



ANNEX 3-34 ENGINEER OPERATIONS

PRIME BEEF

Last Updated: 30 December 2014

Prime Base Emergency Engineer Forces (BEEF) consists of total force personnel assigned to home-station civil engineer organizations. During contingencies, civil engineers transition to an expeditionary mode as members of Prime BEEF teams. These teams are capable of rapidly responding worldwide to provide the full range of engineering expertise and emergency services needed to establish, sustain, and recover bases for employing Air Force weapon systems or supporting joint, interagency, or multinational operations.

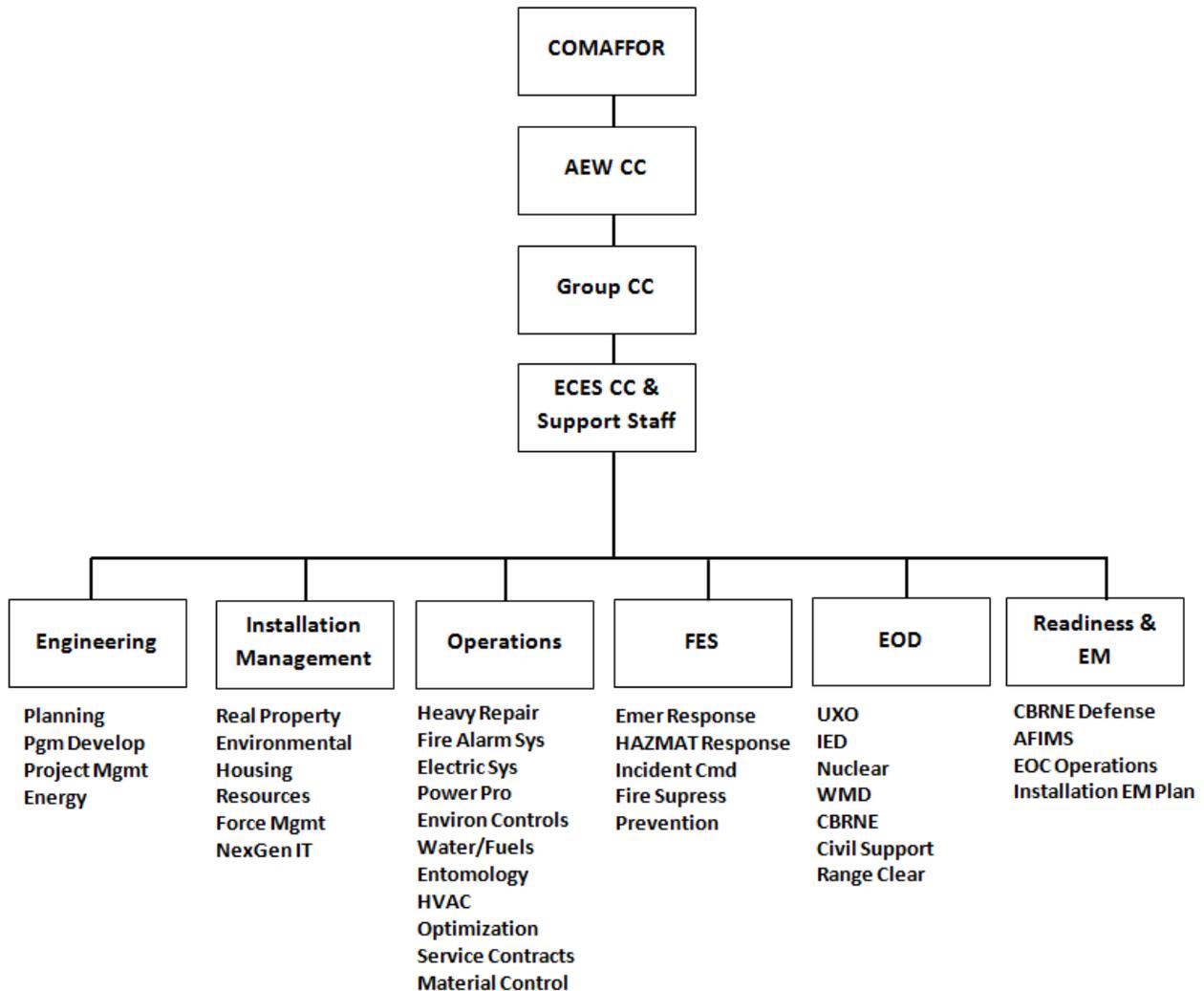
The core competencies of Prime BEEF are *expeditionary engineering* and *emergency services*. Expeditionary engineering involves general engineering and geospatial engineering activities that Prime BEEF teams perform in an expeditionary environment to beddown and sustain forces. Some activities are: establish expeditionary bases, modify terrain, repair or construct force protection sites, and implement environmental protection measures. Emergency services include fire emergency services (FES), explosive ordnance disposal (EOD), and emergency management (EM) activities.

Expeditionary Engineering

Expeditionary engineering focuses on force beddown, facilities and utilities construction repair, modification, maintenance, and operation. Forces provide expertise in facilities engineering and management, water purification, operation and maintenance of mobile or fixed aircraft arresting systems, airfield lighting, heavy equipment operations, road repair and construction, force protection design and construction, etc. The figure, Notional Template of an Expeditionary Civil Engineer Squadron, depicts a notional template of an expeditionary civil engineer squadron with elements such as Engineering, Installation Management, Operations, FES, EM and EOD. The commander determines which capabilities are needed to support the mission to achieve maximum effectiveness and efficiency.

Prime BEEF teams perform light horizontal and vertical construction; are capable of erecting specialized structures such as aircraft shelters, dome shelters, and clam shells with augmentation. They provide pest management and environmental management services and overall bare base master planning, design, and contract support. Additionally teams provide emergency services capabilities such as EM; hazardous materials (HAZMAT) response; firefighting; unexploded ordnance (UXO) safing and removal defeat of improvised explosive devices (IEDs), weapons of mass destruction (WMD), and chemical, biological, radiological, and nuclear (CBRN) threats; and conduct base recovery after attack, to include airfield damage repair and repairs to facilities or infrastructure systems. Prime BEEF personnel deploy as part of an air expeditionary task

force ([AETF](#)) to establish and maintain joint bases, main operating bases, forward operating bases, and combat outposts throughout the operational area.



Notional Template of an Expeditionary Civil Engineer Squadron

(IAW/HQ USAF Program Action Directive 12-03, *Implementation of Enterprise-Wide Engineer Transformation*, home station support)

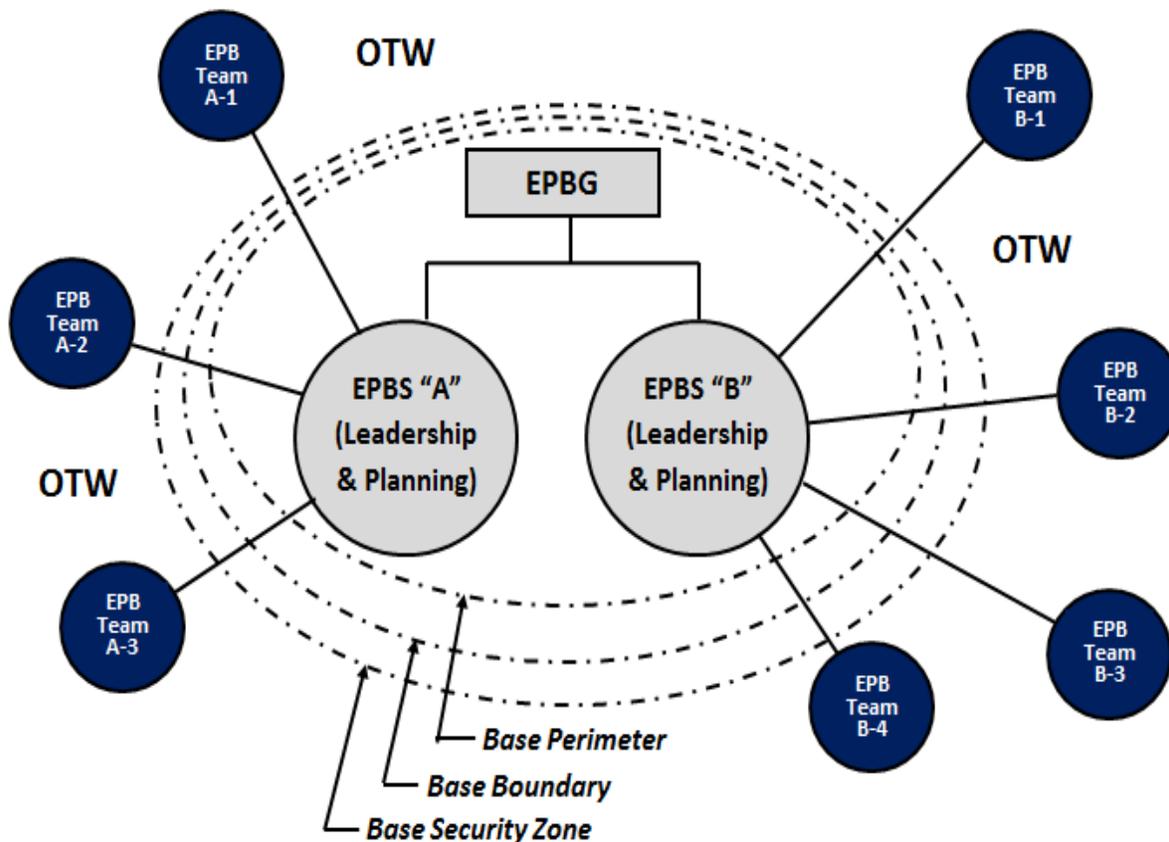
Prime BEEF teams can be formed into an expeditionary civil engineer organization to sustain bases as they transition from short-term bases with initial standards of construction to more enduring bases with temporary or permanent infrastructure. The expeditionary civil engineer organization would provide installations support. This capability focuses on managing real property, facilities, and infrastructure on US or enduring bases in geographic combatant commands outside the US while providing protection, safety, security, and sustainability for personnel and mission critical assets.

The expeditionary civil engineer organization would also provide a housing management program to include family housing, unaccompanied housing, and privatized housing. Prime BEEF teams would provide facility support to contingency quarters/dormitories in support of forward/contingency operating locations or short-term bases. For permanent party members and their families at US or enduring bases in geographic combatant commands outside the US, the home station engineer organization will manage General Officer homes, leased, referral and relocation services, and the furnishings management program.

Prime BEEF personnel provide specialized capabilities formed to focus on specific areas. These capabilities include staff augmentation teams capable of providing engineer command and control (C2); civil engineer operational planning; technical design; advanced construction management; and intermediate and depot-level repair support for power generation, electrical distribution, and aircraft arresting systems. Specialized teams also provide technical support for heating, ventilation, and air conditioning (HVAC) systems and electronic industrial controls and monitoring systems for infrastructure elements. Engineers also maintain airfield pavement evaluation teams capable of performing structural evaluations of airfields to determine suitability for aircraft operations including different types of aircraft and number of takeoffs and landings airfields can support.

To support operations beyond the perimeter of a forward base (i.e., operations “outside the wire”), expeditionary Prime BEEF squadrons (EPBS) can organize in a Hub-and-Spoke configuration and report directly to an expeditionary Prime BEEF group (EPBG) commander, or expeditionary Civil Engineer group (ECEG) commander if a RED HORSE squadron(s) is attached. With the ‘Hub-and-Spoke’ concept, each EPBS has its leadership and planning function in a hub located at an airfield and the work elements at spoke locations as required. Convoy operations between the hub and the spoke location(s) are provided by Army forces for EPBGs and potentially by RED HORSE forces for ECEGs in low to moderate threat areas. Work at the spoke location(s) will not be provided by CE forces unless adequate security is provided. The EPBG structure with assigned EPBS(s) and the ECEG structure with assigned EPBS(s) and RED HORSE squadron(s) provide unity of command, theater-wide integration of engineer forces, and effective use of limited resources. EPBS capabilities include base master planning; programming; technical design; contract development and oversight; and light troop construction and repair of expeditionary bases, facilities, utilities, and force beddown. Excluded from this mission set are routine facility modification, maintenance, and operations which are the responsibility of the designated base operating support integrator (BOS-I). See Notional Expeditionary Hub-and-Spoke concepts for the EPBG and ECEG illustrations.

Notional Expeditionary Prime BEEF Group (EPBG) Hub-and-Spoke Concept



EPBG - Expeditionary Prime BEEF Group

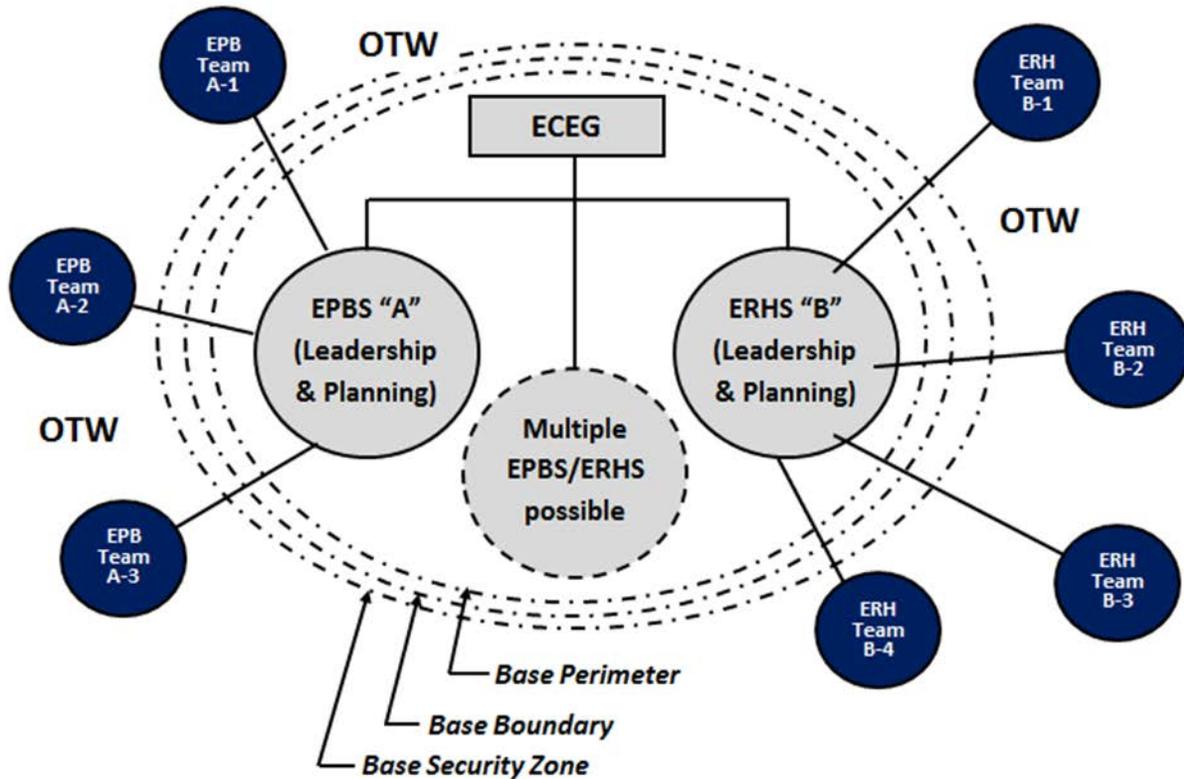
EPBS - Expeditionary Prime BEEF Squadron

EPBF - Expeditionary Prime BEEF Flight

OTW - Outside-the-Wire (outside the base security zone)

NOTE: OTW convoy operations are provided by Army forces.

Notional Expeditionary Civil Engineer Group (ECEG) Hub-and-Spoke Configuration



ECEG - Expeditionary Civil Engineer Group

EPBS - Expeditionary Prime BEEF Squadron

ERHS - Expeditionary RED HORSE Squadron

EPBF - Expeditionary Prime BEEF Flight (for duration of project)

ERHF - Expeditionary RED HORSE Flight (for duration of project)

OTW - Outside-the-Wire (outside the base security zone)

NOTE: AF CE forces may operate OTW, but should not do so until the project area is first cleared of enemy forces by the US or HN Land Forces, convoy routes are cleared of IEDs by AF or other EOD forces, and force protection of the site is established by Army, Marines, or AF Security Forces. Convoy operations are provided by RED HORSE forces during low/moderate threat conditions, and Army forces during high threat conditions.

Emergency Services

Prime BEEF personnel perform emergency services to protect the base from intentional or unintentional damage, minimize loss of life, and protect property and the environment.

Fire Emergency Services

FES provide the capability to minimize loss to lives, property, and the environment occurring throughout all phases of military operations in peacetime, wartime, and in support of homeland operations. Included are both man-made and natural incidents; fire suppression or hazard mitigation; rescue; mitigation or containment of HAZMAT releases resulting from industrial accidents, terrorism, or WMD; and emergency medical response.

FES are capabilities-based, tailored to specific missions, geographic locations, and environmental and threat conditions. FES capabilities are packaged to support a variety of scenarios that may require a single firefighting crew, multiple firefighting crews, incident command, fire prevention or management, and oversight.

Firefighters are a primary emergency response team, responsible for supporting the commander's requirement to launch and recover aircraft.

Explosive Ordnance Disposal

Air Force EOD forces are primarily postured to support airbase operations. EOD flights are ideally postured at main operating bases supporting sortie generation and force protection by eliminating explosive threats to airfield and installation operations. Priority employment is within the base boundary and in support of base security zone (BSZ) operations. EOD is also employed in missions outside the base boundary or BSZ to enable greater freedom of maneuver for air or surface operations.

EOD provides the capability to mitigate and defeat hazards presented by the enemy or friendly employment of explosive ordnance. This encompasses IED; conventional explosives such as explosive remnants of war, UXO, CBRN, WMD, homemade explosives (HME), and incendiary materials.

In many instances, Air Force EOD is a key enabler in securing the JFC's objectives in reducing UXO, WMD, HME and IED threats to enable stabilization. EOD provides expertise to protect the mission, resources, and the



During Operation IRAQI FREEDOM, after elimination of any large scale explosive threats to Air Bases, the Air Force provided five EOD flights to Combined Joint Task Force Troy. In addition, 15 weapons intelligence teams, led by EOD Airmen, operated continuously "outside the wire." EOD Airmen provided 45 percent of the joint EOD operational capability, performing over 27,200 combat missions.

environment in airfield operations, ground combat, homeland operations, support to civil authorities, and worldwide contingencies. Successful joint operations will likely require proper use of Air Force EOD assets throughout all phases of a joint campaign. In OEF and OIF, the Services found no single Service could provide an EOD force for the monumental effort between the “Dominate” and “Enable Civil Authority” phases. We anticipate future scenarios will likely have similar demands.

Emergency Management

The primary mission focus of EM is to save lives; minimize the loss or degradation of resources; and continue, sustain, and restore operational capability in an all-hazards physical threat environment at Air Force installations worldwide. The protection of Air Force personnel and resources on Air Force installations is essential to ensure successful Air Force operations. The Air Force EM program addresses activities across the full spectrum of physical threats at home station or expeditionary locations. These physical threats may occur at any time, with or without prior warning. EM supports protection of personnel and resources through integration of installation preparedness, response, and [recovery](#) programs aimed at reducing the impact of these events on the installation, prepares for risks that cannot be eliminated, and prescribes actions required to deal with consequences of actual events and speeds recovery from those events using the Air Force Incident Management System (AFIMS).

EM Program planning and response is based on the EM wartime mission and AFIMS. EM personnel provide CBRN defense, and support FES when requested in HAZMAT detection, identification, sampling, and evidence collection capabilities to support theater and installation attack CBRN/HAZMAT defense operations.

EM personnel are responsible to manage emergency operations center and fulfill Emergency Support Function (ESF)-5, *Emergency Management*, responsibilities during contingency and home station incidents or events. Note: ESFs are modified from the National Incident Management System/National Response Framework construct to implement AFIMS. EM managers provide expertise to installation commanders who ensure there are measures to develop and implement policies, guidance, structure and responsibilities to prepare for, respond to, and recover from threats to their installation. This includes developing a resilient community and culture of preparedness through collaboration with installation agencies.
