Enlisted ...
Air Force Civil Engineers

CMSgt Ron Kruse
March 2011
We are the “Weapon of Choice”

- 8 of CE’s enlisted AFSCs are on the Air Force most stressed list
  - EOD, Pave/Equip, EAs, Ops Mgt, Elect, HVAC, Struc, WFSM
  - 11 of the 12 CE AFSCs receive re-enlistment bonus

- Insatiable appetite for CE Enlisted Engineers in the AORs
  - Created Prime BEEF Groups/Squadrons to help curb it...

- Let’s review the training it takes to be a Civil Engineer Airman..

- Proud to be ... CE!
3E0X1 – Electrical Systems

- Performs operations, maintenance and repair on electrical power distribution systems, and electrical power generating and control systems activities, including overhead and underground distribution systems, fire alarms and airfield lighting systems.

- Coordinates electrical power outages, maintenance, and repair requirements; prepares cost estimates for in-service work.

- Inspects and evaluates electrical systems and power production activities to ensure compliance with policies and regulations.
3E0X1 (Electrical Systems)
Training Pipeline

Today’s Training Pipeline for Award of AFSC

BMT
Lackland AFB

5 Days

3E031 AFSC Course
99 Days
Sheppard AFB

3-LEVEL AWARDED

PCS 1ST DUTY

Tech Training Days: 99

Total Days in Pipeline (including days between courses): 104

Today’s Available Supplemental/Advanced Courses

- Electrical Distribution Systems Maintenance
  20 Days
  Sheppard AFB

- Bare Base Electrical Systems
  10 Days
  Sheppard AFB

- Cable Testing & Splicing
  5 Days
  Sheppard AFB

- Electrical Systems Craftsman
  10 Days
  Sheppard AFB

- Cathodic Protection Maintenance
  10 Days
  Sheppard AFB

- Airfield Lighting Sys
  5 Days
  Sheppard AFB

- CE Advanced Electrical Troubleshooting
  20 Days
  Sheppard AFB

- Lightning Protection For Air Force Facilities (AMMO-47-OS)
  4 Days
  Sheppard
3E0X2 – Power Production

• Maintains, modifies, repairs, installs, removes and operates electrical power generating and control systems, automatic transfer switches, aircraft arresting systems and associated equipment.

• Reviews and advises on projects associated with electrical power generating and control systems, automatic transfer switches, aircraft arresting systems, and associated equipment.
3E0X2
(Electrical Power Production)
Training Pipeline

Today’s Training Pipeline for Award of AFSC

BMT
Lackland AFB

5 Days

3E032 AFSC Course
55 Days
Sheppard AFB

3-LEVEL
AWARDED

Tech Training
Days: 55

Total Days in Pipeline (including days between courses): 60

Today’s Available Supplemental/Advanced Courses

Troubleshooting Elec Power Gen Equipment
16 Days
Sheppard AFB

Bare Base Power Generation (Diesel)
19 Days
Sheppard AFB

Aircraft Arresting Barriers,
BAK-12
3 Days
MTT

Hook Cable Support System, BAK-14
3 Days
MTT

Mobile Aircraft Arresting System (MAAS)
8 Days
MTT

Power Generation Planning, Operations And Maintenance
10 Days
Sheppard AFB
March 1953

The Air Force began testing its first aircraft arresting system at Johnson Air Base, Japan. The first system was the MA/1A, a version of the Davis barrier used on aircraft carriers. An aircraft would engage the barrier which was connected to heavy anchor chains laid along both sides of the runway to decelerate the aircraft. Barriers were soon installed at several Korean bases, saving two F-84s at Taegu in the first two days. The systems saved so many aircraft in Korea that the Air Force adopted them for use at its fighter bases worldwide.
3E1X1 – Heating, Ventilation, Air Conditioning, and Refrigeration

• Installs, operates, maintains, and repairs heating, ventilation, air conditioning and refrigeration (HVAC/R) systems, combustion equipment, and industrial air compressors.

• Maintains and repairs non-electric kitchen equipment.
3E1X1 (HVAC/R) Training Pipeline

Today’s Training Pipeline for Award of AFSC

BMT Lackland AFB

3E131 AFSC Course

99 Days
Sheppard AFB

Tech Training
Days: 99

Total Days in Pipeline (including days between courses): 104

Today’s Available Supplemental/Advanced Courses

HVAC/R Craftsman
10 Days
Sheppard AFB

HVAC/R Control Systems
25 Days
Sheppard AFB

HVAC/R Indirect Expansion systems
14 Days
Sheppard AFB

HVAC/R Direct Expansion Systems
23 Days
Sheppard AFB

= USAF School
= Joint School
= ITRO School
= Other School
3E2X1 – Pavements and Construction Equipment

- Constructs and maintains concrete and asphalt runways, aircraft parking aprons, and roads. Operates and maintains heavy construction equipment, such as loaders, graders, dozers, backhoes, and dump trucks.

- Operates tractor-trailer combinations, transporting construction equipment, and materials.
3E2X1 (Pavements & Construction Equipment)  
Training Pipeline

Today’s Training Pipeline for Award of AFSC

BMT  
Lackland AFB  
5 Days

3E231 AFSC Course  
21 Days  
Ft Leonard Wood

3E231 AFSC Course  
48 Days  
Ft Leonard Wood

Tech Training  
Days: 69

Total Days in Pipeline (including days between courses): 74

Today’s Available Supplemental/Advanced Courses

Sling Load Inspector  
Certification (860-F4)  
5 Days  
Ft Lee, VA

Pave Maint, Inspect and Repair  
10 Days  
MTT
3E3X1 – Structural

- Manages, constructs, repairs, and modifies structural systems and wooden, masonry, metal and concrete buildings. Fabricates and repairs components of buildings, utility systems and real property equipment.
3E3X1 (Structures) Training Pipeline

Today’s Training Pipeline for Award of AFSC

BMT Lackland AFB

3E331 AFSC Course 42 Days Gulfport

3E331 AFSC Course 34 Days Gulfport

3E331 AFSC Course 14 Days Gulfport

Tech Training Days: 90

Total Days in Pipeline (including days between courses): 95

Today’s Available Supplemental/Advanced Courses

- Roof Installation, Maint, Inspection and Repair 9 Days Gulfport
- Metals Layout and Fabrication 14 Days Gulfport
- Structural Contingency 10 Days Holloman AFB, NM
- BEAR Base Structures Erection 4 Days MTT
3E4X1 - Water & Fuel Systems Maintenance

• Installs, inspects, maintains, troubleshoots, modifies, repairs and manages plumbing, water distribution, wastewater collection systems, water and wastewater treatment systems, fire suppression, backflow prevention systems, natural gas distribution systems and liquid fuel storage, distribution and dispensing systems.

• Complies with environmental and safety regulations.
Today’s Training Pipeline for Award of AFSC

BMT
Lackland AFB

5 Days

3E431 AFSC Course
86 Days
Sheppard AFB

3-LEVEL AWARDED

Tech Training
Days: 86

Total Days in Pipeline (including days between courses): 91

Today’s Available Supplemental/Advanced Courses

FIRE SUPPRESSION
SYS MAINT
15 Days
Sheppard AFB

BARE BASE Water
Purification, Distribution
8 Days
Sheppard AFB

Backflow Prvtn
Devices Testing
4 Days
MTT

Liquid Fuels
Storage Tank Entry Super
(9 Days)
Sheppard AFB

TENTATIVE
Liquid Fuels
Maint Tech
10 Days
Sheppard AFB
3E4X3 - Pest Management

- Manages, evaluates, and executes pest management techniques and associated pest management environmental compliance.
3E4X3 (Pest Management) Training Pipeline

Today’s Training Pipeline for Award of AFSC

BMT
Lackland AFB

3E433 AFSC Course
33 Days
Sheppard AFB

Tech Training
Days: 33

Total Days in Pipeline (including days between courses): 38

Today’s Available Supplemental/Advanced Courses

Pest Management Recertification
5 Days
Sheppard AFB

Operational Entomology (Pest Mgmt Craftsman)
10 Days
Brooks City Base

Pest Management Recertification
5 Days
MTT

DoD Pest Management Recert (6H-F13/322-F13)
5 Days
Fort Sam Houston
1 Jul 1975

The Bird Aircraft Strike Hazard (BASH) function transferred from the Air Force Weapons Laboratory to the Air Force Civil Engineering Center, Tyndall AFB.
3E5X1 - Engineering

• Directs and performs civil engineering design, drafting, surveying and contract surveillance to support Air Force facility construction and maintenance programs.


• Utilizes surveying technology to include Global Positioning System (GPS).

• Evaluates potential construction sites and performs field tests on soils, asphalt and concrete.
3E5X1 (Engineering) Training Pipeline

Today’s Training Pipeline for Award of AFSC

BMT
Lackland AFB

3E531 AFSC Course
54 Days
Ft Leonard Wood

3E531 AFSC Course
17 Days
Ft Leonard Wood

Tech Training Days: 71

Total Days in Pipeline (including days between courses): 76

Today’s Available Supplemental/Advanced Courses

Contract Construction Inspector
10 Days
MTT

Engineering Craftsman
10 Days
Ft Leonard Wood

Construction Surveying
10 Days
Ft Leonard Wood

Advanced Geographic Information System
10 Days
Ft Leonard Wood
December 1986

McClellan AFB, California, awarded the first Air Force SABER (Simplified Acquisition of Base Engineering Requirements) contract. By the summer of 1989 more than $30M of work had been accomplished by 23 bases with SABER contracts, and 37 additional bases were working on acquiring SABER.
3E6X1 – Operations Management

• Responsible for activating and managing Civil Engineer (CE) command and control centers during peacetime, wartime, and contingency operations.

• Processes and controls work requirements in contingency, wartime, and peacetime situations for work performed by CE work forces.

• Maintains accountability of resources.
Today’s Training Pipeline for Award of AFSC

BMT
Lackland AFB

5 Days

3E631 AFSC Course
28 Days
Sheppard AFB

3-LEVEL AWARDED

Tech Training
Days: 28

Total Days in Pipeline (including days between courses): 33

Today’s Available Supplemental/Advanced Courses

CE Work Estimating
15 Days
Sheppard AFB

Course for All CE AFSCs
3E7X1 – Fire & Emergency Services

• Hazardous Materials
• Structural Fire Fighting
• Aircraft Rescue & Fire Fighting

Goodfellow AFB, San Angelo, TX
3E7X1 (Fire Protection) Training Pipeline (Slide 1 of 2)

Today’s Training Pipeline for Award of AFSC

BMT Lackland AFB → 3E731 AFSC Course 68 Days Goodfellow AFB

Tech Training Days: 68

Total Days in Pipeline (including days between courses): 73

Today’s Available Supplemental/Advanced Courses

- Fire Inspector I 10 Days Goodfellow AFB/MTT
- Fire Inspector II 10 Days Goodfellow AFB/MTT
- Fire Inspector I 10 Days Goodfellow AFB
- Fire Inspector II 10 Days Goodfellow AFB

NEXT SLIDE (On this AFSC)
Today’s Available Supplemental/Advanced Courses

Fire Inspector III
10 Days
Goodfellow AFB

Fire Officer II
12 Days
Goodfellow AFB/MTT

Fire Officer III
10 Days
Goodfellow AFB/MTT

Fire Officer IV
10 Days
Goodfellow AFB

Rescue Technician II
15 Days
Goodfellow AFB

HazMat/WMD
18 Days
Goodfellow AFB

Fire Instructor III/
Training Officer
5 Days
Goodfellow AFB

Rescue Technician I
15 Days
Goodfellow AFB/MTT

HazMaT Technician
8 Days
Goodfellow AFB/MTT

Rescue Technician I
15 Days
Goodfellow AFB

Fire Officer II
12 Days
Goodfellow AFB

Fire Officer III
10 Days
Goodfellow AFB

Fire Officer IV
10 Days
Goodfellow AFB
Hazardous Materials Training

HAZMAT Awareness

HAZMAT Operations
Structural Fire Fighting
Aircraft Rescue & Fire Fighting
1 Jul 1977
HQ USAF Fire Protection functional responsibility was transferred to the AF Civil Engineering Center at Tyndall AFB.
3E8X1 – Explosive Ordnance Disposal

• Performs, supervises, and manages explosive ordnance disposal (EOD) operations.

• Locates, identifies, disarms, neutralizes, recovers, and disposes of hazardous explosives; conventional, chemical, biological, incendiary, and nuclear ordnance; and criminal or terrorist devices.
3E8X1 Explosive Ordnance Disposal (EOD) Training Pipeline

Total Days in Pipeline (including days between courses): 168

Today’s Training Pipeline for Award of AFSC

BMT
Lackland AFB

5 Days

3E831 AFSC Course
6 Days
Lackland AFB

5 Days

3E831 AFSC Course
143 Days
Eglin AFB

Tech Training
Days: 158

Total Days in Pipeline (including days between courses): 168

Today’s Available Supplemental/Advanced Courses

EOD Craftsman
10 Days
Eglin AFB

Advanced Improvised Explosive Device Disablement
15 Days
Eglin AFB

Joint Nuclear EOD (JNEOD)
5 Days
Kirtland AFB
Improvised Explosive Devices (IEDs)

- Ingenuity of Builder
- Target First Responders
- Secondary Devices
“INITIAL SUCCESS OR TOTAL FAILURE”
3E9X1 – Emergency Management

• Monitors Prime BEEF, air base operability, hazardous materials emergency response, emergency management programs and conducts associated training.

• Conducts CBRN & conventional detection, identification, monitoring, sampling, individual protection determination, decontamination, warning and reporting activities.

• Prepares for peacetime response to terrorist use of chemical, biological, radiological, nuclear and high yield explosive (CBRNE) weapons.
3E9X1 (Emergency Management) Training Pipeline

Today’s Training Pipeline for Award of AFSC

- BMT Lackland AFB
- 3E931 AFSC Course
  - 67 Days
  - Ft Leonard Wood
- 3-LEVEL AWARDED
- PCS 1ST DUTY
- Tech Training Days: 67

Total Days in Pipeline (including days between courses): 72

Today’s Available Supplemental/Advanced Courses

- Adv Emergency Mgt
  - 5 Days
  - Ft Leonard Wood
- Emergency Mgt Craftsman
  - 10 Days
  - Ft Leonard Wood
- Chemical, Biological, Radiological, Nuclear (CBRN) Cell
  - 10 Days
  - MTT
Civil engineer crews responded to Elmendorf AFB, Alaska to assist in restoring essential services following a major earthquake in south-central Alaska that registered 8.4 on the Richter scale.

Earthquake Damage in Anchorage
Just before the Gulf War's formal cease fire took effect, Lt Gen Charles A. Horner tasked a RED HORSE-EOD team to deny Tallil and Jalibah air bases in southeastern Iraq for use by returning Iraqi forces. At Tallil, they used almost 80,000 lbs of explosives to make cuts in the runway and taxiway every 2,000 feet. At Jalibah Air Base, the engineers denied a concrete runway and two parallel asphalt taxiways, with 27 cuts (72 craters up to 40 feet wide and 12 feet deep) in the pavement. Twelve years later, US forces returned to both locations and Air Force civil engineers were living and working at Tallil (Ali Air Base).
24 March 1999

NATO began Operation ALLIED FORCE to stop the ethnic cleansing in Kosovo. Prime BEEF and RED HORSE engineers bedded down aircraft and people at bases throughout Europe. At Aviano, engineers constructed a tent city designed to house up to 4,000 troops, and resurfaced six F-16 parking pads. Battling mud at Tirana, 820th and 823rd RED HORSE engineers replaced a failing C-17 operations ramp and built a new 987-foot concrete taxiway. Overall, engineers supported Air Force personnel as they deployed to 21 expeditionary bases that generated 38,000 sorties.
The Best Trained Civil Engineers In the World!!!