Logistics UTC Total Force warfighters hard tasked to deploy in fiscal 2014 receive the right training at the right time. Class IV MAC instruction includes training in Air Force and Army Acquisition processes. With assistance from the subject matter expert from the 4th Civil Engineer Squadron, Seymour Johnson AFB, N.C., the ECS-TCC team was able to deliver line item required training to deploying active duty, Guard and Reserve CEs.

As evident with all CE enlisted AFSCs, AFCEC's Force Development Branch is committed to keeping Total Force skills training in par with industry standards and to delivering quality and timely training for war time skillsets. Keeping with tradition, the Air Reserve Components will continue to deliver with superb results in fiscal 2014.





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.



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3E9X1 Career Field Manager