

MAGTF ENGINEER DEFICIENCIES FROM THE 2004 ENGINEER CONFERENCE, 2-6 May 4, Little Creek, VA

MEF Command Element

Issue: Inefficiency and Effectiveness in the MEF Engineer Staff Section

- MEF Engr too junior
- Cell too small; lacks depth
- MEFs/MSCs don't match and compliment
- Split requirements between staff sections

Recommendation:

Doctrine

- Formalize Doctrine to address the Operational and logistical relationships; Higher, Adjacent, & Subordinate.
- Address the "MEG" Concept (or something like it) from USMC Doctrinal perspective.
- "Engineering" included as a Warfighting Function.
- Facilities addressed as a operational/deployed functional area ONLY

Organization. Appropriate T/O Changes to MEF & Staff T/Os

- Under one hat (exception: 1310 Engineer Equipment / Maintenance Officer under G4 Section; Civilianize the garrison facilities requirements)
- Reside in G3 Section
- At minimum includes MEF Engr-O; Asst Engr; Engr Chief; NCF LNO; Bulk liquids Off; Utilities Chief)

Materiel. C2 & ADPE assets

Leadership & Personnel

- MEF Engineer should be (06) Colonel
- Personnel is zero-sum-gain

Issue: Insufficient EOD Within the MEFs

- Not Enough to go around
- Lack of EOD Expertise in MEF & MSC Staffs
- Not mutually supporting among MSCs or within the Engineer Organizations
- No formal doctrine and training (TTP) to mutually support EOD & Engineer Missions

Recommendation:

Doctrine.

- Formalize Doctrine to address the Operational relationships; Higher, Adjacent, & Subordinate.

Organization.

- Agree: MEF EOD Officer w/in MEF Engr Section
- Agree: Need more techs
- Where to put them or consolidate?

Training. -Need to formally train Engineers in Disposal support Missions

Materiel. IAW structural changes

Ground Combat Element

Issue: Currently not self mobile. Cannot maneuver with supported units. Unit must be self supporting, self mobile

Recommendation:

- (M) Engineer Survivable Vehicle-squad level, along the lines of the Cougar/Buffalo, 36 per BN
- (M) More armored HWMMVs-1 for 1
- (M) Replace M870- HETTS? LVSR?
- (M/P/O) More MTRVs and trailers (correct mix of MTRV and dumps)
- (M/T) V plow for MTRV-interim capability, in addition to ABV, rubble breach capability in a MOUT environ (COTS)

Issue: No current capability to clear Craft Landing Zone

Recommendation: (M/T/P/O) Develop required capability

Issue: The ACE is past it's useful life and difficult to maintain. The ABV is not a replacement for the ACE

Recommendation:

- (M) CEB needs a tactically mobile capability for breaching of tank ditches and berms. The ABV augments ACE
- (T) Entry level 1345s need to be trained to operate the ACE
- Bridging – Assault Gap Crossing, move Bridge Co from FSSG to Div
 - Location of tactical bridging in the MAGTF does not support GCE maneuver.
- (D/O/P) Move Bridge Co from FSSG to Div
- (P) II MEF and MARFORRES has personnel and equipment. I & III MEF has equipment but no personnel.

Issue: Line charge is unreliable and ineffective against modern mines

Recommendation:

- (M) Line Charge-Need next generation
- (M) Address insensitive munitions complaint
- (M) Direct fire initiation system (DFIS) capable of remote initiating device in case of misfire

Issue: Commanders require urban mobility support but we are not as proficient as we need to be

Recommendation:

- (M/T) Shotgun as a tool- being fielded
- (T/L/F) Change training focus away from construction to MOUT/ horizontal and vertical breaching techniques. Support with Class IV and V.

Issue: EOD support is not responsive to the maneuver units

Recommendation: (O/P) Create an EOD platoon in CEB, with Personnel approved by MROC

Issue: Mine/IED/UXO detection capability does not protect our Marines

Recommendation:

- (D/O/M) Need vehicle mounted capability
- (M) Need air platform

Issue: Marines are operating in a tactical environment in soft skin vehicles and current field expedients are not a satisfactory answer.

Recommendation: (M) Engineer equipment should also receive Kevlar armor kits, as well as vehicles

Issue: Force protection TTPs are insufficient for current environment.

Recommendation:

- (M/T) Software analysis tools for calculating stand off
- (M/T) Survivability in an MOUT environment
- (M/T) Leverage tech to protect against progressive collapse
- (D/O/T) Tap into Joint Forces experiments for FP measures
- (M) Lighten barrier material to reduce lift requirement

Issue: Force protection TTPs are insufficient for current environment.

Recommendation:

- (T/M) Improve training on entry control points-establish school level criteria
- (M) Lighten barrier material to reduce lift requirement
- (M) Develop options to stop VBIED

Issue: Utilities and bulk liquid equipment is too bulky and too heavy.

Recommendation: (M/T/O) Develop Scaleable modules for Water, Power, Fuel

Issue: Current chests sets and kits are obsolete

Recommendation: (M/O/D) Develop updated kits and identify them as Core funded so that they are annually reviewed and updated as required.

Issue: Combat Engineer Battalions are challenged to communicate with higher, adjacent and subordinate units across the Division battlespace.

Recommendation:

- (M/T) Need Blue Force Tracker
- (M/T) SMART-T

Issue: There are too few Combat Engineers in the Battalion to provide the desired level of support to the GCE.

Recommendation: (O/P) Migrate personnel from ESB to CEB to increase the squad size from 9 to 13, and reinstitute the Delta Co in each CEB

Issue: Need to improve Engineer Reconnaissance capability

Recommendation:

- (T/O) Standardize the requirement
- (T/O) Increase focus and increase access to existing available training opportunities.
- (M) Water sites, bridges, minefields, advanced calc and placement of demolition charges
- (M) Develop a standardized Engineer Recon Kit including digital information technology
- (M) Develop ability to pass engineer forms and reports digitally

Combat Service Support Element

Issue: Insufficient communications capability

Recommendation:

- Bulk fuel line walkers/pump stations
- Long range voice and data to support Recon
- Long range mobile voice and data to support job sites
- Data/VTC

Issue: Need more control/coordination of Engineer assets

Recommendation:

- Integrate NCF into TEEP and form habitual relationships
- Engineer COP
- Establish MEF/MSO level command with roles and responsibilities
- Improve ability to tap into MARFORRES manpower
- Develop software to support Engineer planning

Issue: Insufficient movement capability

Recommendation:

- Field a small engineer equipment trailer
- Need 1:2 Equipment—lift ratio
- Organic lift tied to bulk fuel, bridging - Requirement tied to asymmetric battlefield

Issue: Vertical Construction mission/equipment needs revised

Recommendation:

- Modernize sets/chests/kits
- Reduce construction capability from temporary to expeditionary

Issue: Bridging capability is weak

Recommendation:

- Migrate assault bridging to division
- Insufficient quantity to meet O-plan requirements
- Expeditionary and light-weight (STOM)
- Retain ability to retrieve/control site

Issue: Area clearance capability needs to be improved

Recommendation:

- Capability resident in ESB
 - Schoolhouse Training (Pvt—Lt)
- UXO—ID and disposal
- CEA Ops/Planning

Issue: Electric power generation mission/equipment needs review

Recommendation:

- Determine MAGTF requirements
 - Decentralized
 - Low tech/field durable
 - Improve MEPDIS
- Training—hardwire
- Floodlights—new item
- Balance MOS needs—1161, 1171, 1141, 1142
 - Reserve vs. active
- Alternate power supplies
 - Vehicle powered
 - Solar

Issue: Horizontal construction mission/equipment needs review

Recommendation:

- Water truck
- Tracked excavator
- MAGTF Utility Tractor MUT (Bobcat)
- Review earthmoving capability
- Ditch-witch capability
- Pull 1361's from Division
- More D & S systems

Issue: Water/Hygiene mission/equipment needs review

Recommendation:

- Scalable production/storage
- Expeditionary heads (shitkit)
- Mobile showers for maneuver units
- New bare-base shower units
- Laundry—COTS, DLA ISO's
- Water chillers
- Replace TWDS with WHRS

Issue: Fuel storage mission/equipment needs review

Recommendation:

- Mobile storage capability (tactical—operational)
- Expeditionary fuel system (scalable capability)
- Gator
- 1390 on 6th ESB I-I staff
- HMMWV mobile fuel lab

Aviation Combat Element

Issue: The capability to construct/repair forward airfields and establish FARPs and landing zones is deficient.

Recommendation:

- Doctrine: Update doctrine that delineates RRR process and requirements.
- Organization:
 - Mirror image Fixed Wing & Rotor Wing MWSS
 - Organize T/O & T/E capability to conduct two FARPs and one deliberate FOB simultaneously
 - Establish Bn model organization vs. Sqdrn model
- Training: Direct necessary resources and training opportunities to develop proficiency at supporting the ACE in high operational tempo maneuver warfare.
 - Increase ADR and FARP events at CAX, WTI

- More mobile, convoy, hip-shoot type FARP response
- Conduct integrated FARP training – Airboss, ordnance, LAAD

Issue: The capability to construct/repair forward airfields and establish FARPs and landing zones is deficient.

Recommendation:

- Materiel:
 - Develop and procure an Airfield Damage & Repair (ADR) Kit
 - Field a Dust Abatement capability
 - Develop and field an Airfield UXO/clearance capability (area clearance)
 - Field a construction type water truck
 - Develop a rugged runway sweeper or provide sweeper attachment for existing equipment

Issue: The MWSS has inadequate capability to transport and distribute fuel.

Recommendation:

- Materiel:
 - Develop and field an off-road refueling capability
 - Flatrack with LVS(R) prime mover
 - Interim replacement for remaining M-970
 - All wheel drive ARC

Issue: Inadequate capability to distribute water.

Recommendation:

- Materiel:
 - Develop and field a water packaging capability

Issue: Inadequate ground defense capability: MWSS requires a strong organic defense capability for convoy escort of critical FARP/FOB/RRR assets and a core element for the defense of FOBs

Recommendation:

- Organization: Retain organic MPs

Issue: Inadequate capability to provide shower and laundry support

Recommendation:

- Organization:
 - Stop the migration of laundry and shower capability to the ESB
- Materiel:
 - Replace current system with the Containerized Batch Laundry (CBL) system
 - Develop a replacement for the current bare-base shower system (containerized shower unit & single base unit)

Issue: Inadequate tactical utilities support capability

Recommendation:

- Materiel:
 - Replace current floodlight system
 - Security, operations, ASP, etc..
 - Enhance/Develop MEPDIS system for growing electrical requirements (C4I, MACG)

Issue: Capability to effectively command and control engineer assets is Inadequate

Recommendation:

- Organization:
 - Mirror image Fixed Wing & Rotor Wing MWSS
 - Organize T/O & T/E capability to conduct two FARPs and one deliberate FOB simultaneously
 - Establish Bn model organization vs. Sqdrn model
- Materiel:
 - Field sufficient assets to ensure positive, secure communications between widely separated units.